

BASE CLOSURE CLEANUP CONTRACTING

DCN 1236

December 7-8, 1993 ♦ Washington, D.C.
Sponsored by Defense Week and Environment Week

AGENDA

TUESDAY, DECEMBER 7, 1993

- 9:00 am **Welcome and Opening Remarks**
Llewellyn King, Publisher, Defense Week and Environment Week
- 9:00-9:45 am **Keynote Address**
Gary Vest, Principal Assistant Deputy Under Secretary Of Defense, U.S. Department of Defense
- 9:45-11:00 am

PANEL: <i>How The Department Of Defense Is Expediting Base Closure Cleanup</i>

- ♦ Panel Members:
Joseph Sikes, Special Assistant to the Deputy Under Secretary of Defense, U.S. Department of Defense
Anthony Zugay, Technical Associate, Air Force Center for Environmental Excellence/Base Closure Restoration Division
Richard Newsome, Assistant for Environmental Restoration, Office of the Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health)
Captain Robert Moeller, Naval Facilities Engineering Command
- 11:00-11:15 am Refreshments
- 11:15-12:00 pm **Base Closure Cleanup Contracting and The EPA**
James Woolford, Director, Program Operations Division, Office of Federal Facilities Enforcement, U.S. Environmental Protection Agency
- 12:00-1:00 pm

CONGRESSIONAL PANEL: <i>Funding And Standards</i>
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- ♦ Panel Moderator:
Richard Wegman, Partner, Garvey, Schubert and Barer
♦ Panel Members:
Melinda Kassen, Counsel, House Armed Services Committee
Madelyn Creedon, Counsel, Senate Armed Services Committee
- 1:15-2:30 pm **Luncheon Keynote**
Gordon Davidson, President, Capital Environmental, and former Director, Office of Federal Facilities Enforcement, U.S. Environmental Protection Agency
- 2:30-3:15 pm **Public/Private Sector Partnering Agreements To Accelerate And Improve Quality Of Cleanups.**
Frank Waller, President, Hazardous Waste Action Coalition
- 3:15-3:30 pm Refreshments

3:30-5:00 pm

PANEL: *The Local Communities And Cleanup Contracting*

◆ Panel Moderator:

Keith Cunningham, *Policy Associate, Defense Management Issues, Business Executives For National Security -- Analysis of Issues and Opportunities in the 1993 BRAC List*

◆ Panel Members:

Haron Battle, *Associate Legislative Director, National Association of Counties -- The County View*

Michael Kaiser, *Consultant, Economic Adjustment, U.S. Conference of Mayors -- The City View*

Veronica Ferguson, *Assistant County Administrative Officer, Monterey County, California -- Monterey County's Experience*

WEDNESDAY, DECEMBER 8, 1993

9:00 am

Opening Remarks, **John Morton**, *Conference Director*

9:00-10:15 am

RISK SHARING PANEL: *What Issues Still Need To Be Resolved?*

◆ Panel Moderator:

Carolyn Kiely, *Counsel and Director, Government Affairs, Hazardous Waste Action Coalition*

◆ Panel Members:

Harold Rosen, *Principal, Seltzer and Rosen, Associate Member, Associated General Contractors of America*

Jane Dudley, *Consultant, National Constructors Association -- The View Of Large Contractors*

10:15-11:30 am

STANDARDS PANEL: *Should Standards Be Tailored To Expedite Cleanup?*

◆ Panel Moderator:

Donald Gray, *Senior Fellow and Water Resources Program Director, Environmental and Energy Study Institute*

◆ Panel Members:

Harold Bailey, *Partner, Garvey, Schubert and Barer -- The Local Communities View*

Samuel Goodhope, *Special Counsel, Environment and Transportation, Office of the Attorney General, State of Texas -- The States' View*

11:30-11:45 am

Refreshments

11:45-12:45 pm

LEASING PANEL: *What Level Of Cleanup Is Required For Leasing?*

◆ Panel Moderator:

George Schlossberg, *Counsel, Cotten and Selfon*

◆ Panel Members:

Gary Paterson, *Chief, Base Realignment and Closure Office, Directorate of Real Estate, U.S. Army*

Michele Greco, *Deputy For Installations, The Office of the Assistant Secretary of the Navy*

Alan Curley - AF-BDA
Luncheon Keynote

1:00-2:30 pm

Former Rep. James Courter (R-N.J.), *Chairman, The Base Closure and Realignment Commission*

2:30 pm

Conference Adjournment

Document Separator

BASE CLOSURE CLEANUP CONTRACTING CONFERENCE

December 7-8, 1993, Washington, D.C.

This conference will provide need-to-know information for:

- Contractors interested in doing environmental cleanup and site characterization at bases scheduled for closure or realignment
- Federal, state and local environmental regulators
- Scientists and engineers
- Government program managers
- Security analysts
- Federal, state and local economic development officials
- Environmental attorneys (public and private sector)

REGISTRATION & FEES

Registrations are accepted by mail, phone and fax.

Please return the completed registration form with your credit card or purchase order number, or your check made payable to "King Communications Group, Inc." to King Communications Group, 627 National Press Building, Washington, D.C. 20045, Attn: Conference Registrar, C-17.

Conference hours are 9:00 a.m. - 5:30 p.m. on the first day, and 9:00 a.m. - 2:15 p.m. the second day. Check-in begins at 8:00 a.m. Tuesday, with a complimentary continental breakfast.

Fees: US \$795 for the first participant from a company, and \$745 for each additional participant. Special Early Bird rates are in effect until November 5, 1993. Early Bird Fees: US \$695 for the first participant from a company, and \$645 for additional participants.

Refunds will be given for cancellations received by November 15, 1993. Substitutions are gladly accepted at any time. Conference fee includes luncheon each day, printed materials, and beverage breaks and a get-acquainted reception December 6, the evening before the conference begins.

ACCOMMODATIONS

The conference will be held at the Hyatt Regency Crystal City Hotel, 2799 Jefferson Davis Highway, Arlington, VA 22202. The hotel is ten minutes from Washington's National Airport and a free shuttle bus is available if you call (703) 892-4100 on arrival. Participants are responsible for making their own hotel reservations. A block of rooms is being held until November 22, 1993 at the special rate of \$125 for single or double. Be sure to mention the Base Closure Cleanup Contracting conference when making reservations. The Hyatt's phone number is (703) 418-1234.

Pick-up 1-800-346-0102

Register by calling Lauren Greifer at (202) 662-9728 or Jane Peressini at (202) 662-8569.

Fax your registrations to (202) 662-9719.



Registration Form

Base Closure Cleanup Contracting Conference
December 7-8, 1993, Washington, D.C.

Name: _____

Title: _____

Organization: _____

Address: _____ M/S: _____

City/State: _____ Zip: _____ + _____

Phone: _____ Fax: _____

Name preferred for badge: _____

This confirms a telephone reservation.

Registration Fees:

- Early Bird: US\$695 Additional Early Bird: US\$645
(For Early Bird rates, registration must be received by November 5, 1993.)
 Regular: US\$795 Additional Regular: US\$745
US Government employee rates are available.

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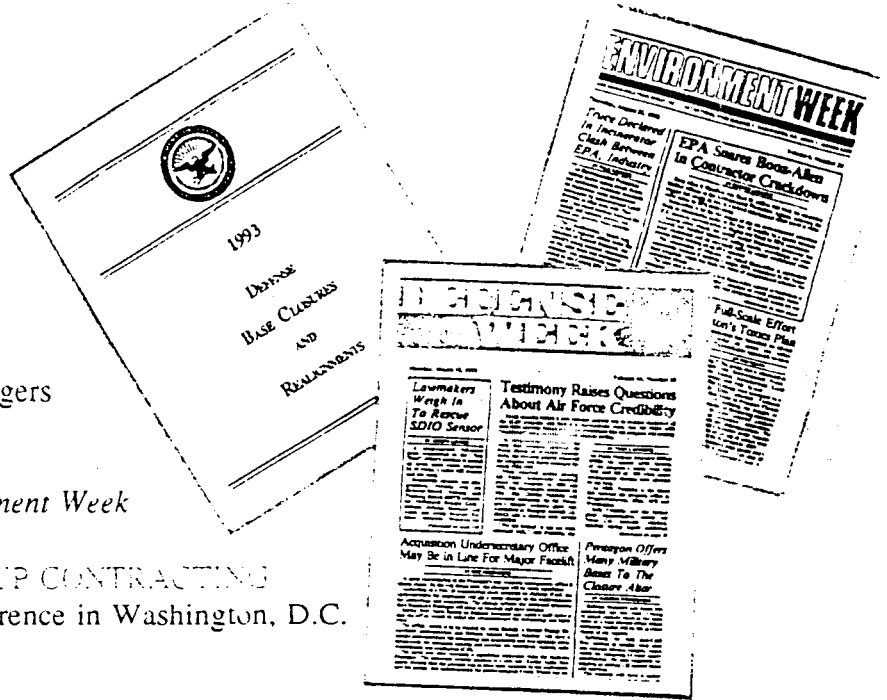
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Memorandum

TO: Environmental Contractors
Government Program Managers
Local Government Officials

FROM: *Defense Week and Environment Week*

SUBJECT: BASE CLOSURE CLEANUP CONTRACTING
December 7-8, 1993, Conference in Washington, D.C.



Environmental cleanup at the military bases scheduled for closure or realignment is now a government priority and represents an immediate contracting opportunity for companies involved in both **site characterization** and **cleanup** activities.

The Pentagon last year identified more than 18,000 sites (at both operating and closed bases) needing remediation. At that time, the Department of Defense had completed remedial investigations for only 545 sites, of which it had completed remedial actions at 416. Sixty percent of the sites involve fuel and solvent contamination; 30 percent, toxic and hazardous waste; 8 percent, unexploded bombs and artillery shells; and 2 percent, low-level nuclear waste.

Local communities are anxious to speed cleanups of bases to be closed and returned to civilian use but so far only one base has been deemed clean enough to transfer. Concerned about this slow pace, Congress mandated that the Department of Defense complete remedial investigations at the 130 bases slated for closure by the Base Closure and Realignment Commission.

In July, President Clinton responded with an initiative that called for an additional \$2.2 billion to accelerate environmental cleanup at bases being closed or realigned. Although estimates vary, the total cleanup bill will run into the billions of dollars.

Suddenly, new cleanup contracting opportunities are here, and the administration is eager to expedite the process that is now linked to defense conversion and other programs designed to stimulate local economies and provide **new opportunities** for U.S. technologies. The "Base Closure Cleanup Contracting" conference will look at the requirements, the funding and the structure of the work to be done in the cleanup of bases selected for closure or realignment.

Conference Objective

The conference will provide attendees with up-to-date, competitive information on the rapidly expanding opportunities in Base Closure and Realignment Commission site characterization and environmental cleanup contracting. At this interactive forum, speakers and panelists will share vital information on the **requirements** and **funding** for cleanup at the sites selected by the Commission.

December 7, 1993 - Luncheon (12:45 pm - 5:00 pm)

Luncheon Keynote Address

- Thomas L. McCall, Deputy Assistant Administrator, Facilities, EPA (invited)
- *Public/Private Sector Partnering Agreements To Accelerate and Improve Quality of Cleanups*
Frank S. Waller, President, Hazardous Waste Action Coalition
- **Panel: *The Local Communities And Cleanup Contracting***
Moderator: Keith Cunningham, Policy Associate, Defense Management Issues, Business Executives for National Security
 - Haron Battle, Associate Legislative Director, National Association of Counties
 - Veronica Ferguson, Assistant County Administrative Officer, Monterey Co., California
 - A Representative of the U.S. Conference of Mayors

December 8, 1993 - Wednesday, December 8, 1993 - (9:00 a.m. - 2:15 p.m.)

• **Opening Remarks**

John F. Morton, Conference Director

• **Risk Sharing Panel: *What Issues Still Need To Be Resolved?***

Moderator: Carolyn Kiely, Counsel and Director, Government Affairs,
Hazardous Waste Action Coalition

- A Representative from the office of the Secretary of Defense (OSD)
- Daniel Kennedy, Manager, Defense, Space and Security Programs, Bechtel Group, Inc. --
The View Of The Engineers
- Brian Deery, Director of Municipal Utilities, Associated General Contractors -- *The View Of Small Contractors And Subcontractors*
- Jane Dudley, National Constructors Association -- *The View Of Large Contractors*

• **Standards Panel: *Should Standards Be Tailored To Expedite Cleanup?***

Moderator: Don Gray, Senior Fellow and Water Resources Program Director,
Environmental and Energy Study Institute

- Harold Bailey, Partner, Garvey, Schubert and Barer
- Sam Goodhope, Social Counsel, Environment, Office of the Attorney General, State of Texas

• **Leasing Panel: *Does The Leasing Option Benefit Cleanup?***

Moderator: George Schlossberg, Counsel, Cotten and Selfon

- A representative from the U.S. Navy
- Alan Olsen, Director, Air Force Base Disposal Agency
- Gary Paterson, Chief of the Base Realignment and Closure Office for Real Estate, U.S. Army

• **Luncheon Keynote Address**

- Former Rep. James Courter (R-N.J.), Chairman of the Base Closure and Realignment Commission

Document Separator

What You will Learn:

1. How DOD is expanding the contracting pool and whether it will increase the opportunities available to local contractors for environmental testing and cleanup services at the bases scheduled for closing.
2. How local contracting centers are getting more authority for cleanup.
3. The contracting role of the DOD Transition Coordinators and Environmental Managers.
4. The impact of CERCLA and RCRA requirements on cleanup contracting.
5. In what instances partnering agreements can expedite cleanup.
6. The current status of indemnification for cleanup contractors.
7. The different approaches to risk allocation.
8. The effect "tailoring" (relaxing standards in the Superfund law to reflect proposed use of facilities) will have on cleanup contracting.
9. How the recent policy changes for interim use leasing will affect cleanup.
10. Whether contractors can expect increased funding for cleanup.

Agenda - Monday, December 7, 1993 - Morning (9:00 a.m. - 12:30 p.m.)

- **Welcome and Opening Remarks**

- Llewellyn King, Publisher, *Defense Week* and *Environment Week*

- **Keynote Address**

- Sherri Wasserman Goodman, Deputy Under Secretary of Defense (Environmental Security):
A Progress Report On The Reconvened Defense Environmental Response Task Force

- **Panel: *How The Department of Defense Is Expediting Base Closure Cleanup***

- Terry Yonkers, Chief of Environmental Programs, Air Force Base Disposal Agency
 - Representatives From OSD, the Army and Navy

- ***Base Closure Cleanup Contracting and EPA***

- Gordon M. Davidson, Director, Office of Federal Facilities Enforcement, EPA
 - Jim Woolford, Division Director, Program Operations Office of Federal Facilities Enforcement, EPA

- **Congressional Panel: *Funding And Standards***


- Moderator:** Dick Wegman, Partner, Garvey, Schubert and Barer
 - Melinda Kassen, Counsel, House Armed Services Committee
 - Madelyn Creedon, Counsel, Senate Armed Services Committee


Please Join Us.....

For a get-acquainted cocktail party Monday night, December 6, 1993, 6:00 - 7:30 p.m. at the Hyatt Crystal City Hotel. We look forward to meeting you.

Three Ways To Register

Call 
(202) 638-4260

Fax 
(202) 662-9719

Mail 
the form to:

King Communications Group, Inc. 627 National Press Bldg. Washington, DC 20045

STATEMENT BY
LEWIS D. WALKER
DEPUTY ASSISTANT SECRETARY OF THE ARMY
(ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH)
OASA(I,L&E)

BEFORE THE
MILITARY INSTALLATIONS AND
FACILITIES SUBCOMMITTEE
HOUSE ARMED SERVICES COMMITTEE
FIRST SESSION, 103RD CONGRESS

REGARDING
THE ARMY ENVIRONMENTAL PROGRAM

MAY 13, 1993

COMPLIMENTS OF DEFENSE WEEK
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MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

IT IS A DISTINCT PRIVILEGE FOR ME TO APPEAR BEFORE YOU AND SUBMIT THIS WRITTEN STATEMENT ON THE ARMY ENVIRONMENTAL PROGRAM.

THE ARMY IS COMMITTED TO ENVIRONMENTAL STEWARDSHIP. IT IS A PROTECTOR AND PURVEYOR OF THE FUNDAMENTAL VALUES SHARED BY THE AMERICAN PEOPLE, AND ALWAYS STRIVES TO SET A RESPONSIBLE EXAMPLE OF GOOD CITIZENSHIP. THE ARMY IS UNIQUE AMONG THE SERVICES IN THAT IT HAS BOTH MILITARY AND CIVIL RESPONSIBILITIES. HOWEVER, MY TESTIMONY WILL ADDRESS ONLY ENVIRONMENTAL ASPECTS OF THE ARMY'S MILITARY PROGRAMS. IN MEETING THESE RESPONSIBILITIES, THE MISSION OF MAINTAINING TRAINED AND READY FORCES OF THE TOTAL ARMY - ACTIVE, GUARD, RESERVE, AND CIVILIANS - IS A VITAL COMPONENT OF NATIONAL SECURITY. THE ARMY DOES NOT VIEW THE "ENVIRONMENT" AND "OUR MISSION" AS AN EITHER/OR PROPOSITION. WHETHER CLEANING UP CONTAMINATED SITES OR PROTECTING WILDLIFE HABITAT ON A TRAINING RANGE, ENVIRONMENTAL PROGRAMS ARE AN INTEGRAL PART OF MISSION SUPPORT COSTS AND ESSENTIAL TO PRESERVE THE RESOURCES ENTRUSTED TO THE ARMY. ARMY POLICY INCLUDES GOOD ENVIRONMENTAL STEWARDSHIP ABROAD AS WELL AS AT HOME.

AS THE FORCE CONTINUES TO DOWNSIZE, OUR BASE STRUCTURE ALSO DECLINES, INCREASING PRESSURE ON REMAINING LAND, AIR AND WATER RESOURCES NECESSARY TO SUPPORT THE MISSION OF MAINTAINING A TRAINED AND READY ARMY. THEREFORE, THE LEVEL OF ENVIRONMENTALLY

SUSTAINABLE OPERATIONS, OR "CARRYING CAPACITY," OF OUR INSTALLATIONS IS OF GREAT CONCERN TO US. TOUGH, REALISTIC TRAINING REMAINS THE CORNERSTONE OF READINESS. EFFECTIVE LAND MANAGEMENT IS NEEDED TO CONTINUE PROVIDING THIS TRAINING AT THE HIGHEST STANDARDS. ANTICIPATING AND PLANNING FOR THE MITIGATION OF EFFECTS MILITARY ACTIVITIES HAVE UPON THE ENVIRONMENT AND THE NATURAL AND CULTURAL RESOURCES ENTRUSTED TO US, WILL CONTINUE TO BE VERY IMPORTANT INVESTMENTS IN THE ARMY OF THE FUTURE.

IN 1992, THE ARMY TOOK TWO MAJOR ACTIONS OF FUNDAMENTAL, LONG-TERM SIGNIFICANCE TO MEET THESE CHALLENGES.

THE FIRST ACTION WAS TO DEVELOP A CLEARLY ARTICULATED VISION AND STRATEGY OF OUR COMMITMENT TO ENVIRONMENTAL STEWARDSHIP. THE STRATEGY WAS SIGNED BY THE SECRETARY OF THE ARMY AND THE CHIEF OF STAFF OF THE ARMY ON NOVEMBER 19, 1992. THIS DOCUMENT STATES THAT THE ARMY'S ENVIRONMENTAL VISION IS TO BE "A NATIONAL LEADER IN ENVIRONMENTAL AND NATURAL RESOURCE STEWARDSHIP FOR PRESENT AND FUTURE GENERATIONS AS AN INTEGRAL PART OF OUR MISSION." OUR COMPREHENSIVE STRATEGY, "THE U. S. ARMY ENVIRONMENTAL STRATEGY INTO THE 21ST CENTURY," INCLUDES A STRUCTURE AND FRAMEWORK TO MEET GROWING ENVIRONMENTAL CHALLENGES INTO THE NEXT CENTURY AND GOVERNS ALL ARMY ACTIVITIES. IT DEFINES THE ARMY'S LEADERSHIP COMMITMENT AND PHILOSOPHY FOR MEETING PRESENT AND FUTURE CHALLENGES. THIS STRATEGY IS THE BASIS FOR ALL FUTURE PLANNING,

PROGRAMMING, AND BUDGETING DECISIONS FOR THE ARMY ENVIRONMENTAL PROGRAM. IT TAKES DIRECTION FROM THE VISION OF STEWARDSHIP AND CONSISTS OF GOALS, OBJECTIVES AND AN IMPLEMENTATION PLAN (OR EIGHT-YEAR ACTION PLAN CALLED THE "ARMY STRATEGY ACTION PLAN, OR ASAP) WHICH CORRESPONDS TO THE BUDGETING AND PROGRAMMING CYCLES. THE IMPLEMENTATION PLAN SPECIFIES TASKS, MILESTONES, ORDER OF EXECUTION, RESPONSIBLE PARTIES, AND ESTIMATED COSTS FOR THE STRATEGY'S GOALS AND OBJECTIVES.

THE ARMY'S ENVIRONMENTAL STRATEGY IS DEPICTED AS A MODEL OF A BUILDING WITH A FOUNDATION AND FOUR PILLARS SUPPORTING THE OVERALL VISION OF ENVIRONMENTAL STEWARDSHIP. THE FOUR PILLARS ARE: COMPLIANCE, PREVENTION, CONSERVATION, AND RESTORATION. COMPLIANCE--GIVE IMMEDIATE PRIORITY TO SUSTAIN COMPLIANCE WITH ALL APPLICABLE ENVIRONMENTAL LAWS; PREVENTION--FOCUS EFFORTS ON POLLUTION PREVENTION TO REDUCE OR ELIMINATE POLLUTION AT THE SOURCE; CONSERVATION--CONSERVE AND PRESERVE NATURAL AND CULTURAL RESOURCES; AND RESTORATION--RESTORE PREVIOUSLY CONTAMINATED SITES AS QUICKLY AS FUNDS PERMIT, WHETHER STILL WITHIN THE DOD INVENTORY (ACTIVE AND BRAC SITES) OR NOW IN THE CATEGORY OF FORMERLY USED DEFENSE SITES (FUDS). THE FOUR PILLARS REST ON A FOUNDATION OF PEOPLE, RESOURCES, COMMUNICATION, AND MANAGEMENT AND ORGANIZATION.

THE ARMY IS ENTRUSTED WITH THE CARE OF APPROXIMATELY TWO-THIRDS OF DEPARTMENT OF DEFENSE LANDS. ENVIRONMENTAL STEWARDSHIP OF THESE RESOURCES IS OUR LEGACY, OUR RESPONSIBILITY, AND OUR FUTURE. OUR ENVIRONMENTAL STRATEGY PROVIDES A MECHANISM TO IDENTIFY NEW OPPORTUNITIES AND TO DEFINE BETTER WAYS TO MAINTAIN A TRAINED AND READY ARMY.

THE SECOND MAJOR ACTION THE ARMY TOOK IN 1992 WAS THE REORGANIZATION OF ITS ENVIRONMENTAL PROGRAM TO EMPHASIZE THE IMPORTANCE OF THE PROGRAM AND THE ARMY'S LEADERSHIP COMMITMENT TO THE ENVIRONMENT. THE FORMER ARMY ENVIRONMENTAL OFFICE (HEADED BY A COLONEL) BECAME THE DIRECTORATE OF ENVIRONMENTAL PROGRAMS (DEP) HEADED BY A BRIGADIER GENERAL. IN ADDITION, THE FORMER U. S. ARMY TOXIC AND HAZARDOUS MATERIALS AGENCY (USATHAMA) WAS RENAMED THE ARMY ENVIRONMENTAL CENTER AND MOVED FROM UNDER THE CORPS OF ENGINEERS TO REPORT DIRECTLY TO THE DEP. ALSO CONSOLIDATED INTO THE NEW ORGANIZATION WAS THE NATURAL AND CULTURAL RESOURCES DIVISION OF THE ENGINEERING AND HOUSING SUPPORT CENTER. THIS NEW ORGANIZATION NOT ONLY GIVES THE ARMY A SINGLE POINT OF FOCUS FOR THE ENVIRONMENT, BUT IT RAISES THE STATUS OF THE PROGRAM AND GIVES IT MORE AUTHORITY FOR EXECUTION AND PROGRAM REPRESENTATION INSIDE AND OUTSIDE THE ARMY.

AS PART OF THIS REORGANIZATION, WE PLACED THE ARMY ENVIRONMENTAL POLICY INSTITUTE (AEPI) DIRECTLY UNDER THE

SECRETARIAT. AEPI WAS ESTABLISHED IN 1990 TO ASSIST IN THE DEVELOPMENT OF PROACTIVE POLICIES AND STRATEGIES TO ADDRESS ENVIRONMENTAL ISSUES OF SIGNIFICANT FUTURE IMPACT ON THE ARMY. THE INSTITUTE CURRENTLY IS STUDYING ISSUES IN AREAS OF SIGNIFICANT IMPORTANCE TO THE ARMY. STUDY TOPICS INCLUDE TRAINING LAND OPTIONS, DEPLETED URANIUM, SOLID WASTE MANAGEMENT, PERFORMANCE MEASURES FOR ASSESSING ENVIRONMENTAL EFFORTS, AND POLICY PRIORITIZATION. IT HAS PRODUCED SEVERAL DOCUMENTS WHICH ALREADY ARE BEING USED THROUGHOUT THE ARMY. THREE EXAMPLES OF AEPI PRODUCTS IN USE ARE THE ARMY ENVIRONMENTAL STRATEGY, THE INSTITUTE'S FIRST STUDY - "INTEGRATING BASE REALIGNMENT AND CLOSURE DECISIONS IN COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT," AND THE "U. S. ARMY ENVIRONMENTAL MANAGEMENT GOOD NEWS STORIES," A COLLECTION OF GOOD NEWS FROM ARMY INSTALLATIONS. CURRENTLY, AEPI IS WORKING ON A PROJECT DESIGNED TO ANTICIPATE ENVIRONMENTAL TRENDS, INCLUDING LEGISLATIVE TRENDS AND EMERGING TECHNOLOGIES. THE INSTITUTE'S WORK IS VERY IMPORTANT TO THE ARMY ENVIRONMENTAL PROGRAM BECAUSE IT HELPS US DETERMINE AND DEVELOP POLICY TO BE PROACTIVE, TO ENSURE FUTURE COMPLIANCE, AND TO USE RESOURCES PRUDENTLY OVER THE LONG TERM.

OUR SENIOR LEADERSHIP'S COMMITMENT IS ALSO DEMONSTRATED BY THE DEDICATION OF SIGNIFICANT RESOURCES TO MEET OUR ENVIRONMENTAL RESPONSIBILITIES. IN AN ERA OF RAPIDLY DECLINING RESOURCES, OUR ENVIRONMENTAL BUDGET IS ONE OF THE VERY FEW ITEMS THAT CONTINUES

TO GROW. IN FISCAL YEAR 1993, WE PLAN TO SPEND OVER \$1.5 BILLION ON ENVIRONMENTAL PROGRAMS.

THE ARMY VERY MUCH APPRECIATED THE SUPPLEMENTAL FUNDS PROVIDED BY CONGRESS IN FISCAL YEAR 1992 (\$116 MILLION FOR THE COMPLIANCE, PREVENTION AND CONSERVATION PILLARS, AND \$243 MILLION FOR THE RESTORATION PILLAR). THE \$116 MILLION WAS USED TO FUND SIGNIFICANT PROJECTS FOR COMPLIANCE, POLLUTION PREVENTION, AND CONSERVATION.

THE \$243 MILLION SUPPLEMENTAL FUNDS PROVIDED IN FISCAL YEAR 1992 FOR THE RESTORATION PROGRAM ARE BEING USED AT ACTIVE SITE CLEANUPS AND OTHER CORRECTIVE ACTIONS. THESE FUNDS ARE HELPING THE ARMY TO MEET CRITICAL MILESTONES UNDER FEDERAL FACILITY AGREEMENTS AND TO ACCELERATE CLEANUP PROJECTS AT NUMEROUS INSTALLATIONS.

ADDITIONALLY, BASE REALIGNMENT AND CLOSURE ACTIONS ARE DIRECTLY TIED TO OUR ENVIRONMENTAL PROGRAM. ENVIRONMENTAL ASSESSMENTS AND CLEANUP ARE CRITICAL COMPONENTS OF REALIGNMENT, CLOSURE, AND DISPOSAL ACTIONS. FUNDS FOR BRAC 88 AND BRAC 91 ARE CRITICAL ELEMENTS TO MEET CONGRESSIONALLY-MANDATED TIMELINES. ENVIRONMENTAL FUNDING REQUIREMENTS FOR BRAC 93 ARE STILL BEING DEVELOPED AND ARE NOT AVAILABLE YET.

AS I BRIEFLY MENTIONED ABOVE, THE ARMY ENVIRONMENTAL PROGRAM IS ORGANIZED INTO AND FOCUSED ON THE FOUR PILLARS OF THE STRATEGY. A MORE DETAILED DESCRIPTION OF EACH PILLAR FOLLOWS.

0 COMPLIANCE. THIS PILLAR ADDRESSES ALL ACTIVITIES TO ENSURE THAT OPERATIONS AT ARMY MILITARY AND CIVIL FACILITIES COMPLY WITH ALL APPLICABLE FEDERAL, STATE, LOCAL, HOST NATION, AND ARMY ENVIRONMENTAL REQUIREMENTS. THESE REQUIREMENTS INCLUDE LAWS AND REGULATIONS IN THE AREAS OF WATER AND AIR QUALITY, FISH AND WILDLIFE, ENDANGERED SPECIES, NOISE ABATEMENT, WETLANDS, CULTURAL AND HISTORIC SITES, SOLID AND HAZARDOUS WASTE MANAGEMENT, AND NUMEROUS OTHERS. THE ENVIRONMENTAL COMPLIANCE ACHIEVEMENT PROGRAM (ECAP) HAS BEEN IMPLEMENTED ARMY-WIDE. THE ENVIRONMENTAL COMPLIANCE ASSESSMENT SYSTEM (ECAS), A PART OF ECAP, IS OUR COMPLIANCE EVALUATION PROGRAM, AND IT REPLACES THE ENVIRONMENTAL AUDITS PROGRAM THAT WE STARTED IN 1985. THE IMPLEMENTATION OF ECAS STARTED IN FISCAL YEAR 1992. WE WILL PERFORM ABOUT 1950 ECAS EVALUATIONS ON A FOUR-YEAR CYCLE -- BETWEEN 450 AND 500 PER YEAR. IN FISCAL YEAR 1992, THE ARMY COMPLETED 509 ECAS EVALUATIONS, OF WHICH 39 WERE ACTIVE ARMY INSTALLATIONS, 19 NATIONAL GUARD STATES AND 451 ARMY RESERVE FACILITIES. THERE ARE 622 ECAS EVALUATIONS SCHEDULED TO BE PERFORMED THIS YEAR, 160 OF WHICH HAVE BEEN COMPLETED SO FAR. ANOTHER 453 ARE SCHEDULED FOR FISCAL YEAR 1994. ECAS IS IDENTIFYING THAT THE MAJORITY OF THE FINDINGS ARE ADMINISTRATIVE

IN NATURE. ADMINISTRATIVE FINDINGS -- REPORTING, RECORD KEEPING, INSPECTIONS, AND THE LIKE -- ARE USUALLY MANPOWER INTENSIVE AND, THEREFORE, COULD TAKE LONGER TO CORRECT.

THE ECAS EVALUATIONS IDENTIFY CORRECTIVE ACTIONS NECESSARY FOR FACILITIES TO BE IN FULL COMPLIANCE. THESE TOOLS PROVIDE A PROACTIVE APPROACH TO COMPLIANCE AND PROVIDE SENIOR LEADERSHIP WITH AN ACCURATE PICTURE OF COMPLIANCE LEVELS AND NEEDS THROUGHOUT THE ARMY. MORE IMPORTANTLY, THESE TOOLS PROVIDE THE INSTALLATION COMMANDER WITH THE DETAILS NEEDED -- THE LEGAL REQUIREMENTS, CORRECTIVE ACTIONS, AND COST ESTIMATES -- TO PLAN, PROGRAM AND BUDGET FOR THE CORRECTION OF DEFICIENCIES IDENTIFIED DURING THE EVALUATIONS. EXTERNAL ECAS EVALUATIONS ARE CONDUCTED BY THE HEADQUARTERS AND ARE CENTRALLY FUNDED AT ABOUT \$20 MILLION PER YEAR. INTERNAL ASSESSMENTS REQUIRED AT THE TWO-YEAR MID-CYCLE ARE THE INSTALLATION'S RESPONSIBILITY.

AS PART OF THE EFFORTS TO ENSURE COMPLIANCE WITH APPLICABLE HAZARDOUS AND SOLID WASTE MANAGEMENT REQUIREMENTS, THE ARMY LEADS A DOD WORKING GROUP TO CONSULT WITH THE ENVIRONMENTAL PROTECTION AGENCY IN THEIR EFFORT TO DEVELOP REGULATIONS FOR THE MANAGEMENT OF WASTE MILITARY MUNITIONS, AS MANDATED BY THE FEDERAL FACILITY COMPLIANCE ACT OF 1992. THE MAIN THRUST OF OUR EFFORT IS TO ENSURE THAT THE REGULATIONS BEING DEVELOPED BY EPA CONSIDER THE EXPLOSIVE SAFETY ASPECTS AND SPECIAL MANAGEMENT PROCEDURES

REQUIRED FOR MANAGEMENT OF MUNITIONS.

0 PREVENTION. POLLUTION PREVENTION REPRESENTS THE END STATE OF THE ARMY VISION - WE WANT TO MOVE PAST COMPLIANCE AND RESTORATION INTO PREVENTION AS THE MECHANISM TO PREVENT COMPLIANCE VIOLATIONS AND RESTORATION LIABILITIES. THIS PILLAR REQUIRES INSTILLING AN ENVIRONMENTAL ETHIC THAT WILL CHANGE BEHAVIOR ACROSS THE ARMY. BESIDES "END-OF-THE-PIPE" TREATMENT OF WASTES, ENVIRONMENTAL DEGRADATION CAN BE REDUCED BY INTERVENING THROUGHOUT THE ACQUISITION LIFE CYCLE, CHANGING PROCESS INPUT, SEEKING ENVIRONMENTALLY ACCEPTABLE METHODS OF CONSTRUCTION AND OPERATION, MODIFYING TRAINING EXERCISES IN ENVIRONMENTALLY SENSITIVE ZONES, REUSING OR RECYCLING TO REDUCE WASTE, ENVIRONMENTAL AWARENESS TRAINING OF ALL PERSONNEL, AND OTHER AVOIDANCE APPROACHES. EXAMPLES OF EFFORTS UNDERWAY TO PROVIDE MORE ENVIRONMENTALLY ACCEPTABLE WAYS OF MANAGING ARMY OPERATIONS INCLUDE: INCORPORATION OF POLLUTION PREVENTION PRINCIPLES AND TECHNOLOGIES THROUGHOUT THE LIFE CYCLE OF WEAPON SYSTEMS ACQUISITION; IMPROVING MATERIAL MANAGEMENT PRACTICES TO MINIMIZE THE QUANTITIES AND TYPES OF HAZARDOUS MATERIALS AT ARMY INSTALLATIONS; AND FAVORING USE OF RECYCLED AND RECYCLABLE MATERIALS. AN EXAMPLE OF ARMY ACCOMPLISHMENTS IN THE PREVENTION PROGRAM INCLUDE THE ESTABLISHMENT OF THE ARMY ACQUISITION POLLUTION PREVENTION SUPPORT OFFICE (AAPPSO) WITHIN THE ARMY MATERIEL COMMAND, WHICH HAS BEEN INSTRUMENTAL IN THE DEVELOPMENT

OF A COMPREHENSIVE PROGRAM TO REPLACE OZONE DEPLETING CHEMICALS IN WEAPON SYSTEMS. THE AAPPSSO ALSO PLAYS A KEY ROLE IN DOD EFFORTS WITH THE AMERICAN SOCIETY FOR TESTING AND MATERIALS TO DEVELOP AND ENHANCE USE OF NON-GOVERNMENT SPECIFICATIONS AND STANDARDS. THEY ARE ALSO REVIEWING AND MODIFYING CONTRACTS FOR THE ARMY ACQUISITION EXECUTIVE TO ENSURE ENVIRONMENTAL CONCERNS ARE CONSIDERED IN THE CONTRACTS. CURRENTLY THERE IS A BIG EFFORT TO IDENTIFY AND ELIMINATE THE FIVE WORST MATERIALS USED IN THE COMANCHE HELICOPTER INCLUDING FUNDING FOR UP TO TEN TRADE STUDIES TO FIND SUBSTITUTE MATERIALS.

EFFECTIVE RECYCLING AT ARMY INSTALLATIONS CONTINUES TO PRODUCE SIZABLE ANNUAL SAVINGS OR INCOME FOR OUR INSTALLATIONS. IN FISCAL YEAR 1992, THE ARMY WORLDWIDE RECEIVED \$18.7 MILLION FROM RECYCLING PROGRAMS PROCESSED THROUGH THE DEFENSE LOGISTICS AGENCY. THIS WAS ALMOST A 50 PERCENT INCREASE OVER THE FISCAL YEAR 1991 AMOUNT OF \$12.7 MILLION. ANOTHER MAJOR ACCOMPLISHMENT FOR THE ARMY IN FISCAL YEAR 1992 WAS THE SURPASSING OF THE DOD HAZARDOUS WASTE MINIMIZATION GOAL A YEAR AHEAD OF SCHEDULE. WE ACHIEVED A CUMULATIVE 56 PERCENT REDUCTION OF HAZARDOUS WASTE DISPOSAL BY THE END OF 1991. THE DOD GOAL WAS TO ACHIEVE A 50 PERCENT REDUCTION BY THE END OF 1992.

THE ARMY IS ALSO DEDICATING SIGNIFICANT EFFORTS TO ENVIRONMENTAL TRAINING AS A MECHANISM TO ENSURE ALL PERSONNEL,

MILITARY AND CIVILIAN, DEVELOP A STRONG ENVIRONMENTAL ETHIC. AN ENVIRONMENTAL TRAINING MASTER PLAN WAS DEVELOPED IN 1992 TO HELP INSTITUTIONALIZE ENVIRONMENTAL TRAINING WITHIN THE FORMAL SCHOOL SYSTEM. IT ESTABLISHES THE PROCEDURES TO IDENTIFY ENVIRONMENTAL TRAINING NEEDED FOR THE DIFFERENT SPECIALTIES, INCORPORATES THESE REQUIREMENTS INTO THE PROGRAMS OF INSTRUCTION, EVALUATES TRAINING PROGRESS, AND IDENTIFIES THE RESOURCES WHICH NEED TO BE PROGRAMMED FOR TRAINING.

0 CONSERVATION. THIS PILLAR INCLUDES BIOLOGICAL AND CULTURAL RESOURCE MANAGEMENT BY CONSERVATION AND BY PRESERVATION. CONSERVATION FOCUSES ON MANAGING OUR LANDS TO ENSURE LONG TERM NATURAL RESOURCE PRODUCTIVITY SO THE ARMY'S MISSION CAN BE ACHIEVED. PRESERVATION FOCUSES ON BOTH CULTURAL AND NATURAL RESOURCE PROTECTION. ARMY LANDS INCLUDE ALL MAJOR CLIMATIC ZONES, SOIL TYPES, PLANT COMMUNITIES, AND KINDS OF WILDLIFE. ON A BACKDROP OF DESERTS, PLAINS AND MOUNTAINS, THE VARIOUS COMBINATIONS OF THESE ABIOTIC AND BIOLOGICAL RESOURCES PRODUCE RIVERS, WETLANDS, HIGHLY ERODIBLE SOILS, HARBOR ENDANGERED SPECIES, AND CONTAIN SITES OF UNUSUAL BIODIVERSITY. THE CHALLENGE TO THE ARMY'S CONSERVATION PROGRAM IS TO PROVIDE OPTIMUM AVAILABILITY OF THESE RESOURCES FOR THE MILITARY MISSION WHILE PROTECTING SOILS FROM EXCESSIVE EROSION, REDUCING SEDIMENTATION IN THE NATION'S WATERWAYS, IDENTIFYING AND PROTECTING SIGNIFICANT ARCHEOLOGICAL SITES, AND PROTECTING

THREATENED AND ENDANGERED SPECIES AND THEIR HABITAT. THE QUALITY AND CONDITION OF THE ARMY'S TRAINING LANDS DIRECTLY AFFECT THE QUALITY OF MILITARY TRAINING.

CONSERVATION AND MANAGEMENT OF FISH, WILDLIFE, WETLANDS, FOREST, AND CULTURAL RESOURCES ARE ACCOMPLISHED USING RESOURCE INVENTORIES, CURRENTLY ACCEPTED MANAGEMENT PRACTICES, AND DEVELOPING PARTNERSHIPS WITH OTHER CONSERVATION ORGANIZATIONS. MOST ARMY INSTALLATIONS HAVE COOPERATIVE AGREEMENTS FOR NATURAL RESOURCES MANAGEMENT WITH THE U. S. FISH AND WILDLIFE SERVICE, THE U. S. SOIL CONSERVATION SERVICE, AND STATE NATURAL RESOURCES AGENCIES. THE ARMY'S COMPLEX LAND USE PLANNING AND LAND MANAGEMENT REQUIREMENTS ARE AIDED BY TOOLS SUCH AS GEOGRAPHIC INFORMATION SYSTEMS, WHICH ALLOWS LAND MANAGERS AND REGULATORS TO ANALYZE, STORE, UPDATE, MODEL, AND DISPLAY DATA; THE INTEGRATED TRAINING AREA MANAGEMENT (ITAM) STANDARDIZED LAND INVENTORY, MONITORING, AND MANAGEMENT PROGRAM WHICH PROVIDES A MEANS TO INTEGRATE LAND USE CAPABILITIES AND MANAGEMENT REQUIREMENTS WITH THE MILITARY MISSION ACTIVITIES. IN FISCAL YEAR 1992, ITAM WAS BEING IMPLEMENTED AT ABOUT 40 INSTALLATIONS; IN FISCAL YEAR 1993, THIS NUMBER INCREASED TO 50 AND IS EXPECTED TO INCREASE TO 55 IN FISCAL YEAR 1994.

THE ARMY HAS THOUSANDS OF HISTORIC BUILDINGS, ARCHEOLOGICAL SITES, AND HISTORIC DISTRICTS LISTED IN THE NATIONAL REGISTER OF

HISTORIC SITES. THESE RESOURCES ARE MANAGED IN ACCORDANCE WITH NATIONAL HISTORIC PRESERVATION STANDARDS. ARMY FACILITIES ALSO PROVIDE HABITAT FOR MANY THREATENED AND ENDANGERED SPECIES. THE ARMY DEVOTES SIGNIFICANT RESOURCES ANNUALLY TO THE PROTECTION OF ABOUT 150 FEDERALLY LISTED THREATENED OR ENDANGERED SPECIES ON ABOUT 60 INSTALLATIONS. SOME EXAMPLES OF ENDANGERED SPECIES ON ARMY INSTALLATIONS INCLUDE THE BALD EAGLE AT ABERDEEN PROVING GROUND, MARYLAND, AND ROCKY MOUNTAIN ARSENAL, COLORADO; THE RED COCKADED WOODPECKER AT FORT BRAGG, NORTH CAROLINA; AND THE DESERT TORTOISE AT FORT IRWIN, CALIFORNIA.

PROTECTION OF ENDANGERED SPECIES HABITAT ALREADY HAS HAD AN IMPACT ON ARMY TRAINING LANDS. AT FORT BRAGG, FOUR RANGES WERE CLOSED OR RESTRICTED FOR SIX TO TEN MONTHS; EIGHT CONSTRUCTION PROJECTS WERE HALTED PENDING CONSULTATION WITH THE U. S. FISH AND WILDLIFE SERVICE RESULTING IN DELAY PENALTIES AND ADDITIONAL ADMINISTRATIVE COSTS OF \$2.2 MILLION. THE NORTH CAROLINA NATIONAL GUARD HAD AN ADDITIONAL COST OF \$250,000 FOR HAVING TO SEND ITS TROOPS TO TRAIN AT OTHER INSTALLATIONS DUE TO THE FORT BRAGG RANGE CLOSURES. LAND ACQUISITION TO MEET THE NEEDS OF THE TRAINING MISSION HAVE BEEN DELAYED AT FORT IRWIN DUE TO CONSIDERATIONS FOR THE DESERT TORTOISE. THERE ARE MANY OTHER EXAMPLES OF THE IMPACT OF ENDANGERED SPECIES ON ARMY TRAINING LANDS. THESE EFFECTS ARE DISCUSSED IN MORE DETAIL IN THE DOD REPORT TO CONGRESS REQUIRED BY THE HOUSE APPROPRIATIONS COMMITTEE

REPORT NUMBER 102-627.

THE ARMY BUDGET FOR FISCAL YEAR 1993 INCLUDES \$721.9 MILLION TO FUND KNOWN EXISTING REQUIREMENTS IN THE COMPLIANCE, PREVENTION AND CONSERVATION PROGRAMS. THE FISCAL YEAR 1994 BUDGET REQUEST INCLUDES \$663 MILLION ALSO FOR KNOWN CRITICAL REQUIREMENTS IN THESE THREE PROGRAMS.

0 RESTORATION. THIS PILLAR'S NAME DENOTES A RETURN TO A PREVIOUS, MORE DESIRABLE CONDITION IN THE ENVIRONMENT. THE ARMY'S RESTORATION PROGRAM EMBRACES EXPEDITIOUS CLEANUP ON ACTIVE ARMY INSTALLATIONS, BRAC INSTALLATIONS BEING CLOSED AND FORMERLY USED DEFENSE SITES - COMMONLY REFERRED TO AS FUDS. CURRENTLY, THE ACTIVE INSTALLATIONS AND BRAC PROGRAMS INCLUDES 34 SITES ON THE NATIONAL PRIORITIES LIST AT 30 INSTALLATIONS. THE FUDS PROGRAM INCLUDES 15 SITES ON THE NPL. WE HAVE TAKEN AGGRESSIVE ACTION TO EVALUATE OUR CONTAMINATED SITES AND IMPLEMENT REMEDIAL ACTION. AS OF SEPTEMBER 30, 1992, THE TOTAL NUMBER OF SITES WITHIN ARMY ACTIVE AND BRAC INSTALLATIONS IS 10,603. ACTION HAS BEEN COMPLETED, WITH NO FURTHER ACTION REQUIRED AT 6,387 SITES. CLEAN UP ACTIONS HAVE BEEN COMPLETED AT 424 SITES AND ARE ONGOING AT ANOTHER 327 SITES. INVESTIGATIVE ACTIVITIES ARE UNDERWAY AT ABOUT 2,400 SITES.

ALSO, AS OF SEPTEMBER 30, 1992, THE TOTAL NUMBER OF FUDS

SITES IDENTIFIED WAS 7,344. PRELIMINARY ASSESSMENTS HAVE BEEN COMPLETED AT 4,114 SITES. NO FURTHER ACTION IS REQUIRED AT 3,162 SITES. CLEANUP ACTIONS HAVE BEEN COMPLETED AT 171 SITES AND ACTIVITIES ARE UNDERWAY AT 1,775 SITES. THE SPRING VALLEY SITE IN WASHINGTON, D. C. WAS DISCOVERED IN JANUARY 1993. THE ESTIMATED COST FOR THIS SITE FOR FISCAL YEAR 1993 IS \$12 MILLION - ESTIMATED COST TO COMPLETE WORK AT THE SITE IS \$21 MILLION THROUGH FISCAL YEAR 1995. SPRING VALLEY WAS NOT A KNOWN SITE, THEREFORE IT WAS NOT PART OF THE FUDS BUDGET FOR THIS YEAR. HOWEVER, SUSPECT ORDNANCE AND CHEMICAL AGENT SITES WHICH APPEAR SUDDENLY MUST BE MANAGED AS EMERGENCIES REQUIRING US TO MOVE FUNDS FROM PROJECTS WHICH WERE SCHEDULED TO BE FUNDED. SPRING VALLEY IS A GOOD EXAMPLE OF WHY WE MUST HAVE FLEXIBILITY IN THE MANAGEMENT OF FUNDS IN THIS PROGRAM.

RESTORATION ACTIVITIES HAVE BEEN COMPLETED AT 54 OF THE 81 SITES WITHIN BRAC 88 INSTALLATIONS. WORK CONTINUES AT THE 27 REMAINING BRAC 88 SITES AND AT THE SIX BRAC 91 SITES. INTERIM REMEDIATION HAS BEEN INITIATED WHERE POSSIBLE DURING THE STUDY PHASE AT A NUMBER OF BRAC SITES. ACCELERATED RESTORATION INITIATIVES HAVE BEGUN AT THREE OF THE SEVEN NPL SITES IDENTIFIED FOR CLOSURE AS REQUIRED TO MEET REUSE PLANS AND SCHEDULES. WORK CONTINUES WITH LOCAL COMMUNITIES AND REGULATORY AGENCIES TO DEFINE REUSE PLANS AND ENSURE THAT RESTORATION IS CONSISTENT WITH PLANNED REUSE.

THE ARMY ALSO MANAGES THE DOD PROGRAM FOR THE DEVELOPMENT AND EXECUTION OF THE DEFENSE AND STATE MEMORANDUMS OF AGREEMENT (DSMOA) OR COOPERATIVE AGREEMENTS (CA). THE PURPOSE OF THE DSMOA OR CA IS TO HELP EXPEDITE ENVIRONMENTAL RESTORATION ACTIVITIES AND TO PROVIDE A MECHANISM TO REIMBURSE THE STATE FOR THEIR TECHNICAL SERVICES IN SUPPORT OF DOD RESTORATION PROGRAMS. AS OF APRIL 1, 1993, WE HAVE ENTERED INTO 43 DSMOA'S AND 35 CA'S.

AVAILABLE FUNDING FOR THE RESTORATION PROGRAM IN FISCAL YEAR 1993 TOTALS \$797 MILLION. IT INCLUDES \$525 MILLION FOR ACTIVE SITES (INCLUDING THE \$243 MILLION FROM THE FISCAL YEAR 1992 SUPPLEMENTAL BUDGET), \$141 MILLION FOR FUDS, AND \$131 MILLION FOR THE RESTORATION OF INSTALLATIONS ON THE BASE REALIGNMENT AND CLOSURE LISTS (BOTH BRAC 88 AND BRAC 91). AS THE DOD EXECUTIVE AGENT, ARMY ALSO MANAGES \$13 MILLION FOR THE AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR ACTIVITIES AND \$22 MILLION FOR DSMOA DOD-WIDE IN FY 1993. ARMY'S DERA BUDGET REQUEST FOR FISCAL YEAR 1994 INCLUDES \$1.23 BILLION - \$828 MILLION FOR ACTIVE SITES, \$382 MILLION FOR FUDS, AND \$19 MILLION FOR BRAC 88 AND BRAC 91, AND WILL COVER ALL ACTIVE ARMY AND FUDS MANDATED REQUIREMENTS AND ALLOW FOR PROGRAM EXPEDITION AND A BIAS FOR CLEANUP. IN FY 1994, ARMY WILL ALSO MANAGE \$14 MILLION FOR ATSDR ACTIVITIES AND \$24 MILLION FOR DSMOA DOD-WIDE.

WE NEED TO BE SUCCESSFUL AT PERFORMING OUR RESPONSIBILITIES IN COMPLIANCE, PREVENTION AND CONSERVATION, TO AVOID RESTORATION PROBLEMS IN THE FUTURE.

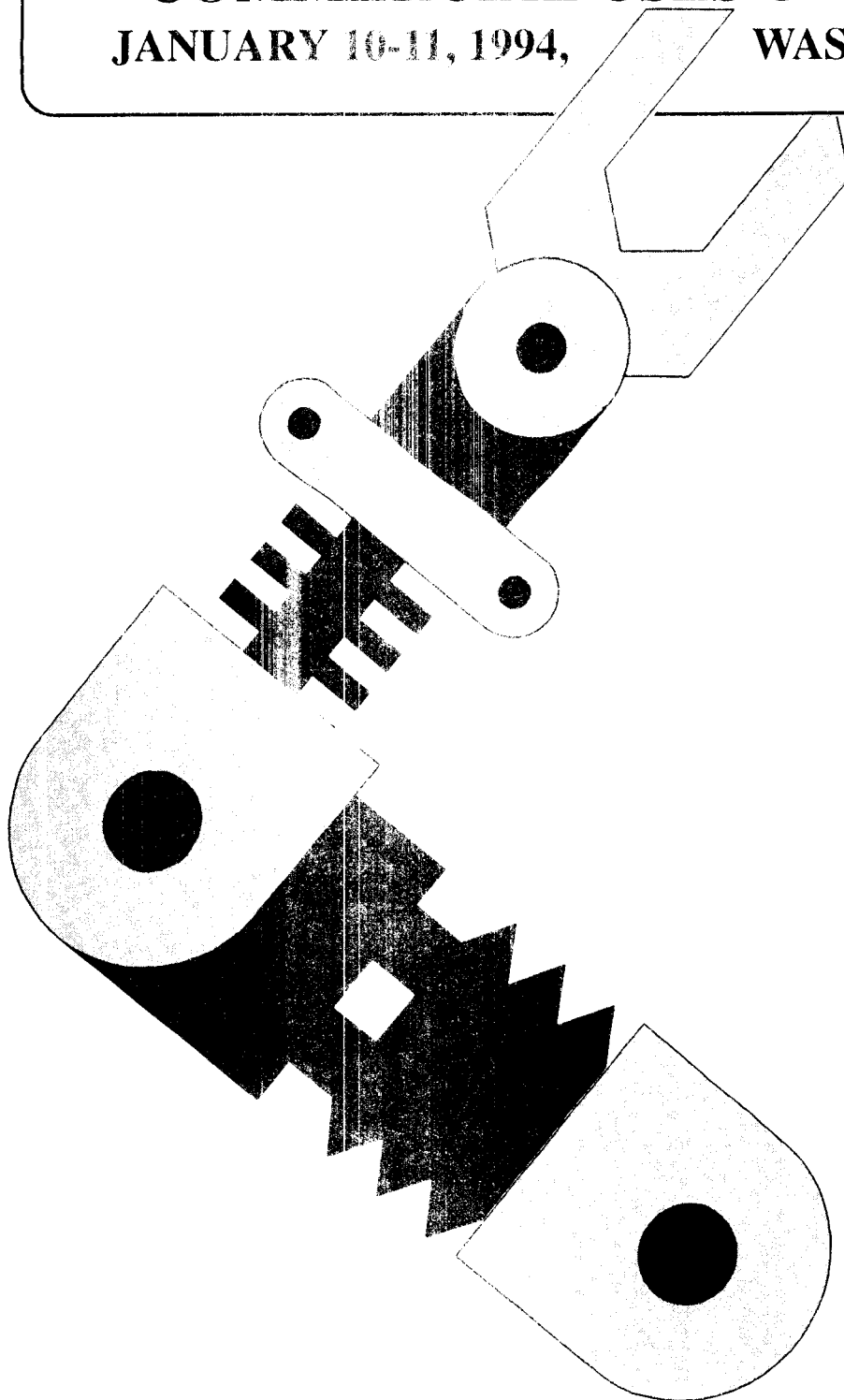
I WILL CLOSE BY PRAISING THE PERSONNEL IN THE ARMY ENVIRONMENTAL PROGRAM. THEY CONTINUE TO STRIVE FOR EXCELLENCE AND ARE BELIEVERS IN OUR COMMITMENT TO ENVIRONMENTAL STEWARDSHIP IN SPITE OF THE IMPACT ON THEIR WORKLOADS BROUGHT ABOUT NOT ONLY BY THE CONTINUALLY INCREASING ENVIRONMENTAL REQUIREMENTS BUT ALSO BY REDUCTIONS IN THE FORCE. WE ARE DOING OUR BEST TO TRAIN AND RETAIN OUR ENVIRONMENTAL PROFESSIONALS. WE MUST ALL ALWAYS REMEMBER THAT PEOPLE ARE WHAT MAKES OUR PROGRAMS A SUCCESS AND ALSO THAT PEOPLE ARE THE REASON FOR OUR MILITARY AND ENVIRONMENTAL MISSION.

THE ARMY'S ENVIRONMENTAL ROLE IS CLEAR. THE MISSION IS EVIDENT. ENVIRONMENTAL STEWARDSHIP MUST BE A PART OF EVERYTHING WE DO. ENVIRONMENTAL STEWARDSHIP, BOTH AT HOME AND ABROAD, IS OUR RESPONSIBILITY, OUR LEGACY, AND OUR FUTURE.

MR. CHAIRMAN, I AGAIN THANK YOU FOR THE OPPORTUNITY TO PRESENT THIS STATEMENT TO YOU AND TO THE MEMBERS OF THE COMMITTEE.

Document Separator

COMMERCIAL USES OF ROBOTICS
JANUARY 10-11, 1994, WASHINGTON, D.C.



AN INFORMATIVE TWO-DAY CONFERENCE ON THE
EXPANDING OPPORTUNITIES AND USES
OF COMMERCIAL ROBOTICS.
SPONSORED BY *DEFENSE WEEK* AND *NEW TECHNOLOGY WEEK*

CONFERENCE OBJECTIVE

Military requirements have stimulated the development of robotic systems being used in many civil and commercial applications. The fiscal year 1994 Department of Defense budget calls for spending almost \$5 billion on unmanned vehicle and other robotic projects. For companies who support the military robotics programs, the worry is how long defense dollars will continue to flow. Those companies, however, are ideally positioned to use their technological expertise to take advantage of the **growing demand** for robotic systems in the commercial sector.

The commercial robotics sector is expanding as more applications are found. Robot orders jumped 40 percent through the first six months of 1993 -- the best six months the industrial robot industry has ever had. U.S.-based robotics companies alone received new orders worth over \$300 million during that period.

New applications for robots are being found every day and study groups are searching for ways to extend robotic involvement in every sphere of commerce, industry and service. At the same time, companies in the robotics sector are developing more sophisticated systems every day. Robotic systems are expected to play a growing role in environmental monitoring and cleanup, a **multi-billion dollar opportunity** in the United States alone.

Mobile robots are being developed for use in the utility and nuclear industries. In transportation, robotic systems are being studied for use in a variety of roles in highway construction, maintenance and operation. Unmanned air vehicles, originally developed for military applications, are being employed for civil and commercial roles, while underwater vehicles are crisscrossing the world's oceans carrying out exploration, maintenance and environmental operations.

Military requirements have led to the development of systems that are now increasingly finding civilian applications in the area of security and emergency response.

All these applications and more will be examined at the **Commercial Uses of Robotics** conference on January 10 and 11 in Washington, D.C. Prospective users of robotic systems, producers of some of the most advanced systems and leaders in the field of robotics for all applications will discuss how the civil and commercial uses of robots are coming of age. Companies with the technology and vision to work in the field owe it to themselves to take this occasion to **learn about the opportunities** available to them in this expanding sector.

Smaller companies have a unique opportunity to capitalize on this growth area. Some of the best technical ideas have come from them and they could easily become the primary force in the robotics market.

CONFERENCE OBJECTIVE

Attendees will gain an overview of the scope of potential uses for robotics in the commercial sector by examining the **specifics of programs** being developed in all of the major areas: industrial, environmental, security, space, highways, utilities, nuclear plants, underwater operations and information gathering. We will look at the future of robotics and advanced robotic systems and review technology transfer possibilities in robotics.

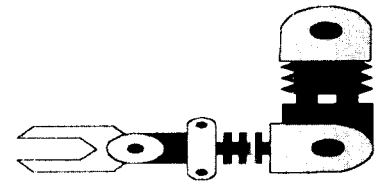
WHO SHOULD ATTEND

- Marketing managers
- Business development executives
- Strategic planners
- Engineers
- Scientists
- Government officials and...
- anyone with an interest in developing or using a robotic system.

This conference is sponsored by *Defense Week* and *New Technology Week*, newsletters of the King Communications Group, Inc., 627 National Press Bldg., Washington, D.C. 20045. Other King publications include: *High Performance Computing and Communications Week*, *Environment Week* and *Inside DOT & Transportation Week*. For more information call (202) 638-4260.

SES OF ROBOTICS

94, Washington, D.C.



AGENDA

Monday, January 10 (9:00 am - 6:00 pm)

Welcome and Opening Remarks

- **Jean-Loup Combemale**, Conference Director

An Overview of Commercial Applications

- **Harvey Meieran**, Vice President, Robotics Institute

Using Robotics for Environmental Applications

- **Vern Laurie**, Environmental Protection Agency
- **Barry Burks**, Environmental & Waste Management Technology Application Program Manager, Oak Ridge National Laboratories
- **Linton Yarbrough**, Robotics Technology Development Program Manager, Department of Energy

Contaminant Analysis: A Robotic System

- **Robert Hollen**, Staff Member, Robotics Section, Los Alamos National Laboratory
- **Steve Bourgeois**, Business Development Manager, Lockheed Corporation

Luncheon: The Future of Robotics

- **Joseph Engleberger**, Chairman, Transitions Research Corp.

Robotics and Security

- **John Holland**, President, Cybermotion Corp.
- **Shawn Farrow**, Marketing Manager, REMOTEC
- **Scott Myers**, President, Robotic Systems Technology

Industrial Uses of Robotics

- **James Albus**, Chief, Robot Systems Division, National Institute of Standards and Technology

Robots in Space

- **David Hunter**, Manager of Automation & Robotics Engineering, Canadian Space Agency
- **David Akin**, Associate Professor, University of Maryland, Dept. of Aerospace Engineering

Tuesday, January 11 (9:00 am - 5:30 pm)

Highways and Robotics Systems

- **Robert Finkelstein**, President, Robotic Technology Inc.
- **Charles Nichols**, Research Engineer, Civil Engineering Research Foundation

UAVS: The Civil and Commercial Master Plan

- **Joseph Lovece**, Editor, Military Robotics and Reporter, Defense Week

Telerobotics as an Area for Technology Transfer

- **Patrick Eicker**, Director of Intelligent Systems & Robotics, Sandia National Laboratories

Robotics and the Utilities

- **Harry Roman**, Principal Engineer, Public Service Electric & Gas

Luncheon: Advanced Robotics Projects

- TBD

Robotics and the Nuclear Industry

- **Peter Hamby**, Principal Engineer, Commonwealth Edison

Robots and Information Gathering

- **Steven Shaker**, Program Manager Unmanned Vehicles, Global Associates

Underwater Operations

- **Chryssostomos Chryssostomidis**, Director, Seagrant Program, Massachusetts Institute of Technology

Three Ways To Register



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COMMERCIAL USES OF ROBOTICS

January 10-11, 1994, Conference in Washington, D.C.

REGISTRATION & FEES

Registrations are accepted by mail, phone and fax. Please return the completed registration form with your credit card or purchase order number, or check made payable to: "King Communications Group, Inc." to King Communications Group, 627 National Press Building, Washington, D.C. 20045, Attn: Conference Registrar, C-1.

Conference hours are 9:00 a.m. - 6:00 p.m. the first day, and 9:00 a.m. - 5:30 p.m. the second day. Check-in begins at 8:00 a.m. Monday, with a complimentary continental breakfast.

Fees: U.S. \$895 for the first participant from a company, and \$845 for each additional participant. Special **early bird** rates are in effect until December 10, 1993. **Early Bird Fees:** U.S. \$795 for the first participant from a company, and \$745 for each additional registrant.

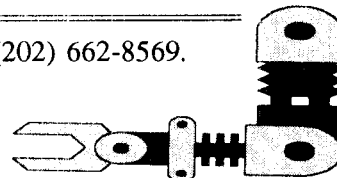
Refunds will be given for cancellations received by December 23, 1993. Cancellations after December 23 are subject to a \$50 administration fee. Substitutions are gladly accepted at any time. Conference fee includes luncheon each day, printed materials, beverage breaks and a cocktail reception the first evening.

ACCOMMODATIONS

The conference will be held at the Doubletree Hotel, 300 Army Navy Drive, Arlington, VA 22202. The hotel is ten minutes from Washington's National Airport and a free shuttle bus is available if you call (703) 892-4100 on arrival. Participants are responsible for making their own hotel reservations. A block of rooms is being held until December 10, 1993 at the special rate of \$115 single and \$135 double. Please be sure to mention the **Commercial Uses of Robotics** conference when making reservations. The Doubletree Hotel's telephone number is (703) 892-4100.

Join us to examine programs in these areas:
industrial, environmental,
security, space, highways,
utilities, nuclear plants,
underwater operations and
information gathering.

Register by calling Lauren Greifer at (202) 662-9728 or Jane Peressini at (202) 662-8569.
Fax your registrations to (202) 662-9719.



Registration Form

Commercial Uses of Robotics Conference
January 10-11, 1994, Washington, D.C.

Name: _____

Title: _____

Organization: _____

Address: _____ M/S: _____

City/State: _____ Zip: _____ + _____

Phone: _____ Fax: _____

Name preferred for badge: _____

This confirms a telephone reservation.

Please return form to:

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Registration Fees:

- Early Bird: US\$795 Additional Early Bird: US\$745
(For Early Bird rates, registration must be received by December 10, 1993.)
 Regular: US\$895 Additional Regular: US\$845
US Government employee rates are available.

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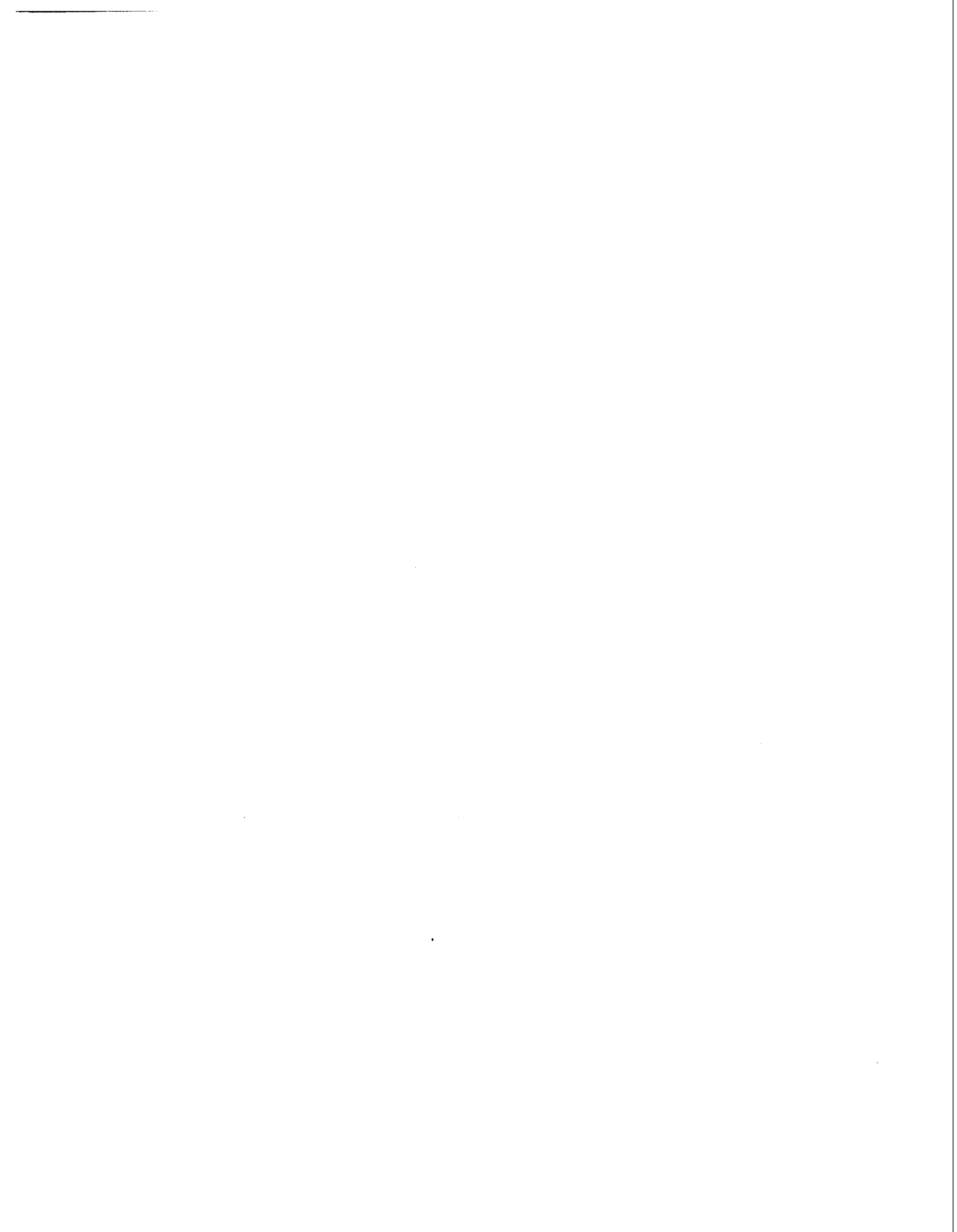
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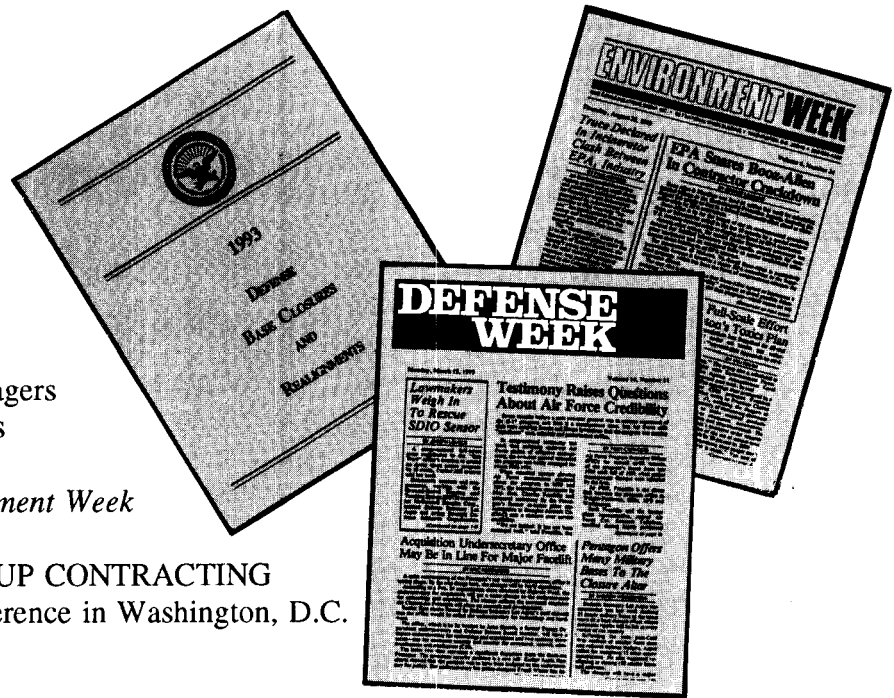
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Memorandum



TO: Environmental Contractors
Government Program Managers
Local Government Officials

FROM: *Defense Week and Environment Week*

SUBJECT: BASE CLOSURE CLEANUP CONTRACTING
December 7-8, 1993, Conference in Washington, D.C.

Environmental cleanup at the military bases scheduled for closure or realignment is now a government priority and represents an immediate contracting opportunity for companies involved in both **site characterization** and **cleanup** activities.

The Pentagon last year identified more than 18,000 sites (at both operating and closed bases) needing remediation. At that time, the Department of Defense had completed remedial investigations for only 545 sites, of which it had completed remedial actions at 416. Sixty percent of the sites involve fuel and solvent contamination; 30 percent, toxic and hazardous waste; 8 percent, unexploded bombs and artillery shells; and 2 percent, low-level nuclear waste.

Local communities are anxious to speed cleanups of bases to be closed and returned to civilian use but so far only one base has been deemed clean enough to transfer. Concerned about this slow pace, Congress mandated that the Department of Defense complete remedial investigations at the 130 bases slated for closure by the Base Closure and Realignment Commission.

In July, President Clinton responded with an initiative that called for an additional \$2.2 billion to accelerate environmental cleanup at bases being closed or realigned. Although estimates vary, the total cleanup bill will run into the billions of dollars.

Suddenly, new cleanup contracting opportunities are here, and the administration is eager to expedite the process that is now linked to defense conversion and other programs designed to stimulate local economies and provide **new opportunities** for U.S. technologies. The "Base Closure Cleanup Contracting" conference will look at the requirements, the funding and the structure of the work to be done in the cleanup of bases selected for closure or realignment.

Conference Objective

The conference will provide attendees with up-to-date, competitive information on the rapidly expanding opportunities in Base Closure and Realignment Commission site characterization and environmental cleanup contracting. At this interactive forum, speakers and panelists will share vital information on the **requirements** and **funding** for cleanup at the sites selected by the Commission.

What You will Learn:

1. How DOD is expanding the contracting pool and whether it will increase the opportunities available to local contractors for environmental testing and cleanup services at the bases scheduled for closing.
2. How local contracting centers are getting more authority for cleanup.
3. The contracting role of the DOD Transition Coordinators and Environmental Managers.
4. The impact of CERCLA and RCRA requirements on cleanup contracting.
5. In what instances partnering agreements can expedite cleanup.
6. The current status of indemnification for cleanup contractors.
7. The different approaches to risk allocation.
8. The effect "tailoring" (relaxing standards in the Superfund law to reflect proposed use of facilities) will have on cleanup contracting.
9. How the recent policy changes for interim use leasing will affect cleanup.
10. Whether contractors can expect increased funding for cleanup.

Agenda - Tuesday, December 7, 1993 -- Morning (9:00 a.m. - 12:30 p.m.)


- **Welcome and Opening Remarks**
 - Llewellyn King, Publisher, *Defense Week* and *Environment Week*
- **Keynote Address**
 - Sherri Wasserman Goodman, Deputy Under Secretary of Defense (Environmental Security):
A Progress Report On The Reconvened Defense Environmental Response Task Force
- **Panel: How The Department of Defense Is Expediting Base Closure Cleanup**
 - Terry Yonkers, Chief of Environmental Programs, Air Force Base Disposal Agency
 - Representatives From OSD, the Army and Navy
- **Base Closure Cleanup Contracting and EPA**
 - Gordon M. Davidson, Director, Office of Federal Facilities Enforcement, EPA
 - Jim Woolford, Division Director, Program Operations Office of Federal Facilities Enforcement, EPA
- **Congressional Panel: Funding And Standards**
 - Moderator:** Dick Wegman, Partner, Garvey, Schubert and Barer
 - Melinda Kassen, Counsel, House Armed Services Committee
 - Madelyn Creedon, Counsel, Senate Armed Services Committee


Please Join Us.....

For a get-acquainted cocktail party Monday night, December 6, 1993, 6:00 - 7:30 p.m. at the Hyatt Crystal City Hotel. We look forward to meeting you.

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Agenda - Tuesday, December 7, 1993 -- Afternoon (12:45 p.m. - 5:00 p.m.)

• **Luncheon Keynote Address**

Thomas L. McCall, Deputy Assistant Administrator, Federal Facilities, EPA (invited)

• **Public/Private Sector Partnering Agreements To Accelerate and Improve Quality of Cleanups**

Frank S. Waller, President, Hazardous Waste Action Coalition

• **Panel: *The Local Communities And Cleanup Contracting***

Moderator: Keith Cunningham, Policy Associate, Defense Management Issues, Business Executives for National Security

- Haron Battle, Associate Legislative Director, National Association of Counties
- Veronica Ferguson, Assistant County Administrative Officer, Monterey Co., California
- A Representative of the U.S. Conference of Mayors

Agenda - Wednesday, December 8, 1993 -- (9:00 a.m. - 2:15 p.m.)

• **Opening Remarks**

John F. Morton, Conference Director

• **Risk Sharing Panel: *What Issues Still Need To Be Resolved?***

Moderator: Carolyn Kiely, Counsel and Director, Government Affairs, Hazardous Waste Action Coalition

- A Representative from the office of the Secretary of Defense (OSD)
- Daniel Kennedy, Manager, Defense, Space and Security Programs, Bechtel Group, Inc. --

The View Of The Engineers

- Brian Deery, Director of Municipal Utilities, Associated General Contractors -- ***The View Of Small Contractors And Subcontractors***
- Jane Dudley, National Constructors Association -- ***The View Of Large Contractors***

• **Standards Panel: *Should Standards Be Tailored To Expedite Cleanup?***

Moderator: Don Gray, Senior Fellow and Water Resources Program Director, Environmental and Energy Study Institute

- Harold Bailey, Partner, Garvey, Schubert and Barer
- Sam Goodhope, Social Counsel, Environment, Office of the Attorney General, State of Texas

• **Leasing Panel: *Does The Leasing Option Benefit Cleanup?***

Moderator: George Schlossberg, Counsel, Cotten and Selfon

- A representative from the U.S. Navy
- Alan Olsen, Director, Air Force Base Disposal Agency
- Gary Paterson, Chief of the Base Realignment and Closure Office for Real Estate, U.S. Army

• **Luncheon Keynote Address**

- Former Rep. James Courter (R-N.J.), Chairman of the Base Closure and Realignment Commission

BASE CLOSURE CLEANUP CONTRACTING CONFERENCE
December 7-8, 1993, Washington, D.C.

This conference will provide need-to-know information for:

- ▶ Contractors interested in doing environmental cleanup and site characterization at bases scheduled for closure or realignment
- ▶ Federal, state and local environmental regulators
- ▶ Scientists and engineers
- ▶ Government program managers
- ▶ Security analysts
- ▶ Federal, state and local economic development officials
- ▶ Environmental attorneys (public and private sector)

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Please return the completed registration form with your credit card or purchase order number, or your check made payable to "King Communications Group, Inc." to King Communications Group, 627 National Press Building, Washington, D.C. 20045, Attn: Conference Registrar, C-17.

Conference hours are 9:00 a.m. - 5:30 p.m. on the first day, and 9:00 a.m. - 2:15 p.m. the second day. Check-in begins at 8:00 a.m. Tuesday, with a complimentary continental breakfast.

Fees: US \$795 for the first participant from a company, and \$745 for each additional participant. Special Early Bird rates are in effect until November 5, 1993. **Early Bird Fees:** US \$695 for the first participant from a company, and \$645 for additional participants.

Refunds will be given for cancellations received by November 15, 1993. Substitutions are gladly accepted at any time. Conference fee includes luncheon each day, printed materials, and beverage breaks and a get-acquainted reception December 6, the evening before the conference begins.

ACCOMMODATIONS

The conference will be held at the Hyatt Regency Crystal City Hotel, 2799 Jefferson Davis Highway, Arlington, VA 22202. The hotel is ten minutes from Washington's National Airport and a free shuttle bus is available if you call (703) 892-4100 on arrival. Participants are responsible for making their own hotel reservations. A block of rooms is being held until November 22, 1993 at the special rate of \$125 for single or double. Be sure to mention the **Base Closure Cleanup Contracting conference** when making reservations. The Hyatt's phone number is (703) 418-1234.

Register by calling Lauren Greifer at (202) 662-9728 or Jane Peressini at (202) 662-8569.
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Base Closure Cleanup Contracting, Washington, D.C.

December 7-8, 1993

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Base Closure Cleanup Contracting Conference

December 7-8, 1993, Washington D.C.

Speakers

Harold G. Bailey, Jr. is a Partner with the Washington, D.C. office of the Washington state law firm Garvey, Schubert and Barer and specializes on legislative issues affecting environmental law and government contracting. Recently, he drafted and helped pass a series of federal laws relating to the ownership and environmental regulation of water resource projects in Washington state.

Haron N. Battle is the Associate Legislative Director for the National Association of Counties. He has primary responsibility for developing and implementing NACo's policies on community and economic issues, recently with a focus on community reuse of closing military bases. Prior to joining NACo, he was a legislative assistant with the House Committee on Post Office and Civil Service and an attorney with the U.S. Department of Commerce.

Former Rep. James A. Courter (R-N.J.) is the Chairman of the Base Closure and Realignment Commission. He is senior partner in the New Jersey law firm Courter, Kobert, Laufer, Purcell and Cohen and chairman of the Alexis de Tocqueville Institution's Committee for the Common Defense. He served 12 years representing the 12th Congressional District and as a member of the House Armed Services Committee.

Madelyn R. Creedon is Counsel for the Senate Armed Services Committee. Her areas of responsibility include the DOE national security and defense environmental restoration programs and environmental programs and issues related to DOD. Previously she served 10 years with the DOE Office of the General Counsel and was responsible for a wide variety of litigation including environmental, nuclear materials transportation and radiation injury issues.

Keith B. Cunningham is Policy Associate, Defense Management Issues at Business Executives for National Security. With BENS, he was the project manager and author of "Base Closure and Reuse: 24 Case Studies," published this April. Previously, he was Economic Adjustment Staff Associate for the National League of Cities.

Gordon M. Davidson is the President of Capital Environmental, a technical and regulatory environmental consulting group. Previously, he was director of the Office of Federal Facilities Enforcement at EPA where he was responsible for developing and directing implementation of national policy for compliance and enforcement of federal facilities under all environmental laws, including Superfund.

Jane Dudley is Consultant to the National Constructors Association. She was a key participant in the efforts to develop a contractor liability provision during the Superfund reauthorization in 1985-86 and has been involved in industry efforts to resolve that problem since then.

Veronica A. Ferguson is the Assistant County Administrative Officer of Monterey County, California. She is responsible for the administration of the Division of Intergovernmental Affairs, the office coordinating the County's intergovernmental efforts relating to the closure and reuse of Fort Ord. She is a member of the California EPA's Base Closure Environmental Advisory Group representing the California State Association of Counties.

Samuel W. Goodhope is the Special Counsel for the Environment and Transportation at the Office of the Attorney General, the State of Texas. He is responsible for federal facility environmental issues for the Attorney General of Texas and served on Governor Ann Richards' Task Force on Economic Transition (1992 to 1993). He has served as the National Association of Attorneys General representative on the Congressionally-created Defense Environmental Response Task Force. He serves on the EPA's Federal Facilities Environmental Restoration Dialogue Committee and is extensively involved with clean-up issues at three closing bases in Texas.

Donald Gray is the Senior Fellow and Water Resources Program Director, Environmental and Energy Study Institute. He has held numerous congressional committee positions over the past 30 years. Most recently, he was the Chief Investigator for the House Government Operations Subcommittee on Environment, Energy and Natural Resources. His focus has included groundwater contamination and hazardous waste disposal.

Michele Greco is the Deputy for Installations at the Office of the Assistant Secretary of the Navy (Installations and Environment). Previously, she was Associate Counsel, Real Estate and Environment at the Naval Facilities Engineering Command. Prior to that, she served with the General Services Administration managing commercial real estate acquisitions. She has a wide range of Federal government experience having served in the departments of Labor and Energy and the White House Conference on Small Business.

Michael Kaiser is the Consultant for Economic Adjustment at the U.S. Conference of Mayors for such issues as defense conversion, technology transfer and industrial policy. He is a graduate of the University of Minnesota, the University of Alabama-Birmingham and Harvard University.

Melinda Kassen is Counsel to the House Armed Services Committee. She is responsible for all environmental programs that the committee authorizes, including environmental restoration at military installations and DOE's weapons complex, cleanup of closing bases, environmental cleanup, compliance, conservation and pollution prevention.

Daniel E. Kennedy, Jr. is Manager of Defense, Space and Security Programs at Bechtel Group, Inc. He is responsible for customer relations, program marketing and information gathering for programs of the Advanced System Division of Bechtel National, Inc. Among his specific programs is the DOD Environmental Remediation Program.

Carolyn M. Kiely is Counsel and Director of Government Affairs for the Hazardous Waste Action Coalition. Her responsibilities include determining the implications of federal legislation, regulations and policies on the business of providing hazardous waste cleanup services. Previously, she was Attorney/Consultant with CDM Federal Programs Corporation where she developed and implemented CDM FPC's pollution insurance strategy for compliance with EPA indemnification requirements.

Richard E. Newsome is the Assistant for Environmental Restoration, Office of the Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health). He develops policy and provides oversight for army environmental restoration programs to include the Installation Restoration and Formerly Used Defense Sites Programs. His previous experience includes service with the Army Materiel Command as Chief of the Environmental Quality Division and wide service as an army environmental engineer.

Alan K. Olsen is the Director, Air Force Base Disposal Agency. Previously, he was Associate Director of Maintenance and Supply at the Office of the Deputy Chief of Staff for Logistics and Engineering, Headquarters U.S. Air Force, a position he held from 1980.

Gary B. Paterson is the Chief, Base Realignment and Closure Office, Directorate of Real Estate Headquarters, U.S. Army Corps of Engineers. He has served as the chief of the army base closure disposal program since July 1989. In this capacity, he has had the responsibility to execute the disposal of more than 80 properties and managed the transfer of more than 20 properties. He began his real estate career with the Corps in 1972.

Harold I. Rosen is a Principal with the Washington law firm Seltzer and Rosen. He is an Associate Member of the Associated General Contractors of America and represents the AGC in contracting policy matters. He began his contract law career with the Army Corps of Engineers and has had 25 years of private practice representing contractors and engineering firms in contract matters frequently involving the federal government and military construction.

George R. Schlossberg is Counsel to the Washington law firm Cotten and Selfon where his practice focuses on the construction and financing of government facilities and DOD installation and base closure matters. He serves as the General Counsel to the National Association of Installation Developers, the national organization representing state and local communities affected by military base closures. Previously, he served as senior counsel in the Office of the Secretary of Defense with responsibilities in base closures, real property, defense installations, leasing and private financing.

Joseph K. Sikes is the Special Assistant for Base Closures in the Office of the Deputy Under Secretary of Defense for Environmental Security. He acts as the primary liaison between that office and the newly formed Economic Security organization, which he helped to establish, and which has the primary responsibility for base closure matters in the Office of the Secretary of Defense. A career naval officer, he served from 1988 until 1993 in OSD as the Assistant Deputy Assistant Secretary of Defense for Installations with responsibilities that included base closures. Just prior to his retirement, he was the Military Assistant to the Deputy Under Secretary of Defense for Environmental Security.

Gary D. Vest is the Principal Assistant Deputy Under Secretary of Defense for Environmental Security. He assists and acts for the Deputy Under Secretary in establishing policy for and overseeing implementation of all worldwide DOD environmental, installations, safety and occupational health matters. He was formerly Deputy Assistant Secretary of the Air Force for Environment, Safety and Occupational Health.

Frank S. Waller is President, Hazardous Waste Action Coalition. He is also Chairman of the Board of Woodward-Clyde Group, a consulting and engineering sciences firm. He has been involved with foundation and site development construction projects for over 30 years. In the last 15 years, he has worked on the design and remediation of several major site contamination projects throughout the eastern U.S.

Richard A. Wegman is a Partner with the Washington law firm of Garvey, Schubert and Barer. Specializing in environmental and administrative law, he is counsel to the Government of Canada and the Province of Ontario on environmental matters, including clean air and clean water. From 1975 to 1981, he was chief counsel and staff director of the Senate Committee on Governmental Affairs. During that time, he directed the Senate Study of Federal Regulations. Many of the study's recommendations were incorporated in recent environmental and health and safety regulatory statutes, including the 1990 Clean Air Act amendments.

James Woolford is the Director, Program Operations Division, Office of Federal Facilities Enforcement, EPA. His division has a wide range of responsibilities including overseeing EPA's implementation of its Base Closure Model Accelerated Cleanup Program. Previously, he was a Branch Chief in the CERCLA Enforcement Division in the Office of Waste Programs Enforcement (Superfund).

Anthony Zugay is the Technical Associate, Air Force Center for Environmental Excellence/Base Closure Restoration Division. His division provides environmental restoration services to the Air Force Base Disposal Agency for all Air Force bases affected by the Base Realignment and Closure. Previously, he was the chief of remedial design and construction at the Center and one of the principal parties in establishing its contracting and project execution strategy.

DOCUMENT SERVICE CATALOG III

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October, 1993

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- 2. 500 Contractors Receiving the Largest Dollar Volume of Prime Contract Awards for RDT&E, Fiscal Year 1992.** (DOD 1992), 36 pp., \$18. Order Code: DCRL
- 3. 1994 Budget - Air Force** press release, Budget charts and Highlights. (DOD 3/93), approx. 40 pp., \$22. Order Code: DBA
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- 5. 1994 Budget - RDT&E Programs (R1).** Summary of RDT&E programs and (R-1) detail (DOD 3/93), 75 pp., \$35. Order Code: DRTDE
- 6. 1994 Defense Budget.** Potential Reductions to Ammunition Programs. (GAO 9/93), 31 pp., \$15. Order Code: GD-DSP
- 7. Acquisition Management.** Implementation of the Defense Acquisition Workforce Improvement Act. (GAO 4/93), 41 pp., \$20. Order Code: GD-AM
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- 9. Adjusting to the Drawdown.** Report of the Defense Conversion Commission. Includes economic effects, defense industry programs, effects on people, implementation. (DOD 12/92), 95 pp., \$50. Order Code: DAD
- 10. Admiral Frank Kelso,** Chief of Naval Operations, testimony before the Senate Armed Services Subcommittee on Regional Defense and Contingency Forces. (6/93), 15 pp., \$10. Order Code: DFK
- 11. Advance Questions from the Senate Armed Svcs. Committee.** Questions and responses from John Hamre, Comptroller Designate, and Frederick Pang, nominee to be Asst. Secretary of the Navy for Manpower and Reserve Affairs. (US Congress 9/93), 24 pp., \$13 each. Order Code: DQJH and DQFP

- 12. Advance Questions from the Senate Armed Svcs. Committee,** and responses from General John M. Shalikashvili, USA. (US Congress 9/93), 40 pp., \$20. Order Code: DQAS
- 13. Advance Questions from the Senate Armed Svcs. Committee,** and responses from Nora Slatkin, nominee for Asst. Secretary of the Navy for Research, Development and Acquisition. (US Congress 9/93), 86 pp., \$40. Order Code: DQNS
- 14. Aerial Refueling Initiative.** Cross Service Analysis Needed to Determine Best Approach. (GAO 7/93), 22 pp., \$11. Order Code: GD-ARI
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7. **Annual Qualifying Facilities Report.** A cumulative list of filings made for small power production and cogeneration facilities. FY 1980-1992. (FERC 10/92), 400 pp., \$135. Order Code: EAQ

8. **Budget Estimates Fiscal Years 1994-1995.** (US Nuclear Regulatory Comm 4/93), 204 pp., \$85. Order Code: EBNRC

9. **Capacity and Service on the Interstate Natural Gas Pipeline System 1990.** Analysis of the national natural gas pipeline infrastructure and its network. (Energy Information Admin 6/92), 140 pp., \$70. Order Code: ECS

10. **Central & Eastern Europe: The Energy Transition Issues and Strategies.** (World Bank 5/92), 25 pp., \$11. Order Code: EWB2.

11. **Directory of Energy Data Collecting Forms.** Listing of selected

public use forms used by DOE for information gathering. (EIA 1/93), 65 pp., \$32. Order Code: EDED

12. **Directory of Superfund Rulemaking Dockets.** (EPA 10/92), 33 pp., \$ 16. Order Code: WDS

13. **Directory of State Agencies Involved with the Transportation of Radioactive Material With Notes on Their Statutory Authority and Regulations.** (CRCPD 10/92), 60 pp., \$35 Order Code: EDSA

14. **DOE Management. Impediments to Environmental Restoration Management Contracting.** (GAO 8/92), 14 pp., \$10. Order Code: GE-IER

15. **Electric Plan Cost and Power Production Expenses 1991.** Final Edition. Provides electric utility statistics on power production expenses and construction cost of electric generating plants. (EIA 5/93), 161 pp., \$80. Order Code: EEP

16. **Electric Utilities' Computational Needs** proceedings. (9/93, sponsored by *The Energy Daily*). Call for details. \$300. Order Code: EEUC

17. **Electric Utilities in the Power Markets** Conference papers. (9/93 sponsored by *The Energy Daily*.) Call for details. \$125. Order Code: EEU

18. **Electric Sales and Revenue 1991.** Provides information on electricity sales and associated revenue. (EIA 4/93), 239 pp., \$ 120. Order Code: EES

19. **Electricity Supply.** Efforts Underway to Develop Solar and Wind Energy. Report examines barriers that discourage electric utilities from using wind and solar technologies. (GAO 4/93), 81 pp., \$40. Order Code: GE-ES

20. **Electricity Supply: Supporting Analysis for the National Energy Strategy** (EIA 1/91), 41 pp., \$20. Order Code: EESS

21. **Energy Management. Systems Contracting Weaknesses Continue** (GAO 6/93), 15 pp., \$10. Order Code: GE-EM

22. **Environmental Tech Transfer** Conference papers. Call for details. (11/92 sponsored by *Environment Week*). \$125. Order Code: EET

23. **Financial Management.** Energy's Material Financial Management Weaknesses Require Corrective Action. (GAO 9/93), 56 pp., \$28. Order Code: GE-FM

24. **Genesee Power Station (Steam/electric plant) Limited Partnership Appeal Before the US EPA Appeal Board,** Washington, DC. (USEPA 9/93), 46 pp., \$23. Order Code: WGPS

25. **Green Products by Design.** Choices for a Cleaner Environment. Summary. (OTA 9/92), 27 pp., \$11. Order Code: WGP

26. **Heart of America vs Westinghouse Hanford.** Key court case in the ongoing controversy over the state's ability to assert RCRA oversight at federal Superfund sites. (US District Court 4/93), 50pp., \$23. Order Code: EHAN

27. **International Energy Development Council's Paper** proposing initiatives necessary for the US to retain its competitive edge in foreign electric power markets. (IEDC 4/93), 21 pp., \$15. Order Code: EIED

28. **National Energy Strategy. Powerful Ideas for America.** (NIST 2/91). 270 pp., \$100. Order Code: ENES

29. **National Energy Strategy Technical Annex 5: Analysis of Options to Increase Exports of U.S. Energy Technology.** Discusses the market, obstacles, programs, comparative analysis, findings, appendices. (DOE 1992), 123 pp., \$58. Order Code: ENES

30. **Natural Gas.** FERC's Compliance and Enforcement Programs Could be Further Enhanced. (GAO 5/93), 49 pp., \$24. Order Code: GE-NG

31. **Nuclear Materials.** Nuclear Arsenal Reductions Allow Consideration of Triton Production Options. (GAO 8/93), 17 pp., \$10. Order Code: GE-NMN

32. **Nuclear Materials.** Removing Plutonium Residues From Rocky Flats Will Be Difficult and Costly. (GAO 9/92), 28 pp., \$14. Order Code: GE-NM

33. Nuclear Security. Safeguards and Security Planning at DOE Facilities Incomplete. (GAO 10/92). 20 pp., \$10. Order Code: GE-NSS

34. Nuclear Science. Improving Correction of Security Deficiencies at DOE's Weapons Facilities. (GAO 11/92), 22 pp., \$11. Order Code: GE-NSI

35. Nuclear Waste. Hanford Tank Waste Program Needs Cost, Schedule, and Management Changes. (GAO 3/93), 48 pp., \$25. Order Code: GE-NWH

36. Nuclear Waste. Improvements Needed in Monitoring Contaminants in Hanford Soils. (GAO 7/92), 17 pp., \$10. Order Code: GE-NW

37. NWTRB Special Report to Congress and the Secretary of Energy. (Nuclear Waste Technical Review Board 3/93). 20 pp., \$11.00. Order Code: ENWT

38. Pesticides. Status of FDA's Efforts to Improve Import Monitoring and Enforcement. (GAO 6/93), 10 pp., \$10. Order Code: GW-PS

39. Posture Statement. Final statement by outgoing Secretary of Energy Admiral Watkins on the department. (1/93), 53 pp., \$23. Order Code: EPS

40. Retail Wheeling Conference Proceedings (10/92 sponsored by *The Energy Daily*). Call for details. \$150. Order Code: ERW

41. Secretary of Energy Hazel O'Leary (Interview of the honorable). (N.Y. Times 4/12/93), 47 pp., \$21. Order Code: EOLNT.

42. Secretary of Energy Hazel O'Leary Statement Before the House Committee on Natural Resources. Subcommittee on Energy and Mineral Resources. (US Congress 6/93), 7 pp., \$10. Order Code: ESOL

43. Secretary of Energy Hazel O'Leary's written responses to questions from the Senate confirmation committee. (1/93), 155 pp., \$55. Order Code: EOL

44. Secretary of the Interior Babbitt's written responses to questions from the Senate confirmation committee. (1/93), 146 pp., \$55. Order Code: WBB

45. Semi-annual Report to Congress 10/92 to 3/93. An assessment of DOE's efficiency and effectiveness in its programs and operations. (DOE 4/93), 69 pp., \$35. Order Code: ESR

46. Solid Waste. Federal Program to Buy Products With Recovered Materials Proceeds Slowly. Discusses EPA slowness to develop procurement guidelines. (GAO 5/93), 110 pp., \$55. Order Code: GW-SW

47. State Energy Price Projections for the Residential Sector 1992-1993 (EIA 9/92), 24 pp., \$12. Order Code: ESEP

48. Studies of Energy Taxes. Examines the impact of alternative energy taxes on energy markets and the domestic economy. (EIA 2/91), 36 pp., \$18. Order Code: ESET

49. Superfund. Cleanups Nearing Completion, Future Challenges and Possible Cleanup Approaches. (GAO 9/93), 25 pp., \$12. Order Code: GW-SC

50. Superfund. EPA Action Could Have Minimized Program Management Cost. Assesses the reasons for high superfund program cost. (GAO 6/93), 49 pp., \$25. Order Code: GW-SE

51. Supplement to the Annual Energy Outlook 1993. Supplement provides regional projections supporting the national data found in the Annual Energy Outlook. (EIA 2/93), 288 pp., \$140. Order Code: ESA

52. Turbine Conference Proceedings. (Advanced Combustion Turbines 6/92, sponsored by *The Energy Daily*). Call for details. \$125. Order Code: EATB

53. Uranium Enrichment. Unresolved Trade Issues Leave Uncertain Future for U.S. Uranium Industry. (GAO 6/92), 29 pp., \$14. Order Code: GE-UE

54. Water Pollution Monitoring. EPA's Permit Compliance System Could Be Used More Effectively. (GAO 6/92), 30 pp., \$13.50. Order Code: GW-WPM

55. World Energy Council. Energy for Tomorrow's World the realities, the real options and the agenda for achievement Draft Summary Report (9/92), 75 pp., \$34. Order Code: EWEC

56. Yucca Mountain Project Behind Schedule and Facing Major Scientific Uncertainties. (GAO 5/93), 546pp., \$30. Order Code: GE-YM

57. Yucca Mountain Site Characterization Project. Pictorial Overview of the project to determine suitability as a potential repository site. (DOE 6/93), 14pp., \$10. Order Code: EYM

FOOD

1. Escherichia Coli 0157:H7 Outbreak in the Western States (Report On). (USDA 5/93), 26 pp., \$15. Order Code: FEC

2. Export Promotion. A Comparison of Programs in Five Industrialized Nations. (France, Germany, Italy, UK, USA). (GAO 6/92), 36 pp., \$16. Order Code: GG-EP

3. Food Safety and Quality. Innovative Strategies May be Needed to Regulate New Food Technologies. (GAO 7/93), 102 pp., \$51. Order Code: GF-FS

4. International Agriculture and Trade Report. Asia. Asia's Long Term Agricultural Trade Prospects: A Special Report. (USDA 8/93), 166 pp., \$80. Order Code: FAL

5. International Agriculture and Trade Report. Western Hemisphere. Trading Blocks and Policy Reforms Play Major Role in Western Hemisphere Agriculture. (USDA 7/93), 104 pp., \$52. Order Code: FWH

6. Multilateral Foreign Aid. US Participation in the International Fund For Agricultural Development. (GAO 9/93), 68 pp., \$34. Order Code: GF-MF

7. National Institute on Alcohol Abuse and Alcoholism Report on Institute Activities. (5/93), 35 pp., \$30. Order Code: FAB

GENERAL INTEREST

1. Budget Issues. A Comparison of FY 1992 Budget Estimates and Actual Results. (GAO 2/93), 27 pp., \$13. Order Code: GG-BI

2. Building a Competitive America. First Annual Report to the President & Congress. The problem, six priority issues, a framework for action, and specific proposals. (Competitiveness Policy Council, 3/92), 47 pp., \$23.50. Order Code: GBC

3. Civilian Agency Contracting (Summary Report of the SWAT Team on). Improving contracting practices and management controls on cost-type federal contracts. Presents contract administration, audit, cost principles, conclusions and appendices. (OMB 12/92), 205 pp., \$75. Order Code: GCCA

4. Creating A Government That Works Better and Cost Less. Vice President Al Gore's evaluation and analysis of government operations. (National Performance Review 9/93), 169 pp., \$50. Order Code: GCG

5. Foreign Agent Registration. Former Federal Officials Representing Foreign Interests Before the U.S. Government. (GAO 3/92), 43 pp., \$19.50. Order Code: GG-FAR

6. Foreign Trade Barriers. 1992 National Trade Estimate Report. Classifies barriers into 8 categories, provides estimates of their impact, and actions being taken. (USTR), 270 pp., \$120. Order Code: GFTB

7. Information Dissemination. Case Studies on Electronic Dissemination at Four Agencies (Agriculture, NTIS, Census, NLM). (GAO 7/92), 47 pp., \$23. Order Code: G-ID

8. Labor Advisory Committee on NAFTA. Preliminary report discussing labor rights, goods, barriers to trade, etc. (9/92), 29 pp., \$15. Order Code: GLA

9. Managing The Federal Government. A Decade of Decline. Rep.

Conyers' report on govt. waste, incl. details, costs and dept. losses and summaries. Includes the 12 worst and 20 most outrageous examples of waste and \$411.5 billion in unfunded liabilities in Departments of Energy, Interior, Labor. (1992), 358 pp., \$160. Order Code: GMF

10. **NAFTA.** Full text of the agreement, dated 9/6/92. Approx. 1000 pp., \$350. Order Code: GNAFT

11. **NAFTA.** Potential Impact on the U.S. Economy and Selected Industries. (Report to Congress from USITC 1/93). 250 pp., \$110. Order Code: GNAFI

12. **North American Free Trade Agreement (NAFTA).** Assessment of Major Issues. Reports information of NAFTA's efforts to liberalize trade and investment, rules to implement the agreement and potential impact. (GAO 9/93), 155 pp., \$72. Order Code: GNAFTA

13. **North American Free Trade Agreement (NAFTA) Draft Implementing Proposal.** (US Congress 10/93), 106 pp., \$50. Order Code: GNAFTD

14. **Pesticides.** A Comparative Study of Industrialized Nations' Regulatory Systems. (GAO 7/93), 105 pp., \$52. Order Code: GF-P

15. **Quality Management.** Survey of Federal Organizations (GAO 10/92), 68 pp., \$31. Order Code: GQM

16. **Revenue Reconciliation Act of 1993.** House of Representatives bill amends the Internal Revenue Code of 1986 to provide training and investment incentives and provide additional revenues for deficit reduction purposes. (US Congress 4/93), 263pp., \$110. Order Code: G-RRA

17. **Securities and Futures Markets.** Cross-Border Information Sharing is Improving, But Obstacles Remain. (GAO 7/92), 76 pp., \$35. Order Code: G-SFM

18. **The U.S. Export-Import Bank.** The Bank Provides Direct and Indirect Assistance to Small Businesses. (GAO 8/92), 17 pp., \$10. Order Code: G-EI

19. **A Vision of Change for America.** Clinton's stimulus and investment proposal, the new direction and spending cuts. (2/17/93), 150 pp., \$60. Order Code: GVC

TECHNICAL

1. **Advanced Materials & Processing:** The FY93 Federal Program in Materials Science & Technology. (FCCSET Cmte on Industry & Tech 4/92), 374 pp., \$130. Order Code: TAMP

2. **Advanced Materials in Japan.** Breer. What Virtually Every Japanese Govt Agency is Doing in Advanced Materials Research. (State Dept, in Tokyo 2/92), 17 pp., \$10. Order Code: TAMJ

3. **Advanced Technology Program, 1992,** 1 page abstracts of the 27 winning proposals. (Comm. Dept.), 27 pp., \$15. Order Code: TATA

4. **Advanced Technology Program.** 1 page abstracts of 21 winning programs. (NIST 12/92), \$20. Order Code: TATA-2

5. **Advanced Technology Program's Projects and Participants.** A listing of 1990-1992 projects with contacts. (NIST 12/92), 13 pp., \$10. Order Code: TATP

6. **Advisory Memorandum on Office Automation Security Guidelines.** (Nat Telecommunications & Information Sys Security 1/87), 60 pp., \$25. Order Code: TOAS

7. **ARPA Electronic Systems Technology Office.** (ARPA 6/93), 11 pp., \$10. Order Code: TARP

8. **Biotechnology for the 21st Century.** The FY93 US Biotech Research Initiative. (Cong Comm on Life Sciences & Health 2/92), 125 pp., \$45. Order Code: TBT2

9. **Biotechnology and Bioethics 1/85 - 12/92.** Quick Bibliography Series. (USDA 1/93), 18 pp., \$10. Order Code: TBB

10. **Biotechnology: Human Health and Nutrition** January 1985-December 1992. (USDA 1/93), 27 pp., \$13. Order Code: TBH

11. **Biotechnology: Legislation and Regulation** January 1988- May 1992. (USDA 7/92), 33 pp., \$16. Order Code: TBL

12. **The New Biotechnology Study: Technology Assessment and Market Potential -- rDNA Plants, Animals and Microorganisms as Food and Bioreactors.** (King Comm Grp 7/93), 221 pp., \$999. Order Code: BTBK

13. **Budget (partial) of the U.S. FY 93: Enhancing R&D and Expanding the Human Frontier.** (Exec. Office of President), 59 pp., \$30. Order Code: TBRD

14. **Clinton/Gore's Technology Plans: Technology: The Engine of Economic Growth; Research; and Manufacturing for the 21st Century** (10/92), 42 pp., \$20. Order Code: TBC-R2

15. **A Competitiveness Strategy for America.** The second report to the President and Congress on the comprehensive competitiveness strategy. (CPC 3/93), 62 pp., \$35. Order Code: TCSA

16. **CRADAs signed by the federal government through May 1991.** (King Publishing), 89 pp., \$59. Order Code: TCRDA

17. **CRADA-2 885 CRADAs signed by govt agencies from 5/91 to 6/92 (some later).** Compiled by *New Technology Week*. From the departments of Defense, Commerce, Transportation, Energy, Agriculture, Interior, and the EPA, NIH. 135 pp., \$170. Bonus: 8 full-text CRADAs, 7 DOE, 1 DOT. 100 pp. Order Code: TCRDA-2

18. **DOE New Technology.** Technology assessments by DOE labs, Patents available for licensing from DOE, and other patents from technologies funded by DOE. (7/91 through 3/92), 108 pp., \$42. Order Code: TDN

19. **Economic Aspects of Agricultural Bio/technology** January 1986-March 1992. (USDA 8/92), 42 pp., \$21. Order Code: TEA

20. **Federal Research.** Aging Federal Laboratories Need Repairs and Upgrades. (GAO 9/93) 53 pp., \$ 26. Order Code: GT-FRA

21. **FCCSET Initiatives in the FY 1994 Budget.** (Exec Ofc of the President 4/93), 43 pp., \$21. Order Code: TFT

22. **Federal Research. SEMATECH's Technological Progress and Proposed R&D Program.** (GAO 7/92), 44 pp., \$20. Order Code: GT-S

23. **Foreign Technology.** Collection and Dissemination of Japanese Information Can Be Improved. (GAO 9/93), 41 pp., \$25. Order Code: GT-FT

24. **From Desktop to Teraflop: Exploiting the US Lead in High Performance Computing.** (National Science Foundation 8/93), 57 pp., \$30. Order Code: TDTE

25. **FTS 2000 Overhead.** (Federal Telecommunications System) GSA Should Reassess Contract Requirements and Improve Efficiency. (GAO 8/92), 19 pp., \$10. Order Code: GT-FTS

26. **Glossary of Computer Security Terms (NCSC 10/88),** 56 pp., \$25. Order Code: TGCS

27. **High Performance Computing.** Advanced Research Projects Agency Should Do More to Foster Program Goals. (GAO 5/93), 43 pp., \$22. Order Code: GT-HPC

28. **The High Performance Computing Act of 1991: National Research and Education Network Program.** (Exc Ofc of the President 12/92), 58 pp., \$29. Order Code: THPCA

29. **High Performance Computing Modernization Plan - Department of Defense.** Describes 3 components, requirements, processes and funding needs. (3/92), 52 pp., \$25. Order Code: THDM

30. **High Performance Computing and Networking Advisory Committee (Report of).** Report addresses those whose future is affected by HPCN in the European Community. (CEC 10/92), 44 pp., \$21. Order Code: THPC

31. **House Science Committee's Hearing 2/2/93 on High Performance Computing.** Complete testimony - 8 witnesses. (House), 106 pp., \$40. Order Code: THSC

Save for Reference

32. Human Genome Program-DOE. Primer on Molecular Genetics. Terms, explanation of mapping and sequencing, data collection. (DOE 6/92), 43 pp., \$18. Order Code: THGD

33. Human Genome Program in Japan. Ministries, funding, policies, research. (State Dept. U.S. Embassy Tokyo 4/92), 12 pp., \$10. Order Code: THGJ

34. Information Dissemination. Federal CD-ROM Titles. What Is Available and How They Were Priced? Reviews agency pricing methods for CD-ROM titles that they make available to the public. (GAO 6/93), 37 pp., \$18. Order Code: GT-ID

35. Medical Technology. Quality Assurance Systems and Global Markets. Program evaluation of regulatory policies and procedures and quality assurance requirements for marketing medical devices in the US. (GAO 8/93), 109 pp., \$54. Order Code: GT-MTQ

36. NASA Procurement. Proposed Changes to the Jet Propulsion Laboratory Contract. (GAO 7/93), \$11. Order Code: GT-NP

37. National Aero-Space Plane. Restructuring Future R&D Efforts. (GAO 12/92), 57 pp., \$27. Order Code: GT-NA

38. National Critical Technologies Panel (Report of). Describes 22 technologies considered essential for the U.S. Areas: materials, manufacturing, communications, biotechnology, transportation, energy. (3/91) 130 pp., \$50. Order Code: TNC

39. The National Information Infrastructure. Agenda for Action. (Information Infrastructure Task Force 9/93), 27 pp., \$13. Order Code: TNI

40. NIST. Prominent activities of the Commerce Department's National Institute of Standards and Technology. (2/93), 25 pp., \$11. Order Code: TNIS

41. NSF Implementation Plan for Interagency Interim NREN. (5/92), 30 pp., \$15. Order Code: TIP

42. NSF's SBIR Program Awards. 202 high tech firms in 28 states by category. Phase I.(4/92), 13 pp., \$10. Order Code: TNS

43. NSF's Small Business Guide to Federal R&D Funding Opportunities. Individual departments/agencies, information and contacts, tech transfer, chances of success. (10/91), 147 pp., \$67. Order Code: TNSBG

44. Parallel Computers-Experience at Ames NASA & NAS Parallel Benchmark Results 11/91 and 8/92. 26 pp. \$12. Order Code: TNB

45. Patent and Trademark Office. Key Processes for Managing Automated Patent System Development Are Weak. (GAO 9/93), 29 pp., \$14. Order Code: GT-PT

46. Pharmaceutical R & D: Cost, Risks and Rewards. Examines the cost of pharmaceutical research and development. (OTA 2/93), 355 pp., \$100. Order Code: PPR

PATENTS

47. All Technologies Report. Patents, January 1963 -- December 1992. (Com Dept 4/93), 20pp., \$11. Order Code: TDCATR

48. Design Patents awarded to organizations, 1972-1992. (Com Dept. 4/93), 25pp., \$15. Order Code: TDCDP-3

49. Leading organizations receiving patents for all types 1977-1992. (Com Dept 4/93), 16pp., \$11. Order Code: TDCPA-3

50. Leading organizations receiving patents for all technologies, 1963-1991. (Com Dept. 3/92), 19 pp., \$10. Order Code: TDCPT

51. Patent Counts By Class By Year, 1963-1992. (Com. Dept. 3/92), 18 pp., \$10. Order Code: TDCPC-3

52. Patenting by Organizations, domestic and foreign in 1992. (Com Dept. 4/93), 33pp., \$16. Order Code: TDCPO-3

53. Patent Law Reform. (The Advisory Committee on). Harmonization, enforcement, unique issues. (Com. Dept. 8/92). 217 pp., \$99. Order Code: TPL

54. Plant Genome: Breeding for Cold Tolerance in Plants January 1987-April 1992. (USDA 9/92), 46 pp., \$23. Order Code: TPG

55. Semiconductors: 2 reports. Attaining Preeminence (3rd Annual

Report to the President and Congress), and A National Strategy for Semiconductors (An Agenda for the President, Congress, and Industry). (National Advisory Committee 2/92), 62 & 24 pages, \$40. Order Code: TS

56. Space Station. Improving NASA's Planning for External Maintenance. (GAO 7/92), 37 pp., \$16.50. Order Code: GT-SSM

57. Space Station. NASA's Software Development Approach Increases Safety and Cost Risks. (GAO 6/92), 33 pp., \$16. Order Code: GT-SSS

58. A Strategy Gone Awry. The Administration's Response to Japan's Economic Aggression Against the U.S. High Performance Computing Industry. (House Committee on Government Operations 10/92), 46 pp., \$20. Order Code: TSG

59. Technology for America's Economic Growth, A New Direction to Build Economic Strength. (Clinton 2/22/93). 38 pp., \$20. Order Code: TTA

60. Technology Transfer Activities Within The Federal High Performance Computing and Communications Program. (Exec Ofc of the President 4/93), 10 pp., \$10. Order Code: TTT

61. Telecommunications. Charges for Itemized Cellular Telephone Bills. (GAO 9/93), 25 pp., \$12. Order Code: GT-TC

60. Telecommunications. FCC's Oversight Efforts to Control Cross-Subsidization.(GAO 2/93), 32 pp., \$15. Order Code: GT-TF

62. The Competitive Strength of U.S. Industrial Science and Technology: Strategic Issues. Analysis of R&D performance, content, output; recommendations; statistical tables; R&D compared to sales and workforce,etc. (Nat'l Science Board's Cmte on Industrial Support for R&D 8/92), 106 pp., \$50. Order Code: TCS

63. The Manufacturing Technology Centers Program. A Sampling of Individual Case Histories. 9 case studies and a glossary. (Dept. of Comm. 2/92), 23 pp., \$11. Order Code: TMT

64. Trends in The Structure of Federal Science Support. A novel profile of trends in funding by the 7 major R&D govt agencies. (FCCSET 12/92), 161 pp., \$70. Order Code: TT

TRUSTED SYSTEMS

65. A Guide to Understanding Audit in Trusted Systems. (NCSC 6/88), 26 pp., \$10. Order Code TATT

66. A Guide to Understanding Configuration Management in Trusted Systems. (NCSC* 3/88), 30 pp., \$12. Order Code: TCM

67. A Guide to Understanding Data Remanence in Automated Information Systems. (NCSC 9/91), 35 pp., \$11. Order Code: TDR

68. A Guide to Understanding Design Documentation in Trusted Systems. (NCSC 10/88), 37 pp., \$15. Order Code: TTD

69. A Guide to Understanding Discretionary Access Control in Trusted Systems. (NCSC 9/87), 30 pp., \$12. Order Code: TDAC

70. A Guide to Understanding Identification and Authentication in Trusted Systems. (NCSC 9/91), 30 pp., \$12. Order Code: TUIA

71. A Guide to Understanding Information System Security Officer Responsibilities For Automated Information Systems. Provides information for system security officers to aide them in understanding their responsibilities for implementing and maintaining security. (NCSC 5/92), 61 pp., \$60. Order Code: TGIS

72. A Guide to Understanding Object Reuse in Trusted Systems. Technical guideline provides insight to the Trusted Computer System Evaluation. (NCSC 7/92), 25 pp., \$12. Order Code: TORT

73. A Guide to Understanding Trusted Distribution in Trusted Systems. (NCSC 12/88), 32 pp., \$13. Order Code: TGTD

74. A Guide to Understanding Trusted Facility Management. (NCSC 10/89), 60 pp., \$25. Order Code: TGUTF

75. A Guide to Understanding Trusted Recovery in Trusted Systems. (NCSC 12/91), 59 pp., \$25. Order Code: TGUTR

76. A Guide to Writing the Security Features User's Guide for Trusted Systems. (NCSC 12/88), 32 pp., \$13. Order Code: TSFU

77. Assessing Controlled Access Protection. Guidance provided is

targeted toward multi-user Automated Information System's designed for DoD operations. (NCSC 5/92), 69 pp., \$65. Order Code: TACA

78. Computer Security Requirements. Guidance for Applying the DoD Trusted Computer System Evaluation Criteria in Specific Environments. (NCSC 6/85), 14 pp., \$10. Order Code: DCSR

79. Computer Security Subsystem Interpretation of the Trusted Computer System Evaluation Criteria. (NCSC 9/88), 37 pp., \$15. Order Code: TCSS

80. Guidelines for Writing Trusted Facility Manuals. Supplies a set of good practices related to documentation of trusted facility management functions. (NCSC 10/92), 50 pp., Order Code: TTFM

81. Rating Maintenance Phase Program Document. A technical guide that provides for the maintenance of computer security ratings across product revisions. (NCSC 6/89), 85 pp., \$40. Order Code: TRM

82. Trusted Database Management System. Interpretation of the Trusted Computer System Evaluation Criteria. (NCSC 4/91), 144 pp., \$70. Order Code: TTDM

83. Trusted Network Interpretation Environments. Guidance for Applying the Trusted Network Interpretation. (NCSC 8/90), 69 pp., \$30. Order Code: TTNI

84. Trusted Product Evaluations. A Guide for Vendor (NCSC 6/90), 37 pp., \$15. Order Code: TTPEG

85. Trusted Product Evaluation Questionnaire. (NCSC 5/92), 36 pp., \$18. Order Code: TTPE

86. Trusted Unix Working Group (TRUSIX). Rationale for Selecting Access Control List Features for the Unix System. (NCSC 10/89), 72 pp., \$33. Order Code: TTUW

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**For additional documents on trusted systems see defense section.

87. U.S. Space Program - Final Report to the President from the V-P. (1/93) 85 pp., \$40. Order Code: TUSP

88. Valuable Patents for U.S. Businesses. A catalog of DTRC Patents available for licensing. (David Taylor Research Center 10/91). 51 pp., \$25. Order Code: TVP

89. White House Technology Reinvestment Project. List of technical and general information points of contact for the Technology Reinvestment Project. (NTIS 4/93), 16 pp., \$10. Order Code: TWH

TRANSPORTATION

1. Aircraft Certification. Limited Progress on Developing International Design Standards. (GAO 8/92), 80 pp., \$38. Order Code: GI-AC

2. Aircraft Certification. New FAA Approach Needed to Meet Challenges of Advanced Technology. (GAO 9/93), 76 pp., \$40. Order Code: GI-ACN

3. Aircraft Maintenance. FAA Needs to Follow Through on Plans to Ensure Safety on Aging Aircraft. (GAO 2/93), 13 pp., \$10. Order Code: IACM

4. Airline Competition. Higher Fares and Less Competition Continue at Concentrated Airports. (GAO 7/93), 45 pp., \$22. Order Code: IACH

5. Airline Competition. Impact of Changing Foreign Investment and Control Limits on U.S. Airlines. (GAO 12/92), 76 pp., \$30. Order Code: GI-A

6. Airspace System. Emerging Technologies May Offer Alternatives to the Instrument Landing System. GAO 11/92), 40 pp., \$20. Order Code: GI-AS

7. Air Traffic Control. Advanced Automation System Still Vulnera-

ble to Cost and Schedule Problems. (GAO 9/92), 17 pp., \$10. Order Code: GI-ATC

8. Air Traffic Control. Status of FAA's Modernization Program. (GAO 4/93), 77pp., \$36. Order Code: GI-FMP

9. Alternative Fueled Vehicles. Potential Impact of Exemptions from Transportation Control Measures. (GAO 4/93), 35pp., \$25. Order Code: GI-AF

10. Amtrak Safety. Amtrak Should Implement Minimum Safety Standards for Passenger Cars. (GAO 9/93), 36 pp., \$18. Order Code: GI-TTI

11. Assessment of Advanced Technologies for Transit and Ride-share Applications. Incl. technologies for high occupancy vehicles, traveler info systems, automatic vehicle controls - from benefit and cost viewpoints. (DOT 7/91), 134 pp., \$60. Order Code: IAAT

12. Automotive Fuel Economy. How Far Should We Go? (National Research Council 4/92), 260 pp., \$95. Order Code: IAFE

13. Aviation Safety. Slow Progress in Making Aircraft Cabin Interiors Fireproof. (GAO 1/93). 33 pp., \$15.00. Order Code: GI-ASP

14. Aviation Safety. Unresolved Issues Involving US Registered Aircraft. (GAO 6/93), 21 PP., \$10. Order Code: GD-ASU

15. Brief summary of the Report on Automotive Fuel Economy. (Nat'l Resch. Cncl. 4/92), 10 pp., \$10. Order Code: IAFEP

16. California Smart Traveler System. Use of audiotex and videotex information systems to develop new modes of public transport, integrating new modes, possible demonstration sites and proposed info systems. (DOT 2/92), 90 pp., \$40. Order Code: ICS

17. Computer Operations. FAA Needs to Implement an Effective Capacity Management Program. (GAO 11/91), 33 pp., \$15. Order Code: GI-FAC

18. Department of Transportation FY 1994 Budget In Brief. (DOT 93), 26 pp., \$13 Order Code: IDT

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Navy hurries Guam move

BY DAVID ALLEN

Stripes Guam Bureau Chief

AGANA — The Navy is accelerating the closure of Naval Air Station Agana.

A Navy spokeswoman Monday said Adm. Robert Kelly, commander of the Pacific Fleet, has asked for a plan to close NAS Agana by April 1, 1995.

"Basically, what has happened is the Navy looked at the cost of closing the base over the usual five or six years and it was decided it would be in the best interests of the Department of Defense and the Navy to close as soon as fiscally possible," said Lt. Kelly Merrell.

A draft of the stepped-up closure plan is due by January, she said.

Congress accepted the Base Realignment and Closure Commission's recommendations to close NAS Agana on Sept. 21. Originally, Navy planners were looking at relocating the base's various units by 1998. The commission's recommendation did not include base housing, which the Navy argued was still needed if units were to be relocated to Andersen Air Force Base, at the northern tip of the island.

Now, even that may be up in the air, Merrell said.

"A lot of options are being explored," she said. "The squadrons at NAS will be dispersed. One of the options is they will go to Andersen. Other possibilities are they would go to San Diego or Hawaii."

Units at NAS Agana include Helicopter Combat Support Squadron Five and Fleet Air Reconnaissance Squadron One.

The closing of NAS Agana has long been the dream of Guam officials, who want the base for expansion of the adjacent civilian airport and development of an industrial park. But Guam Rep. Robert Underwood said he was unsure what would be turned over to Guam.

William S. Cohen

Expand NATO Step by Step

NATO foreign ministers recently balked at deciding on how to carry out a delicate construction project: building an addition to the Alliance to shelter NATO's eastern neighbors while not arousing the hibernating bear from which they seek refuge.

In its initial effort to resolve this dilemma, the Clinton administration recently proposed that NATO negotiate bilateral "Partnership for Peace" contracts with non-NATO countries in Europe. Individualized to each country's circumstances and prospects, such contracts would link a plan for increasing security cooperation to specific actions to bring the country's defense institutions under legitimate civilian control and render them compatible with the NATO model.

Although supported within NATO, the administration's proposal has not been well received by those for whom it was designed. Warsaw, Prague and Budapest view it as inadequate to guard them from a resurgent Russia. Moscow views the proposal as another Western effort to encircle it and demands equal access to the NATO hearth.

While the Partnership for Peace proposal is a useful mechanism, it should be pursued as part of a broader strategy to assuage the mutually reinforcing suspicions of Moscow and its former satellites.

NATO should clearly state that no European country will be excluded out of hand from the prospect of Alliance membership. But before any country is considered for it, genuine institutional and societal reforms must occur, including establishment of a stable constitutional democracy in which the

rights of minority nationalities are protected. It is important not to rule out Russian membership now and forever, since to do so would seriously exacerbate Moscow's already acute sense of isolation. But most observers expect only the Central European countries to qualify for consideration during the next decade or so. And recent political developments in some of these countries show that it is not a forgone conclusion that even they would qualify.

The Alliance also should change the terms of the debate over NATO expansion to recognize that its working structure consists of several dozen major committees, agencies and other institutions. From this perspective, integration of former adversaries poses far fewer problems and offers many more advantages than is evident from the simplistic debate over whether countries should jump the wide chasm to full NATO membership.

Eastern countries already participate on a limited basis in a few of NATO's civilian and military institutions under the aegis of the North Atlantic Cooperation Council (NACC). All of the countries of the former Warsaw Pact, including all countries of the former Soviet Union, are members of the NACC. But each chooses, based on its interests and abilities, whether to accept NATO's invitations to participate in activities of NATO's science, environmental, airspace control and other programs.

Thus the NACC already has established a natural "differentiation," to use the term for the 1970s policy of treating Moscow's East European satellites on an individual basis. While the NACC was initially a hand-holding forum in which to ease concerns resulting from the collapse of the Pact, it has moved on to practical, concrete cooperation through the activities of NATO's working institutions.

Rather than "growing" NATO eastward immediately, we should build on this good start by growing selected NATO institutions into NACC ones and opening up certain others to countries meeting appropriate conditions. This would help those countries capable of it to grow into NATO

EXPAND...Pg. 6

Emergency in North Korea

North Korea's refusal to comply with a request from the International Atomic Energy Agency to permit inspection of all its nuclear sites has engendered a crisis that affects the Korean Peninsula, Japan, China, the United States and the United Nations.

Because of evidence that Pyongyang might be on the verge of acquiring a nuclear weapons capability, policy makers cannot afford to temporize, hoping the problem will go away.

President Clinton thus far has displayed in this case an appropriate will to anticipate events rather than be forced to react belatedly, as happened in Somalia. He has tried to engage the North Korean rulers in a dialogue. Though the effort has yet to bear fruit, it must be pursued, not only because the governments in Seoul, Tokyo and Beijing commend the diplomatic track and fear a military conflagration, but also because no resort to economic sanctions or force would be justifiable if not preceded by a genuine search for some kind of diplomatic resolution.

Nevertheless, if the isolated, paranoid leaders

in Pyongyang continue to prohibit the nuclear inspections mandated by the IAEA safeguards pact they signed last year, Clinton will confront policy options that are all perilous.

To deter a "surgical" US bombing of its nuclear sites, Pyongyang has threatened to respond by invading South Korea. If the 850,000 North Korean soldiers positioned near the border were ordered to attack, they would overrun US units serving as a tripwire and would reach Seoul. Though North Korea might be doomed to lose any war it started, the destruction would be horrendous.

The more likely first step would be a Security Council decision to impose an economic embargo on North Korea until the regime accepts inspection of all its nuclear facilities. Clinton might have to choose this course, even though the North Korean regime has warned that economic sanctions will be deemed "an act of war." Before that risk is taken, Clinton should explore all avenues of peaceful persuasion — particularly the possibility of diplomatic intercession by Beijing.

U.S. carrier exit cuts forces aiding Somalia

MOGADISHU, Somalia (AP) — A U.S. aircraft carrier left the coast of Somalia yesterday, sharply reducing the number of American forces stationed off the troubled African nation.

Col. Steve Rausch, a U.S. military spokesman, said the USS America would be replaced by the USS Independence carrier battle group. But he said the Independence would be posted farther from Somalia than the America had been.

The America sometimes could be seen from this coastal capital, and its F-14 Tomcats and F-18 Hornets often roared overhead in a show of military might to Somalia's battling clans. But the Independence will be at least 48 hours away, Col. Rausch said.

The America and its battle group include 5,500 U.S. Navy personnel.

Their departure marks a significant reduction in the 9,195 American forces that were stationed offshore of Somalia and 8,145 based on land.

Col. Rausch said he could not comment on why the America was being redeployed to the Red Sea, where U.S. vessels have been based to enforce sanctions against Iraq.

President Clinton decided to end the U.S. mission to Somalia by March 31 after a series of fierce battles with Somalis killed 24 Americans, including 18 in a firefight on Oct. 3.

The United States led a multinational force to Somalia on Dec. 9, 1992, to protect food and medical shipments to a nation plagued by famine and clan battles that killed 350,000 people last year. The United Nations took command of the operation in May.

EXPANDS...from Pg. 5

step by step, give them a more secure place to anchor during the transition period, and minimize concerns of those unlikely ever to qualify for full membership that NATO is seeking to isolate or exclude them.

This would not require new bureaucracies but would merely allow any NACC country to become as fully engaged as it desires in such NATO institutions as the science, environmental and European airspace control programs, including formally joining the committees that oversee them and contributing to the international staffs that operate them. Russians, Ukrainians, Poles, Germans, Americans and others would work side by side in NATO headquarters, slowly building the familiarity, shared experience and unity of purpose that is one of the most valuable benefits of NATO structures.

Countries making the greatest progress in developing political and military institutions compatible with those of NATO nations could participate in and later join such NATO military institutions as the logistics planning and civil emergency planning programs.

Instead of a bright new line separating the elect from the damned in Europe, there would be multiple, crisscrossing lines defining participation and membership in NATO institutions, with no one fully excluded and eastern countries playing a significant role in determining where the lines are drawn.

The result would be a graduated approach to NATO membership. Within a decade, some countries would be functionally integrated into NATO to a significant extent. At that point, crossing the threshold of membership would be easier, even natural and inevitable for these countries and thus less objectionable to those in both the West and East who are now skeptics. The West should make haste to extend the benefits of its security institutions to its former adversaries. But the political paranoia and instability that abound in the East dictate that we must do so slowly.

The writer is a Republican senator from Maine.

U.S., Russia Mull Reaiming Nuclear Arms

Plan Calls for Missiles To Be Pointed to Sea

Associated Press

With the Cold War over, the United States and Russia have been discussing a plan to stop aiming their long-range nuclear missiles at each other, President Clinton confirmed yesterday.

Redirecting the nuclear weapons is "one of the things we have under consideration," Clinton said, adding that he and Russian President Boris Yeltsin discussed the matter at their April meeting in Vancouver.

"We are working through it. . . . But no final decision has been made," the president said.

Senior administration officials said there was no agreement yet on where to aim the missiles instead, though desolate spots in the oceans were being considered. Another option would be to have no target at all.

In any event, the officials said, an agreement could not be verified. That is, one side could not know for sure whether it was still being targeted by the other.

Also, the officials said, it would take only minutes to retarget some or all the missiles. The process is known as "remote data change."

Three former Soviet republics that have strategic nuclear missiles on their territory—Ukraine, Kazakhstan and Belarus—would be included in any plan to target U.S. missiles elsewhere, said the officials, who spoke on condition of anonymity.

The officials said they did not know when an agreement between

the United States and Russia on targeting might be concluded.

Under a draft plan from the Pentagon, U.S. missiles would be aimed at coordinates in the ocean instead of missile silos and military bases in Russia, according to a report in the New York Times yesterday. The change would be largely symbolic, but some Pentagon officials said they believe it also would reduce the chance of an accidental nuclear war.

Officials from both countries have discussed the idea recently, and the Pentagon was waiting for a detailed plan from Russia on how that country would reaim its missiles, the Times said. Colonel-General Igor Sergeyev, commander of Russia's Strategic Rocket Forces, met with senior officials last week at the Pentagon and military leaders of the U.S. Strategic Command in Omaha.

Lt. Sharon Heath, a spokeswoman for the U.S. Strategic Command, told the Associated Press that the Clinton administration also was looking at ways to change the way it targets other countries. She would not specify.

"The Soviet Union is dissolved, the Cold War is over, so we are taking a look at how we target," Heath said.

Nuclear missiles have both primary and reserve targets. While the primary targets would be shifted to the ocean under the plan, the reserve targets would remain military sites in Russia. Switching the target back to a Russian site would take 15 minutes or less, an unidentified U.S. official told the Times.

One expert said the proposal does not go far enough to remove the risk of nuclear war. Bruce Blair of the Brookings Institution in Washington said both countries should reduce their reliance on rapid launch by, for example, removing all warheads from missiles and storing them.

The Damage of Pollard's Espionage

As Israel presses the Clinton Administration to free Jonathan Pollard, the former U.S. Navy intelligence analyst sentenced in 1986 to life in prison for spying for the Israelis, TIME has learned that one document Pollard is believed to have slipped to the Israelis—thought to have landed in Soviet hands, albeit unintentionally—was a huge National Security Agency compendium of frequencies used by foreign military and intelligence services. Gathering this information cost the U.S. billions of dollars, but Pollard rendered it useless. Officials assume countries that knew their frequencies had been discovered used them for disinformation. Additionally, officials fear the data in the book were so specific that its discovery may have cost informants their lives.

Small Firms Battle Giants Over Defense Dollars

Pentagon Panel Appears Ready to Favor Big Contractors on Information Access Rules

By John Mintz

Washington Post Staff Writer

It's a David-and-Goliath struggle, only this time the stakes are billions of dollars of Pentagon contracts, and both contestants agree the government is leaning toward Goliath.

The Davids are hundreds of small factories and machine shops around the country. They say the Pentagon is about to impose new rules that could put many of them out of business and cost taxpayers money.

The Goliaths, the nation's largest defense firms, say the small firms are opportunists who use Pentagon rules to learn the big companies' technological secrets and make money off them.

The last round is scheduled for tomorrow, when a Pentagon advisory panel will hold a final meeting before issuing recommendations to Defense Secretary Les Aspin.

Industry and government officials say the panel—chaired by Eleanor R. Spector, the Pentagon's procurement director—has dismissed almost all the small firms' complaints and will find for the large companies on most issues. Pentagon officials declined comment.

The dispute is this: who owns the rights to the equipment inside the military's planes, tanks and submarines? Is it the government, which helped pay for the research? Or is it contractors, which spent a fortune developing the technologies?

The law has said for years that if taxpayer money paid for all the research on some gear, then the United States owns rights to it. That means outsiders can get that information from the government, if it's unclassified. But on most military technologies, companies and the Pentagon share research costs, so ownership questions are legally muddled.

In 1984, after Pentagon scandals about \$5,000 coffee pots and \$1,000 pliers, Congress tried to lower costs for military gear by promoting competition. A series of laws and regulations in the mid-1980s expanded the types of technical information the gov-

ernment could disseminate so companies other than the main, or "prime," contractors could make Pentagon spare parts.

A new industry of "replicator" firms was born. They comb through contracting publications for news of Pentagon bid competitions, then file Freedom of Information requests for technical data on the desired equipment. Blueprints in hand, the small firms bid on the parts contracts, often underbidding the primes because their overhead costs are lower than the big firms'.

Replicators say that if the Pentagon rules against them, hundreds of small factories could go under.

"It's very likely this would put us out of business," said Phillip Rodriguez, president of Aeronautical Systems Inc., a Manassas-based replicator supplying parts for throttle controls on F-15 fighter jets and gear boxes on Navy helicopters.

Eighteen months after Nicaraguan immigrant Rodriguez founded the firm in 1988, it had 15 employees and revenue of \$3.5 million—all because he obtains other companies' blueprints. He said he feels no guilt about the fact that his firm has almost no expertise in technology or manufacturing but only hires factories to make parts for which he's acquired plans.

"The market grew tremendously," he said, "and the wealth was spread."

Matthew Forelli, co-owner of a New York firm that makes military aircraft gears, said that if he loses the ability to obtain the primes' drawings, 20 of his 45 factory workers and six of his 12 office employees would be laid off.

"No data means no business," Forelli said.

Moreover, replicators say that if the

Pentagon constricts the flow of data to outsiders, military parts costs will rise. They contend that they've saved taxpayers \$20 billion since 1984; by contrast, allies of the primes say the savings were only about \$2 billion.

"This will take us back to the early 1980s and before, when we had spare-parts abuses," said Nick Reynolds, co-owner of a Texas-based firm that advises small Pentagon contractors and a leader in the replicators movement. "We thought we'd killed that snake called overpriced spare parts."

Meanwhile, prime contractors say some replicators do shoddy work—and cost the government money—because they don't understand the precise function of the gears, screws, valves and pipes they make.

But the primes' main gripe is replicators are making off with technology the primes spent millions developing.

"These are our family jewels," said Joel W. Marsh, government acquisition director for United Technologies Corp., a large Connecticut-based defense firm.

"If you buy a Ford, you get an operators manual," said Leroy J. Haugh, vice president for procurement at the Aerospace Industries Association, which represents large defense firms. "But you don't get all the blueprints to build a Ford in your garage."

Recently the replicators persuaded a few dozen members of Congress to send letters to the Pentagon pushing their case. But the replicators admit they've been out-lobbied by the big firms.

"I feel like a flea," said replicator Forelli, "crawling up the leg of the elephant."

INSIDE THE AIR FORCE

Dec. 6, 1993

Pg. 3

OSD TURNS ASIDE AIR FORCE PROPOSAL TO MELD FUNDING FOR DSCS, MILSTAR

The Office of the Secretary of Defense has rejected an Air Force plan to consolidate funding for three key military satellite communications programs: Milstar, the Defense Satellite Communications System and the Air Force Satellite Communications (AFSATCOM) effort, according to the details of a draft program budget decision.

While the Air Force is protesting the move, OSD's decision is being hailed by the Army, which has complained that the Air Force doesn't pay close enough attention to the service's requirements for Milstar and DSCS.

Details of the draft PBD were first reported by *Inside the Air Force*.

The "Air Force proposal [to consolidate the three programs] was not approved in October, because consolidation would cause an unacceptable loss of program visibility," draft PBD 172 states. "Milstar is an ACAT-1D program with high department and congressional interest. Consolidating Milstar funding with other program funding blurs visibility and adds confusion. Separate, identifiable funding lines specifically for the Milstar program are appropriate in order to maintain funding integrity and accountability," the PBD states.

The draft PBD realigns funding for Milstar, DSCS and AFSATCOM into separate program elements.

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DEFENSE NEWS
Dec. 6-12, 1993
Pg. 1

Iran Navy Buildup Stirs U.S.-Arab Response

Mini-Submarines, Silkworm Missiles Cause Most Fear

By PHILIP FINNEGAN
Defense News Staff Writer

MANAMA, Bahrain — The United States and Arab nations in the Persian Gulf are working together to counter a continuing Iranian naval buildup that involves a search for additional mini-submarines and the possible purchase of Silkworm anti-ship missiles.

"The Iranian buildup is serious," Vice Adm. Douglas Katz, commander of U.S. Naval Forces Central Command, said in an interview here.

Not only is Iran working to acquire weapons of mass destruction, but "If you look at their [acquisition of] submarines, their ability to interdict naval shipping going through the Straits of Hormuz, their aircraft buildup with purchases of the MiG-29 and marine landing operations, these are not defensive [measures]," he said.

In integrating two submarines into the Iranian force, the Iranians have shown an ability to work with helicopters. The helicopters have put dipping sonar into the water to communicate with the submarines, Katz said. "We did not realize they were going to be able to do that."

Although it will be years before the submarines are fully operational, "It does not take too much ability to put mines out of torpedo tubes," Katz said.

Iran, which already has three mini-submarines, including one imported from North Korea and two developed indigenously, appears to be examining additional purchases, Katz said.

This effort to buy more mini-submarines comes despite Iran's difficulty in operating the submarines, which were not designed for operation in warm water. Only one of those mini-submarines has been operational in recent years.

Despite these problems, additional mini-

submarines would be a threat, Katz said. They could be used to lay mines, to move close to a target and fire a torpedo, to land special forces to attach explosives to oil platforms, or to put forces ashore. "[Mini-submarines] are hard to see and hard to find," Katz said.

The Iranian military also is strengthening its capabilities to launch antiship missile attacks, Katz said.

Iran also may be buying additional Silkworm missiles from China, Katz said. "There is strong reason to believe they are bringing in some more missiles, but ... we are not sure."

Additional Silkworms could be troublesome because "It is the same problem as with the Iraqi Scuds," Michael Eisenstadt, military fellow at the Washington Institute for Near East Policy, said Dec. 2. "It is a relocatable system that is difficult to find."

While the United States may be able to jam the system unless Chinese engineers have installed advanced electronic countermeasures not on earlier versions, "There is always a chance one or two could get through and hit [a ship]," Eisenstadt said.

Pursuit of high-visibility purchases is part of the Iranian strategy, Anthony Cordesman, a professor of national security and author of several books on Middle East military affairs, said Dec. 2. "Iran is strengthening its ability to intimidate [other gulf states]."

Iran is focusing on purchases that would give regional leverage on issues that include oil pricing policy, the boundaries of a disputed gas field with Qatar and inclusion in security planning on the Persian Gulf, he said.

The United States is playing a key role in advising gulf nations about the capabilities needed to deal with the Iranian buildup and in bringing its own minesweeping capability into the Persian Gulf, Katz said.

Two U.S. minesweepers are to be deployed in the Persian Gulf beginning in the summer or fall of 1994 in the event of a crisis, Katz said. The minesweepers would be helpful in training with other navies.

Bahrain also has been offered several excess U.S. minesweepers, according to a

U.S. defense official in Washington.

Arab states in the gulf region are examining a variety of other capabilities in response to the Iranian buildup although all are united in their concern about the submarine threat, a number of sources said.

"The presence of submarines is suspicious," Lt. Gen. Khalifa al-Khalifa, Bahrain's minister of defense, said in a Nov. 16 interview here. "It is an offensive weapon."

The purchase of frigates able to carry helicopters and search for submarines has emerged as a key priority for a number of Persian Gulf states. The United Arab Emirates is planning to buy a total of eight frigates although it is looking at buying four frigates as excess. Saudi Arabia has been examining the purchase of additional frigates. Bahrain has requested an excess FFG-7 once one becomes available from U.S. stocks.

New maritime helicopters able to use dipping sonar are under examination in the United Arab Emirates and other gulf nations.

Saudi Arabia has expressed some interest in buying submarines to counter the Iranian purchase, Katz said.

Long-range surveillance aircraft such as the P-3, which could be used to track Iranian submarines from their base in southern Iran, are being examined by Saudi Arabia and the United Arab Emirates, according to U.S. defense industry sources. Serge Dassault, chairman of Dassault Aviation, said in a Nov. 9 news conference in Dubai, United Arab Emirates, that he hoped the six-nation Gulf Cooperation Council — Saudi Arabia, Bahrain, Kuwait, Qatar, Oman and the United Arab Emirates — would reiterate a decision years ago to buy the French Atlantique for maritime patrol.

Fixed sensor systems, capable of alerting gulf nations to submarine intrusions into their waters, are being explored by several nations, including Oman and the United Arab Emirates, according to a U.S. defense industry source. The sensors could be placed near desalination plants, ports or offshore oil facilities.

MELD...from Pg. 7

Early last month, OSD officials threatened to shift the Army's portion of DSCS to the Air Force unless the Army fully funded the program in its FY-95/99 spending plan (*Inside the Army*, Nov. 8, p1). *Inside the Air Force* reported on Nov. 19 that the Army had failed to come up with the money and, as a result, Deputy Defense Secretary William Perry transferred the remainder of the Army's DSCS funds to the Air Force.

New York Sues to Halt Closure Of Plattsburgh Air Force Base

ALBANY, Dec. 6 (AP) — New York State filed a lawsuit today seeking to overturn recommendations of the base-closing commission and keep Plattsburgh Air Force Base open.

The lawsuit, filed in Federal District Court in Albany, argues that the commission overstepped its powers when it recommended closing Plattsburgh.

The state also is asking the court to issue an injunction to prevent the Department of Defense from carrying out the closure plans.

"This is a unified effort to make sure that the law is upheld, and that no harm is done to the nation's defense or to the citizens who rely upon Plattsburgh Air Force Base for their livelihood," Gov. Mario M. Cuomo said.

After Air Force officials proposed that Plattsburgh's mission be expanded, the commission voted last June to recommend that Plattsburgh be closed and that operations at Griffiss Air Force Base in Rome be drastically reduced. The expanded mission went to McGuire Air Force Base in New Jersey.

In July, President Clinton accepted the commission's recommendations that 175 military installations worldwide be closed or realigned.

"Congress explicitly limited the powers of the commission to overturn the recommendations of the military experts, and those powers were clearly exceeded when the commission sought to close Plattsburgh," Mr. Cuomo said.

Plattsburgh stands to lose about 3,000 military and civilian jobs if the base is closed as planned in 1995. Griffiss will lose about 4,500 jobs when operations there are shut down the same year.

Several states have filed similar lawsuits to save their military bases.

In October, the United States Supreme Court agreed to decide whether states and communities could challenge the base closings in court. The decision is expected in July 1994.

The New York lawsuit was filed on behalf of the state by Mr. Cuomo and other New York officials, including United States Representative John McHugh and State Senator Ronald Stafford, whose districts include Plattsburgh. Those named in the lawsuit are the commission and its seven members, Secretary of Defense Les Aspin and Secretary of the Air Force Sheila Widnall.

WASHINGTON
TIMES

Dec. 7, 1993

Pg. 8

Book debunks Pearl Harbor myths

A new book based on a treasure of Japanese documents challenges widespread rumors that U.S. officials knew in advance about the attack on Pearl Harbor.

Historians Donald Goldstein and Katherine Dillon tell — from the Japanese point of view — how the Dec. 7, 1941, attack was accomplished.

Americans believe all sorts of myths to try to explain how the Japanese could have achieved such

ESCORT...from Pg. 1

"I would tell them [family members] that they were over there fighting ultimately for a peace to take place," Mr. Clinton said.

"I said back in August that they were in the business of trying to solve this thing politically," he said of the U.S. mission in Somalia.

"That action was fundamentally successful. They achieved their objective. We still have under custody the people who we think are the most likely to have been seriously involved in the murder of the Pakistani soldiers and to have caused difficulties for the Americans."

Gen. Aaidid is apparently on the up side of a U.S. foreign policy cycle in which he was once an ally, then a criminal and now a key player in helping to end the turmoil in the Horn of Africa nation. But some members of his force face charges in connection with the ambush of a Pakistani element of the U.N. peacekeeping force, which killed 23.

Mr. Gonzalez spoke in defense of both the Oakley decision and the U.S. mission in Somalia.

"It's not stated as often in the media, but in honor of truth, let us say that it isn't a worthless sacrifice that has been made. Tens of thousands of people are reaping benefits from the sacrifice of those lives," he said.

"The U.S. presence and other presence in Somalia has its cost. It has its human cost. But it has saved tens of thousands of lives, of innocent lives," he said.

Economic policy was at the heart of Mr. Gonzalez's visit, less than 10

a feat, Mr. Goldstein said. One myth was that President Roosevelt, using American pilots, had secretly staged the attack to overcome opposition to the war and get America into the Asian conflict, he said.

days from a key deadline in the General Agreement on Tariffs and Trade negotiations.

He said he and Mr. Clinton "agree on certain specific and current policies, such as coordination for lowering interest rates in Europe in order to spur investment and thus contribute to restarting the European economy."

In an interdependent global economy, coordination is crucial, he said. Without it, the industrial nations "will encounter greater obstacles than it would with a good coordination," he said.

One potential area of disagreement between the two men is how to treat Cuban efforts to become part of the hemispheric and global economies.

Asked by a Spanish journalist if he sees enough change in the Castro-run government to justify a change in U.S. policy, Mr. Clinton was not optimistic.

"I see no indication that the nation or that the leadership... is willing to make the kind of changes that we would expect before we would change our policy," he said, characterizing changes in Cuba as "modest."

Mr. Gonzalez said that he and Mr. Clinton "want to see Cuba join in with the rest of the Latin American countries in moving towards greater democracy and [an] open economy."

He said that Cuba should not be excluded from international economic meetings just because it is not a democracy.

"I imagine Haiti would not be invited if all the democratically elected leaders were meeting," he said.

"Pearl Harbor Papers," the 11th book on World War II co-authored by Mr. Goldstein, a professor at the University of Pittsburgh, suggests it was Japanese brilliance and tenacity, not any quirks, that made the attack a success.

HAITIANS...from Pg. 1

congressional aide commented.

"The United States should never condemn the abuse of democracy and human rights and then turn around and train the abusers on our own soil," Rep. Joseph P. Kennedy, Democrat of Massachusetts, said, reacting to the latest report.

Eight officers mentioned on the list, which was obtained by the National Security News Service, started courses in early 1992. Most of the men, who were either first or second lieutenants, received four-month basic infantry officer training at Fort Benning, Ga. One studied at a military transport school, while another officer and a noncommissioned officer were assigned to signals school.

Late last week, however, Penta-

gon spokesmen repeated the line that Haitian military personnel who were here for training at the time of the coup were allowed to finish their courses and were then sent home.

One spokesman said that all personnel probably had left by the end of 1991, although he had could not provide dates.

Second Lieutenant Dioget Alexis, for example, started his course on Feb. 24, 1992, and completed it in mid-June. Before that, he had undergone an English language course which started three weeks before the coup and ended on Feb. 14. First Lieutenant Karl-Henry Bastien finished his English language course on Nov. 1, 1991. Then, two weeks later, he started a signals course at Fort Gordon, Ga.

Another list made available by

the Pentagon names 12 Haitian soldiers who remained here after the coup to complete their studies. It does not, however, say when they left. In addition to the 10 officers whose names are on the IMET list, the Pentagon document refers to a Maj. Jean Dumas who studied at the Air War College.

When Aristide was forced out in September 1991, the Bush administration's public response was swift and harsh. The White House dismissed the new leadership as a "junta," announced that it viewed Aristide as the legitimate president of his country, and cut off all aid. Some \$1.5 million in nonlethal military aid had been earmarked for assistance to the Haitian armed forces for fiscal year 1991, which ended on the day of

the coup.

For years, the Pentagon has described International Military Education and Training as "one of the least costly and most effective programs for maintaining US influence and assisting foreign countries with their self-defense capabilities." The

program is designed to expose "future leaders of foreign defense establishments" to "American values, regard for human rights and democratic institutions," the defense secretary's report to the president for 1993 declared.

One of the newer aspects of the training program, introduced after the collapse of the Soviet Union, was a series of courses on "civilian control of the military."

Markus Wolf, Chief Of East Germany's Spies, Is Convicted

By DANIEL BENJAMIN

Staff Reporter of THE WALL STREET JOURNAL
DUESSELDORF, Germany — Markus Wolf, East Germany's legendary spymaster, was convicted of treason and bribery and sentenced to six years in prison.

Widely considered the most successful Communist intelligence chief, Mr. Wolf, 70 years old, ran 500 agents in West Germany as well as a network of spies who penetrated other Western governments and the North Atlantic Treaty Organization. The discovery in 1974 of his most famous mole, Guenter Guillaume, a top official in the West German government, forced the resignation of Chancellor Willy Brandt.

The Duesseldorf court allowed Mr. Wolf temporarily to remain free on bail. His lawyers declared after sentencing that they would appeal.

Mr. Wolf, whose career at the top of East German intelligence spanned 33 years, is one of a handful of top East German officials in the three years since German unification to be convicted for deeds in office. A number of those who have been charged were released because of old age and poor health.

Among them was former party chief Erich Honecker, who yesterday was taken unconscious to a hospital in Chile, where he has lived with his wife since being freed in January. He had been diagnosed as having advanced liver cancer.

Controversy over the charges against Mr. Wolf likely will continue at least through 1994, when Germany's highest court is to decide whether former East German agents can be tried for espionage.

Mr. Wolf, who criticized the proceedings as political score-settling, has maintained that it was absurd to prosecute him for activities no different from those of his West German counterparts. At the outset of his seven-month trial, the former lieutenant general in the Ministry of State Security asked pointedly, "Which country am I supposed to have betrayed?"

Several leading members of Germany's intelligence community have sided with Mr. Wolf, noting that his deeds earned him criminal prosecution while a former West German spymaster, Klaus Kinkel, has become Germany's foreign minister.

Naval Academy's Heartbreak

We call games like Navy's 16-14 loss to Army last Saturday "heartbreakers." After an exhilarating fourth-quarter comeback, the game comes down to a fresh-faced plebe and the climactic field goal he has always dreamed of kicking. Eighteen yards from victory and . . . he misses.

The coach's face crumples. The kicker must be consoled. A devastating loss. A heartbreaker.

But we use the word too carelessly. Today, the U.S. Naval Academy in Annapolis only wishes it were grieving over a football loss. Instead, it mourns six of its own — all promising, talented young people cut down violently, senselessly, tragically.

First came the horrific news from the Naval Amphibious Base in Coronado, Calif., where Lt. j.g. Alton Grizzard and Ensign Kerry O'Neill were shot to death last Wednesday by Ensign George P. Smith, who then killed himself.

Ensign O'Neill (Class of '93) had been one of the finest female athletes ever to attend the Academy. Lieutenant Grizzard (Class of '91) was a star quarterback from 1987 to 1990; he was Navy's all-time leader in offensive yards gained.

Their deaths — especially Lieutenant Grizzard's — simultaneously robbed the big Army-Navy game

of its joy and transformed it into something more than it otherwise would have been.

The Mids dedicated the game to the fallen former quarterback, wore his name on their helmets, believed he was looking down on them as they gave it their all.

In fiction, the field goal would have sailed through the uprights, a symbolic righting of a world temporarily gone wrong.

In real life, the kick veered wide right.

Hours later, a carload of midshipmen returning to Annapolis from New Jersey, where the game was held, crashed into a tree that had fallen across Md. Route 450, just a mile from the Academy. Midshipman 1st Class Lisa M. Winslow, 21; Midshipman 3rd Class Autumn Pevzner, 19, and Midshipman 3rd Class Robin S. Pegram, 20, were all dead.

It is difficult, if not impossible, to find meaning or sense when terrible things happen. Are tragedies like these a part of God's plan? A case of human error? A matter of bad luck?

We have no answers, only sympathy for the families of these young people and everyone at the Academy whose hearts have been broken by their deaths.

Try This Deal on North Korea

A new U.S. intelligence estimate predicts that diplomatic efforts will fail to coax North Korea into allowing international inspectors into its nuclear sites. But there is no way of knowing that without giving diplomacy a chance.

Last Friday, Pyongyang said it would open several of its nuclear sites to inspection, but not its reactor, reprocessing plant and waste sites at Yongbyon. Access to the Yongbyon sites would depend on negotiating a package deal with the U.S.

Before resorting to tougher measures, the U.S. could offer an equitable deal aimed at heading off a confrontation caused by North Korea's threat to withdraw from the Nuclear Nonproliferation Treaty. That would be in America's and its allies' best interests.

Before its overture on Friday, North Korea had been willing to allow the International Atomic Energy Agency to check the seals and replace the film in cameras monitoring its nuclear sites. These measures are designed to safeguard nuclear fuel from being diverted to bomb-making. But it had refused to allow full inspections of those sites, the best way to prevent diversion.

Now, however, Pyongyang is prepared to open several sites unilaterally and then negotiate access to the Yongbyon sites. In the words of North Korea's Atomic Energy Ministry, "the routine and ad hoc

inspections . . . will be resolved one by one if further high-level talks will make progress and if further consultations with the agency will be held."

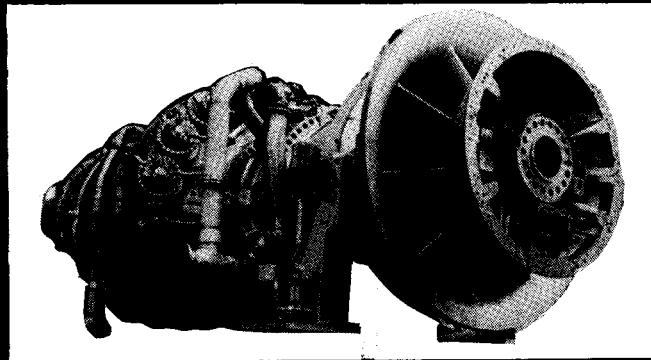
The present U.S. position is that before high-level talks resume, the North must first allow I.A.E.A. access to its nuclear sites and begin bilateral talks with South Korea. North Korea does not want to move first. Instead, it hopes to negotiate a package deal involving simultaneous concessions.

How might such a deal unfold? First, just as I.A.E.A. inspectors are visiting the reactor at Yongbyon, North-South and high-level U.S.-North Korean negotiators would meet. The U.S. and South Korea would inform the North of cancellation of their Team Spirit military exercises.

The U.S. could then propose a broader package deal. In return for full access to all sites, and an end to North Korea's missile sales, the U.S. could offer diplomatic recognition, reassurance on U.S. nuclear arms, a light-water reactor for the North to generate nuclear power, and negotiation of a peace treaty formally ending the Korean War. That would open the way to Western aid and investment and a lowering of barriers to trade.

North Korea could be stalling. Or it may genuinely wish to trade away its nuclear program for other benefits. The only way to find out is to probe diplomatically — by offering an enticing deal.

Document Separator



Overview

We have entered an era of rapid technological and social changes that are reshaping the landscape of electric power generation. A key component in the strategies of many utility companies is the use of advanced combustion turbines—both aeroderivative turbines and industrial, heavy-frame turbines. The search for clean, safe and cost-effective technologies to meet the demand for power is entering a new phase.

The Energy Daily has designed **Advanced Combustion Turbines: Technology, Applications and the Global Marketplace** to provide you with the latest information on industry, academic and government approaches to developing and commercializing advanced turbines.

Senior representatives of eight of the world's leading manufacturers in this field will detail their activities in state-of-the-art design, capacity and efficiency; discuss their R&D goals and achievements; and provide insights into their market strategies.

Additionally, conference participants will hear from leaders of the Electric Power Research Institute, Edison Electric Institute, Gas Research Institute, U.S. Department of Energy and the University of California at Berkeley. International trade experts will discuss global market opportunities and strategies, and address federal trade and financial assistance programs.

Who Should Attend?

- Turbine Manufacturers and Suppliers
- Electric Utility Executives
- Architectural and Engineering Firms
- Advanced Materials Engineers & Manufacturers
- Utility Research and Development Officers
- Industry Analysts and Investment Counselors
- State Energy Commissioners
- Utility Load-Generation Planners
- Strategic Planners
- Energy and Environment Embassy Attaches
- Pipeline and Natural Gas Suppliers
- Emission Technology Engineers and Market-

This conference is sponsored by *The Energy Daily*, a newsletter of King Publishing Group, 627 National Press Building, Washington, D.C. 20045. Other publications include: *New Technology Week*, *Defense Week*, and *Environment Week*. For information, call 202/638-4260.

Advanced Com Technology, Applications

January 27-28, 1994

THURSDAY AGENDA

January 27

9:00 a.m. — 5:00 p.m.

WELCOME & OVERVIEW

LLEWELLYN KING

Publisher, *The Energy Daily*

MERRILL INTERNATIONAL, LTD.

John Merrill, Chairman

Session 1: THE MANUFACTURERS

TURBO POWER AND MARINE SYSTEMS

William Day, Director

Engineering and New Product Development

ROLLS ROYCE INDUSTRIAL MARINE & GAS TURBINES

Jim Roberts, Head of Marketing

SIEMENS POWER CORPORATION

Richard G. Carlson, Sr. Vice President/General
Manager, Fossil Division

SOLAR TURBINES, INC.

David A. Rohy, Director

Advanced Turbine Systems

Luncheon: FEDERAL INITIATIVES

U.S. DEPARTMENT OF ENERGY

George Rudins

Associate Deputy Assistant Secretary

Office of Fossil Energy

Session 2: THE MANUFACTURERS

ABB POWER GENERATION, INC.

Septimus van der Linden, Vice President

Gas Turbine Division

GENERAL ELECTRIC

Gary Leonard, Manager

Advanced Technology & Systems Development
Marine and Industrial Engines Group

WESTINGHOUSE POWER GENERATION

D.A. Bartol, General Manager, Engineering

ALLISON GAS TURBINE DIVISION

Sy A. Ali (Invited), Manger, Industrial Engine
Technology

The Energy Daily will host a cocktail reception
for conference participants on Wednesday,
January 26, 1994 from 5:30 p.m. - 7:00 p.m.

Combustion Turbines and the Global Marketplace

Washington, D.C.

FRIDAY AGENDA
January 28
8:45 a.m. — 2:00 p.m.

Session 3: INSTITUTIONAL RESEARCH

Moderator:

EDISON ELECTRIC INSTITUTE
Chuck Linderman, Director
Fossil Fuels and Renewable Programs

Panelists:

ELECTRIC POWER RESEARCH INSTITUTE
Neville A. Holt, Senior Program Manager
Gassification & Advanced Cycle Power Plants

GAS RESEARCH INSTITUTE
Keith Davidson, Group Manager
NGV and Power Generation Vehicles

U.S. DEPARTMENT OF ENERGY
Holmes A. Webb, Product Manager
Advanced Heat Engines
Morgantown Energy Technology Center

UNIVERSITY OF CALIFORNIA AT BERKELEY
Robert W. Dibble, Professor
Mechanical Engineering

Session 4: EXPORT OPPORTUNITIES & STRATEGIES

Moderator:

DELPHOS INTERNATIONAL
William Delphos, President

Panelists:

PRINCETON UNIVERSITY
Robert Williams, Senior Research Scientist
Center for Energy and Environmental Studies

AGENCY FOR INTERNATIONAL DEVELOPMENT
James P. Sullivan
Director, Office of Energy and Infrastructure

EXPORT-IMPORT BANK OF THE UNITED STATES
John W. Wisniewski
Vice President, Engineering

Luncheon: STATE INITIATIVES

CALIFORNIA ENERGY COMMISSION
Mike Smith
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The Energy Daily's Advanced Combustion Turbines conference will address the following questions relating to the development and commercialization of advanced turbines:

1. What are the Clinton administration's R&D funding priorities for electric power generation?
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5. What role will Energy Department laboratories play in advancing the state-of-the-art?
6. What roles are state governments playing in development and commercialization?
7. How are manufacturers addressing user concerns about reliability and maintainability?
8. How are industry, government and academia working together to achieve higher efficiencies?
9. Which advanced combustion turbines are most suitable for use with multiple fuels?
10. How viable is biomass for powering advanced combustion turbines?
11. How can the Export-Import Bank of the U.S. and the U.S. Agency for International Development support the export of advanced combustion turbines for power projects in developing nations?
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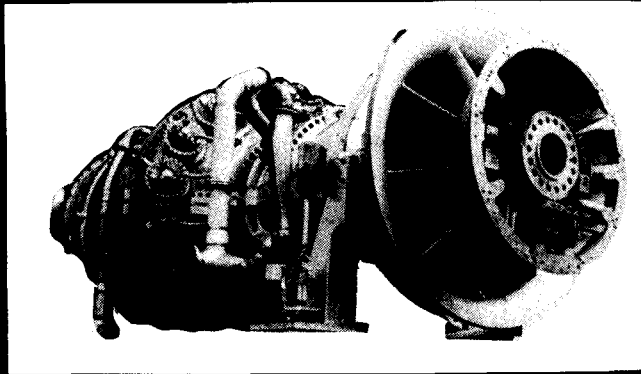


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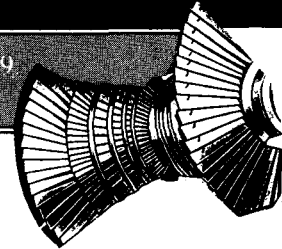
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From the Editors of *The Energy Daily and Defense Week*

Monday, November 29, 1993

NTW Volume 7, Number 48

DOE Labs' Efforts In Gas, Oil Technology To Deepen

BY MARK CRAWFORD

The Department of Energy is promising to get its three DOE nuclear weapons laboratories more deeply involved in oil exploration and production technology as part of the long-awaited Domestic Natural Gas & Oil Initiative, which Energy Secretary Hazel O'Leary is expected to unveil the first week of December.

The petroleum initiative, a draft of which was obtained by *New Technology Week*, calls for development of advanced computing techniques, new information systems, and environmental technologies to support increased production from American oil and gas fields. The aim of this thrust is to help U.S. suppliers of petroleum exploration and production technology with their worldwide marketing efforts, as well to help domestic oil and gas producers compete more effectively.

(Continued on page 7)

Virtual Reality Low-Cost Tool For Hubble Repair

BY LEIGH STONER

The NASA team working on a scheduled December 1 mission to repair the orbiting Hubble Space Telescope (HST) has employed the first known optomechanical virtual prototype to test the corrective optics package.

The prototype—called Preview for "Prevent Real Errors by Virtual Investigation of Engineering Worlds"—was developed in only four months by Lockheed Research Labs of Palo Alto, Calif. Using relatively simple hardware—a 310/GTX workstation from Silicon Graphics—and offering virtual reality at a cost measured in thousands rather than millions of dollars, Preview has enabled the deployment of the main repair apparatus, the Costar (Corrective Optics for the Space Telescope Axial Replacement) assembly, to be tested without building

(Continued on page 7)

GATT Subsidy Provision Threat To Administration Tech Promotion Scheme?

BY KEN JACOBSON

Insistence by U.S. trade negotiators that industrial research be defined more clearly in the current round of GATT negotiations—an insistence born of concern over European government subsidies to such ventures as Airbus—is threatening to boomerang against U.S. technology policy makers.

If the boomerang, in the form of limits on government funding of public-private industrial research partnerships, hits straight on, it could render legally unworkable the structure that is at the heart not only of the Clinton administration's technology policy, but of its program for U.S. economic renewal as well.

(Continued on page 2)

NIST Expansion Seen Easing Neutron Scattering Shortfall

BY MARK CRAWFORD

For companies probing the chemistry of polymers, developing thin-film materials for electronics or advanced superconductors, or deciphering protein structures, neutron scattering is an essential tool. Facilities for carrying out such work are limited, but a current capacity shortfall may be alleviated next year with the expansion of workstations at the National Institute of Standards & Technology.

After years of planning, NIST is expanding its Cold Neutron Research Facility (CNRF), adding three new beam lines and modernizing its cold source. Not only will there be greater capability to carry out experiments at the 20-megawatt reactor complex, but a major improvement in neutron flux should enable many researchers to

(Continued on page 5)

INSIDE:

Second round of selections
announced for the
Technology Reinvestment Project
—details beginning on page 10.

Clinton signs order creating new
**National Science & Technology
Council**

—story on page 3.

Tech Promotion Plans Threatened... (Continued from page one)

On November 23, top officials of the Commerce Department, which has carried the designation of lead agency for technology policy in the Clinton administration, met to discuss those questions posed by the mid-December deadline for conclusion of the GATT's Uruguay Round "that affect [DOC] programs," Mary Good, Commerce's under secretary for technology, told *New Technology Week*.

"We are in the process of making the inputs we think appropriate," she added, when asked whether the department was voicing its concerns to U.S. negotiators. But another Commerce official asserted that "the tech people, administration-wide, are somewhat late coming to the table."

At issue are stipulations in the working text of the revision of the General Agreement on Tariffs and Trade that is to come out of the Uruguay Round—a text known as the "Dunkel draft"—that would have the effect of capping government contributions to public-private partnerships at 25 percent of total budget for applied industrial research and 50 percent for basic industrial research. Many U.S. ventures formed according to a model that has emerged as standard in recent years provide for up to 50 percent cost sharing by the federal government.

The new stipulations "would cover ATP, TRP, SEMATECH, the Clean Car initiative, and a lot of tech transfer from the federal labs," contended Sen. Jeff Bingaman (D-N.M.), pointing to the U.S. government's most substantial technology promotion activities. Bingaman said he hoped the U.S. would "take the position in final trade negotiations that this language ought to be deleted. It just creates a cloud over a lot of government funding efforts that I think are very beneficial to us and will be in the future."

As of November 23, Bingaman and Rep. George Brown (D-Calif.) had obtained the signatures of more than 20 members of Congress on a letter to President Clinton citing the vulnerability of such major initiatives and warning that "even below the 50 percent and 25 percent level...research subsidies would be 'non-actionable' only if the GATT Subsidies Committee were notified in advance of that assistance in sufficient detail to allow the Committee to evaluate the program's conformance to the new GATT code."

This requirement, the letter argues, "is particularly troublesome because of its potential deterrent effect on companies contemplating entering into technology partnerships." Adoption of the Dunkel draft, it declares, "would be extremely detrimental to U.S. interests."

The Bingaman-Brown letter is just the most visible expression of a concern that has become acute in technology circles in recent months. In August, Susan Tierney, the Energy Department's assistant secretary for policy, planning, and program evaluation, wrote to Bowman Cutter, President Clinton's deputy assistant for economic policy, that "the R&D provisions of the [GATT's] draft Subsidies Code...could have far-reaching and chilling impacts on this administration's

growing technology cooperation with the U.S. private sector."

In October, the acting director of the National Institutes of Health, Ruth Kirschstein, wrote to Science Adviser Jack Gibbons invoking concern expressed by Gibbons' predecessor, Allan Bromley, "that the Dunkel amendments might seriously hinder [U.S.] attempts to commercialize federally supported research, just when the U.S. is placing more emphasis on technology transfer from federal research programs."

"This concern appears to be even more valid today with a national policy committed to improving U.S. technological and commercial competitiveness," Kirschstein stated, adding: "There is great concern about these provisions among our CRADA partners and other biotechnology and pharmaceutical companies whom we rely upon to translate the billions of dollars the NIH spends annually on biomedical research into useful products."

Most companies polled by NIH, she reported, said "they could not accept the notification requirements" outlined in the Dunkel draft and "would suspend or not enter into [cooperative research and development agreements] with the NIH rather than supply the NIH with product development cost information necessary to comply."

While there were obvious reservations at DOE and NIH, and officials of NASA and the Defense Department were reportedly opposed to the new research subsidy rules, Commerce had not stated a position with only three weeks to go before the Uruguay Round's deadline. Good described as "a good experience" discussions between representatives of her own Technology Administration and the International Trade Administration, the Commerce agency whose duty it is to pursue illegal subsidy charges brought against imports into the U.S. "We haven't had major disagreements," she declared.

Good's statement, however, would likely come as good news to a Washington source who argues that "the trade community in the U.S. does not speak with or understand what the technology community does." Another observer was less polite. The U.S. Trade Representative's Office, which is handling Uruguay Round negotiations, "does not know about technology," he said. "USTR has bought into the Dunkel text lock, stock, and barrel because it would allow them to come down hard on the subsidies the Europeans have been providing Airbus and microelectronics work at companies like Philips and Thomson."

But a former government technology official argues that the U.S. has "a myth that others subsidize and that we don't at all," and points in substantiation to U.S. government funding involvement in such export sectors as medical instruments, aerospace, and agriculture. "There never was any analysis by USTR of what might happen if [the Dunkel] text were applied to the United States," this source contends.

New S&T Council Created By Clinton; PCAST Revived

BY KEN JACOBSON

President Clinton last week signed an executive order establishing a cabinet-level National Science and Technology Council (NSTC) which, according to a White House statement, is to "coordinate science, space, and technology policies throughout the federal government."

The November 23 order put an end to speculation on the future of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET), which, along with the National Space Council and National Critical Materials Council, will be absorbed by NSTC. The long-expected White House move came one week after Rep. Rick Boucher (D-Va.) had introduced legislation, H.R. 3476, aimed at setting up a similar council (*NTW*, Nov. 22, p. 1).

The new body will have nine research and development coordinating committees—up two from FCCSET's seven—whose job it will be "to prepare coordinated R&D strategies and budget recommendations for accomplishing national goals," the White House statement said.

The new array of committees, reshuffled as well as expanded in the transition to NSTC from FCCSET, comprises: Civilian Industrial Technology R&D; Fundamental Science and Engineering Research; Information and Communication R&D; Environment and Natural Resources Research; Education and Training R&D; Health, Safety, and Food R&D; Transportation R&D; National Security R&D; and International Science, Engineering, and Technology R&D.

The FCCSET committees were: Committee on Industry and Technology; Physics, Mathematics, Engineering, and Science; Committee on Earth and Environmental Resources; Committee on Education and Human Resources; Committee on Life Sciences and Health; Committee on Food, Forestry, and Agricultural Research; and Committee on International Science and Technology.

Under FCCSET, the Advanced Materials and Processing Initiative and the Advanced Manufacturing Technology Initiative were the province of the Committee on Industry and Technology, while the High Performance Computing and Communications Initiative fell under Physics, Mathematics, Engineering, and Science. The U.S. Global Change Research Program was under the Committee on Earth and Environmental Research; the Biotechnology Research Initiative was under the Committee on Life Sciences and Health; and the Science, Mathematics, Engineering, and Technology Education Initiative was under the Committee on Education and Human Resources.

A Commerce Department source indicated last week that Materials and Biotech could be expected to disappear "as broad-based initiatives," with relevant parts of them going into the Advanced Manufacturing Technology Initiative; the latter program will fall under the aegis of the Committee on Civilian Industrial Technology R&D, to be chaired by Mary Good, the under secretary of commerce for technology. The HPCC Initiative is likely to fall under the Information and Communication R&D Committee, the Global Change

Initiative under the Committee on Environment and Natural Resources Research, and the Science, Mathematics, Engineering, and Technology Education Initiative under the Committee on Education and Training R&D.

The new council is to be chaired by the president; whereas FCCSET was a made up for the most part of deputy secretaries, NSTC will have as members the secretaries of commerce, defense, energy, health and human services, interior, and state, as well as the director of the Office of Science and Technology Policy, the administrator of NASA, the director of the National Science Foundation, the administrator of the Environmental Protection Agency, the director of the Office of Management and Budget, and the heads of the National Security Council, National Economic Council, and Domestic Policy Council.

"The major functions of the NSTC will be to coordinate the interagency science and technology policy-making process, and to implement and integrate the President's science and technology policy agenda across the federal government," the White House said. "The NSTC will also ensure that science and technology issues are considered in the development and implementation of federal policies and programs, and will further international cooperation in science and technology."

Detailing the body's responsibilities, Clinton said in an accompanying statement that "one of the most critical tasks" to be undertaken by NSTC will be "an across-the-board review of federal spending on research and development. The Council will prepare coordinated R&D budget recommendations for accomplishing national objectives in areas ranging from information technologies to health research, from improving transportation to strengthening fundamental research and international science and technology programs."

The president added that NSTC's recommendations "will focus on broad national goals rather than agency missions," and he stipulated that the new council is to work with OMB "to coordinate the efforts of all federal agencies in working to achieve these goals, and [to] oversee important science and technology initiatives," such as the so-called Clean Car Initiative.

Clinton predicted that "establishing a single, strengthened science and technology policy council within the White House will significantly improve decision making by consolidating and elevating functions previously carried out by a number of separate interagency councils."

On the same day, the President's Committee of Advisors on Science and Technology (PCAST), whose mandate lapsed in June, was brought back into being to "serve as a private-sector advisory group" for the president and NSTC. The president is to appoint "up to 15 distinguished individuals" from industry, education and research institutions, nongovernmental organizations, and other sources. PCAST, to be co-chaired by the OSTP director and an appointee from the private sector, will, in the president's words, help in "establishing the links to the private sector necessary to help guide federal investment in science and technology toward national goals."

Making Weapons Materials From Fuels To Get Harder

Countries with nuclear weapons ambitions may soon find it harder to hide efforts to build a stockpile of bomb material by reprocessing reactor fuels. Researchers at Argonne National Laboratory say they have developed a means of detecting such activities by looking for trace amounts of curium, an artificial element that is created during reprocessing.

"We are directing our work toward detection at near single-atom levels," says Argonne chemist James Beltz. "It's like looking for a few grains of pepper in 100 million tons of salt." The new detection system, based on the identification of curium-242, is expected to be a 1,000-fold improvement over the current process of counting alpha radiation. For more information, call Catherine Foster at Argonne on 708-252-5580.

Sandia Launches Link To Earth Data Network

Systems engineers at Sandia National Laboratories are testing an early component of the National Information Infrastructure that the Clinton administration is pushing. The Earth Data System (EDS)—a 45-megabit/second, 1,100-mile computer link between Sandia's Albuquerque, N.M., and Livermore, Calif., sites—is an initial demonstration of distributed computing technology.

Sandia is working under the National Information Infrastructure Testbed, a consortium of industry, university, and federal agencies that is trying to develop the national information system. Sandia's 1,100-mile project is just part of a larger network for EDS, which is meant to provide satellite and aerial images of the Earth to be transmitted to researchers' workstations across the United States. The EDS project is seen providing NIIT's members with insights into the technical issues associated with operating a national information system. For more information, call Donna Crawford on 510-294-2628.

LAB Watch

Krebs Takes The Reins At Energy R&D Office

The Senate has confirmed Martha Krebs as director of the Office of Energy Research at the Department of Energy. Krebs succeeds William Happer, Jr., a Bush administration appointee who left the agency earlier this year. Krebs takes formal charge of the office, which funds a broad range of basic research programs, at a time when DOE's budget is shrinking and research and development programs in much of DOE face flat or declining budgets in the next fiscal year.

Krebs has been working at DOE as a consultant since the spring and is well acquainted with the Office of Energy Research's activities in such fields as biology, chemistry, materials, physics, and advanced computing. She previously worked at Lawrence Berkeley Laboratory as the director for planning and development, and prior to that she served as staff director of the subcommittee on energy development and applications of the House Committee on Science & Technology.

PNL Seeks To Evaluate Efficient Technology

Pacific Northwest Laboratories is reaching out to U.S. manufacturers of energy-efficient technologies, offering its assistance in providing a testbed for new inventions. PNL, which is owned by the Department of Energy, plans to collect data on new technologies based on their actual operational performance. The aim is to spur adoption of new technologies by providing companies and the general public with solid information on how well emerging technologies actually perform. For more information, call Karen Stockmeyer at Pacific Northwest Laboratory on 202-646-7794.

Spray Droplets Eyed In Oak Ridge Study

A team of researchers at Oak Ridge National Laboratory is looking at the physical dynamics of spraying liquids in cooperation with a 27-company consortium that is concerned with the drift of agricultural chemicals. The R&D effort aims to define the droplet characteristics of different chemical solutions sprayed under varying conditions.

The work, being performed by three researchers at ORNL's Chemical Technology Division, is supported by data and expertise provided by the participating companies. The results of the work are seen having possible applications in industry, particularly in the painting of large objects such as aircraft. For more information, contact Wayne Scarbrough at Oak Ridge on 615-574-4160.

Fuel Salvage System Passes First Trial

Researchers at Argonne National Laboratory's western campus in Idaho say fuel recycling technology developed for the lab's Integral Fast Breeder reactor has passed a first round of tests. The scientists have successfully fabricated 139 fuel pins with an automated process in a test using non-radioactive depleted uranium. The aim is to fabricate fuel pins from radioactive plutonium, neptunium, and americium materials that are obtained from used reactor fuels.

The advantage of extracting these long-lived materials from used fuel is that it reduces the storage time for the waste fuel to about 300 years, far less than what's required for untreated used fuel. The IFR recycling system does not separate plutonium from other recoverable materials; the plutonium recovered would thus be unsuitable for use in weapons without further processing. The fuel pins fabricated from the recycled plutonium, neptunium, and americium could be used in commercial power reactors producing electricity.

NIST Expansion... (From page one)

gather data at a substantially faster rate and to do it more effectively.

Michael Rowe, chief of the reactor radiation division at NIST, says that when the Gaithersburg, Md., facility resumes operations next fall after an estimated six-month shutdown, the United States' neutron R&D capabilities will be on a par for the first time with those of Europe's Institut Laue Langevin, located in France. CNRF's 10 existing workstations will be augmented with five new stations and five new instruments: a neutron interferometer, cold-neutron triple-axis spectrometer, high resolution time-of-flight spectrometer, back scattering spectrometer, and neutron spin echo spectrometer.

The NIST facility already has eclipsed older neutron sources at Brookhaven National Laboratory and Oak Ridge National Laboratory with respect to the quality of instruments and the breadth of experiments that can be conducted. This latest upgrade will firmly establish the CNRF as the leading center in the U.S. for reactor-based neutron scattering, according to Robert Birgeneau, dean of the School of Science at MIT.

The five new instruments are being purchased at NIST's expense for the most part, and all of them will be available for use by researchers in academia and industry subject to their research proposals' undergoing standard reviews. As things stand now, NIST's 10 instruments are running at full capacity but are still oversubscribed. The additional workstations and instruments may help ease this situation for a while.

In addition, the availability of all stations may increase somewhat because many experiments will take less time. A new cold source is expected to multiply neutron flux by five or more times over current levels. The cold source slows down neutrons as they are emitted from NIST's reactor, the effect being to increase the density of neutrons with wavelengths exceeding 0.4 nanometers. This effect is multiplied with the new cold source, which is designed to run at 21 Kelvin as opposed to 40 Kelvin for the existing unit.

"It means an enormous difference in what you can do," says Rowe, explaining that "the same measurements" will require less time. "Experiments that can take five days to do you might do in a day," he predicts.

But these new economies are certain to be offset to some extent by the fact that the higher neutron flux also will enable scientists to pursue experiments that they have not been able to do well—or could not have considered at all. Rowe notes that in biological research the

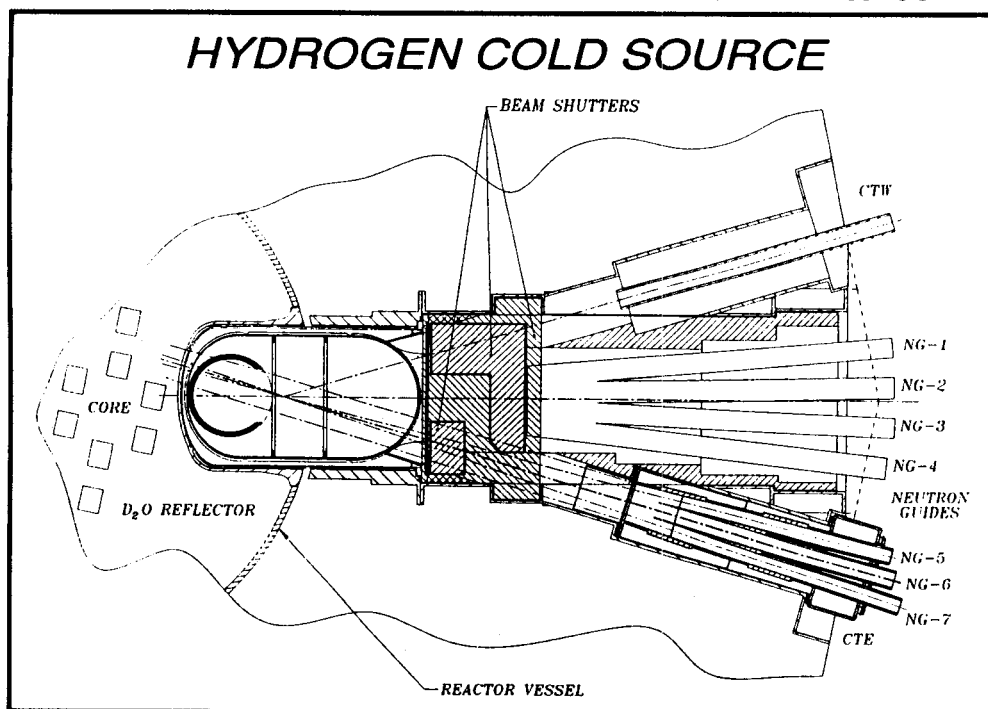
increased flux will enable researchers to look at molecules in solution with greater clarity and in greater detail. He also expects to see investigators clamoring to do more real-time experiments to measure changes in substances as a function of things such as temperature or magnetic field—experiments that become more practical with the improved flux.

Demand in the U.S. for time at neutron scattering facilities is expected to continue to grow at a rapid pace. "Look at what has happened with our user base," says Rowe, who notes that the CNRF still has room to accommodate one more expansion, although none is contemplated at the moment. The U.S. will need to add other facilities to replace Brookhaven and Oak Ridge.

MIT's Birgeneau concurs, arguing that beyond sheer capacity, even higher neutron flux is needed at research reactors to be able to probe a broad array of issues in such fields as biology, electronics, and materials. The proposed Advanced Neutron Source at Oak Ridge, he notes, would provide neutron beams with a flux that at minimum would be 10 times greater than what is available at NIST. At this level, he says, it would be possible to pursue research involving thin liquid crystals, graphite intercalated materials, and high-temperature superconductors that cannot be undertaken using the current generation of research reactors.

U.S. research reactors for neutron scattering are aging. NIST's own reactor, which is licensed to operate to 2004, began operation in 1967. NIST officials at this time anticipate that its operational life could be extended subject to approval by the Nuclear Regulatory Commission.

The upgrade of the NIST reactor facility is slated to start March 15. Rowe expects to issue a call for research proposals for the new instrument stations once construction gets under way and he has a fix on the completion schedule. Initial users of the new instruments, he notes, are likely to be "friendly users" who don't mind working the instruments as they go through the debugging process.



INTERNATIONAL NEWS



Ariane's 61st Shot Lifts Euro, Mexican Satellites

Western Europe's 61st Ariane rocket has put two satellites into orbit after a launch from the European Space Agency's center in Kourou, French Guiana. The Ariane 44 LP rocket released a communications satellite for Mexico's national telecommunications agency and a weather satellite for the 18-member Eumetsat organization.

Solidaridad-1, the 2.8-ton Telecomunicaciones de Mexico satellite, will provide telephone, television, data, and mobile communications throughout all of Mexico, most of Latin America, and parts of the United States. Solidaridad-1, which cost \$140 million, was designed by its main contractor, Hughes Space and Communications, to operate for 14 years.

The second satellite, Meteosat-6, is the sixth in a series of European Space Agency satellites launched for Eumetsat. Meteosat-6 cost \$80 million and its prime contractor, Aerospaziale, says it will operate for a minimum of five years. Both satellites have been put into a geostationary orbit, circling the globe at the same speed as the rotation of the Earth and thus appearing from the ground not to move, according to *Reuters*.

Japan Software Study Threat To Copyrights?

U.S. Assistant Patent Commissioner Michael Kirk has delivered a warning in Tokyo that a new study by Japan's Cultural Affairs Agency of proposals to allow decompilation of software—conversion of machine-language programs back into the original codes that programmers write—could open the door to large-scale violation of intellectual property rights. In theory, decompilation might allow Japanese software writers to copy parts of programs that aren't technically protected by copyright. Kirk said that any easing of software protection could "set a very dangerous precedent," by weakening the incentive for investment in new programs.

Although the Cultural Agency hasn't proposed—let alone issued—any new regulations, Kirk said he couldn't get a satisfactory explanation from officials there about why they want to conduct the study. While conceding that some writers need to make their programs compatible with existing software, he added: "We were given no reason why existing methods were inadequate." A formal meeting on the subject, under the U.S.-Japan trade framework talks, is scheduled for next month, according to *Japan Digest*.

German Trio Mounting Comms Network Venture

Germany's Mannesmann, Deutsche Bank, and RWE are planning to form a new telecommunications firm to exploit Europe's emerging business communications market. The venture, which must be approved by the European Commission, would compete with existing European telecoms groups for the so-called "outsourcing" market: operation of comprehensive international networks to provide voice, data, and picture services for large corporate clients. "The goal of the joint enterprise is to operate corporate networks, primarily for business clients on the German and European

telecommunications market," the three firms said in a statement.

Mannesmann will retain sole control of its D2 cellular phone network, Germany's first privately-operated phone system, and RWE will continue to operate its extensive network of power lines. Both companies will lease their infrastructure to the new company, and additional lines will be rented from the German state telecoms authority, Deutsche Bundespost Telekom (DBT). Mannesmann will own 50 percent of the new company, which has not yet been named; Deutsche Bank and RWE will each hold 25 percent.

Commercial Launch Site Expansion Aussie Goal

Australia's Science Minister, Chris Schacht, said last week his country is holding talks with Germany, Russia, and Japan to develop further satellite programs utilizing the Woomera rocket range. "It is the aim to have a viable space program operating in Australia by the year 2000," Schacht told parliament. "With the development of Woomera we will be able to provide interested countries with the ability to launch the satellites from Woomera on a commercial basis."

Schacht said Australia was well positioned to launch low earth orbit (LEO) satellites at Woomera, where more than 4,000 rockets in joint Australian-British tests were launched in the 1960s and 1970s. The facility has not been much used since then, and upgrading it is expected to cost \$19.8 million. Australia will sign a treaty with the German space agency by February to allow Woomera to be the recovery site for a satellite from Germany's express satellite program by August 1994, Schacht said.

The German satellite will be launched from Japan, but Australia is angling for future launches to be made from Woomera. A technical delegation from the Russian space agency, Glavcosmos, will visit Australia in February or March to investigate the prospect of using Woomera as a site for a LEO satellite program. Australia is also in talks with Japan's space agency, NASDA, about developing a joint space program, according to *Reuters*.

The European market for data and picture services is already open for competition, but most EC governments still maintain a monopoly on basic telephone services. The community's telecommunications industry is due to be liberalized in 1998. Corporate networks, which are essentially in-house telephone and data systems linking all the international branches of a company, are exempt from telephone monopolies in the EC. The new firm would compete with Eunetcom, a venture of France Telecom and DBT, and with a joint venture of British Telecom and the U.S.'s MCI, *Reuters* reports.

Gas & Oil Technology... (Continued from page one)

The draft lacks specifics as to the exact technology research projects that Lawrence Livermore, Los Alamos, and Sandia national laboratories would undertake. But one area they are sure to be involved in is modeling subsurface conditions in areas known to contain oil reserves and in areas of potential new reserves.

The department is proposing to establish an Advanced Computational Technology Initiative "to enhance joint government/industry/university research, development, and deployment efforts on advanced computing problems related to exploration and production," according to the draft. In conjunction with this, DOE plans to aid R&D efforts to boost recovery from and slow the abandonment of wells.

The draft report contains no details on how much new money the administration actually plans to pump into the initiative—nor does it indicate whether it plans instead to reprogram existing research funds to carry out the mandate. It says, however, that DOE will move to accelerate demonstrations of new technologies in the field, evaluate industry R&D programs to identify gaps, do more reservoir characterization in the field, do more field tests of innovative recovery technology, and expand supporting research based on "industry-identified needs."

Researchers at Sandia National Laboratories told *New Technology Week* that they expect DOE will increase its cooperative work with industry in computational modeling significantly in fiscal year 1995. Funding for the Oil Recovery Technology Partnership, one source said, is slated to rise from about \$6 million in fiscal year 1994 to around \$50 million in 1995. "You're going to see a marked increase in work by the national laboratories," he said.

Another technology that DOE has highlighted is advanced rock drilling systems for extraction of natural gas. "Cost-effective drilling methods in medium- to hard-rock gas formations at current gas prices offer one of the most significant technological challenges of the domestic gas industries," the draft says.

A new environmental technology demonstration and a new technical assistance program are to be established under the initiative to help industry deal with problems associated with oil extraction and use. Issues to be focused on will include oil spill cleanup and recycling of petroleum products. This research effort is to be coordinated by the Office of Science & Technology Policy and will involve DOE, the Department of Interior, and the Environmental Protection Agency.

Information technology also is targeted in the new initiative, the goal being to serve not only the oil and gas extraction industry, but also the downstream distribution system across the U.S. "The administration...proposes to stimulate development of a nationwide technology transfer network and assistance program," according to the draft report, which notes that the country's 8,000 independent producers are mainly small companies with fewer than 20 employees.

This will be augmented by a federal clearinghouse that will provide gas and oil producers with a one-stop source of information on federal research activities, technology assistance programs, and regulatory provisions.

DOE also is preparing to help the natural gas industry increase its ability to monitor and model natural gas supplies and flows to match them with gas storage capacity. The department is planning to enhance the information capabilities of its Energy Information System; specifically, the draft report says an Energy and Resources Mapping and Information System is to be developed.

On another front, DOE will try to establish a Gas Industry Standards Board that would be charged with developing an electronic bulletin board system to permit more efficient transactions of gas supplies in the market. To support this effort DOE will survey the industry to determine the level of communications technology required.

Beyond these technology-oriented actions, the DOE initiative is focusing on providing some new tax incentives and regulatory streamlining for the industry. DOE and the Department of the Treasury are exploring the benefits and costs of providing tax breaks to firms maintaining economically marginal wells and to firms that deploy advanced technology in exploration and production.

In the regulatory arena, DOE aims to work with the Federal Energy Regulatory Commission to reduce barriers to construction of new gas pipelines and to transportation of gas across jurisdictions, as well as to alleviate regulatory constraints on pricing. Also in line for revision are environmental rules governing exploration and production, access to federal lands, and the operation of petroleum refineries in the United States.

Hubble... (From page one)

physical prototypes or models.

Needing to ensure that the Costar assembly would fit properly onto the HST, NASA is particularly concerned about the potential risk of a mechanical collision between the assembly and the HST's Wide Field/Planetary Camera (WF/PC, or "Wifpik") that could result in a mission failure.

NASA's lead optics engineer for the HST project, John Wood, told *New Technology Week* that the use of the virtual prototype allowed the discovery of two significant flaws in the Costar's original engineering design before that \$50-million device was built.

Costar is a 1.7-meter-long, "V"-shaped optical bench made of carbon graphite epoxy and fitted with five pairs of corrective mirrors mounted either inside or on four motorized arms outside the bench.

"We knew that the Costar's arms had to be deployed inside a 20-inch area, and we knew we had to avoid a 'no man's land' half an inch thick around the Wifpik," Wood explained. "The virtual prototype showed us that we had a real risk of a hardware collision."

The early identification of the hardware problem—a hole cut out of the optical bench was too small to allow the full extension of a motorized arm—led the hole's being enlarged before Costar's final assembly.

The use of electronic stereo viewing equipment supplied by Stereographics of San Rafael, Calif., enabled the prototype to be viewed in full color and three dimensions, revealing another potential source of trouble: the blurring, or "vignetting," of light rays in the instrument channels due to a physical obstruction.

"We already knew that the Costar had a slight amount of vignetting in its design stage, but with Preview you can virtually 'fly' along light rays," Wood said. The Preview prototype revealed that one of the Costar's arms partially obstructed the light channel of the HST's Faint Object Camera (FOC), he explained.

MARKET WATCH

Brown, Boucher Order OTA Look At Wireless

The role of wireless communication and its potential impact are being studied by the Office of Technology Assessment. OTA has taken up the matter at the request of Rep. George Brown (D-Calif.), the chairman of the House Science, Space & Technology Committee, and Rep. Rick Boucher (D-Va.), the chairman of the subcommittee on science. The two leaders want a clear reading on whether wireless is adequately integrated into current thinking about the National Information Infrastructure, which is the subject of legislation (H.R. 1757) introduced by Boucher. "If we are not careful, wireless technologies could well be the 'missing' link in the construction of a national information infrastructure that is capable of fully serving all Americans," observed Boucher.

Texas Utility Weighs Solar, Wind Plants

TU Electric, a utility company serving 5.6 million people in 88 Texas counties, is requesting proposals from photovoltaic module manufacturers and wind turbine companies. Renewable energy technologies are being examined closely by the company as part of its overall strategy for meeting customer power needs over the next 10 years. The company is considering ordering enough windmills for 65 megawatts of capacity and enough photovoltaic modules to produce one megawatt of power. "By acquiring some renewable generation for demonstration purposes, we hope to contribute to the ability of suppliers to build larger generating installations, which would encourage mass production and lower costs," explained TU Executive Vice President Tom Baker. For more information, call Kathi Miller on 214-812-4072.

Intel Corp. Turns To Maximum Strategy

The supercomputer division of Intel Corp. is entering a marketing alliance with Maximum Strategy, Inc., a Milpitas, Calif., maker of high-performance computer storage technology. The arrangement calls for Intel to obtain closer knowledge to Maximum Strategy's storage server technology. This would help Intel balance the fast performance of its Paragon supercomputers with the need for faster data input/output and high data availability characteristics.

As a result of the collaboration, Intel may be better positioned to sell its Paragon systems for applications such as electromagnetic engineering, seismic processing, climate modeling, and weather forecasting—markets that demand high data flows. Intel will market Maximum Strategy's leading-edge data storage systems, including the Gen 4—which, Maximum Strategy claims, offers the fastest storage performance in the world, with a sustained data transfer rate of 90 megabytes per second. For details, call Sandy Staufenbiel on 408-383-1600.

Japanese Fabrication Hardware Inventoried

Want to know what equipment Japanese companies are using on their fabrication lines for integrated circuits and other electronic devices? Semiconductor Services of Redwood City, Calif., has completed a survey of 29 Japanese plants. It looks at purchasing patterns of advanced manufacturing sites in 10 equipment categories. The data, according to the company, were developed by ED Research and published in English by InterCoverage last March. Semiconductor Services holds distribution rights to the 162-page report, which sells for \$1,095. For more information, call Anne Miller at Semiconductor Services on 415-369-7890.

Neural Network Eyed For Materials Work

Advanced Refractory Technologies, Inc., of Buffalo is studying using neural network technology to improve the processing of silicon carbide whiskers used to reinforce composite materials. The aim is to create an empirical model of the company's silicon carbide whisker manufacturing process based on actual operating data. The resulting computer model, company officials say, will be coupled with sensors to provide real-time data input to allow control of the manufacturing process.

ART expects that the neural network will provide improved economies of scale and enable larger-scale manufacturing of whiskers, which now are made in small batches. If the research endeavor proves successful, it will serve as a prototype for other high-temperature manufacturing processes for ceramics and composite materials. Funding for the R&D is being provided by the New York State Energy Research & Development Agency. For more information, call ART on 716-875-4091.

Convex Struggles To Reverse Losses

Convex Corp.'s earnings continue to slide. Third-quarter results show the company losing 25 cents per share, compared with net earnings of three cents a share for the same period in 1992. Earnings per share for the nine months of the fiscal year that ended September 30 were a negative \$1.91, compared with a positive eight cents a share for first three quarters of the previous year.

Net results for the first nine months are negative—a loss of \$48 million as opposed to a profit of \$1.9 million over the same period in 1992. The company says that a restructuring program it announced in July is working and that the company's cash position is stabilizing. At the same time, it claims in its third-quarter report that new data management products—along with new computer products, including new scalable parallel processing units—should further strengthen the company's revenue picture in the coming months.

Analysts Debate Impact Of Mobil Solar Decision

BY DANIEL KAPLAN

Mobil Corp.'s announcement earlier this month that it was withdrawing from the solar industry raised red flags for many observers, who questioned whether the technology would ever be anything but experimental despite recent breakthroughs.

While some high-profile demonstrations have been unveiled recently, such as the Utility Photovoltaic Group's proposed \$512 million, 50 megawatt plan, Mobil's departure from the business leaves in its wake some perplexing questions about the technology's future.

The oil company's statement that the utility market for solar would not grow significantly through the year 2000, and consequently it could not justify the expenses associated with research and development—even though it had achieved some major progress recently in conversion efficiencies—sounded a dire warning for the technology's enthusiasts.

However, industry backers wrote off Mobil's action as irrelevant, saying the company had only a small share of the overall market anyway. And Mobil only focused on the utility market, ignoring residential and off-grid applications, they said.

"Mobil was focusing on a rather narrow segment of the marketplace, specifically the utility market," said George Roland, president and CEO of Siemens Solar Industries. "As with many aspects of the solar business, predictions for this market segment have not come true. They were overly optimistic. Therefore the expected growth, which probably

drove the Mobil strategy, did not" materialize.

The industry's lobbying arm in Washington, D.C., also dismissed the decision, saying it was unsurprising. Only 10 percent of the solar market is in the utility industry, said Scott Sklar, executive director of the Solar Energy Industries Association.

Mobil was not an aggressive manufacturer, he said. And much like the computer industry of the 1970s, solar is changing almost weekly, he said, making yesterday's technological breakthroughs irrelevant tomorrow.

Economies of scale are everything in this business, added Roland, who noted his company's sales were twice that of Mobil. And they are growing at 20 percent a year, Roland said.

"This industry is sitting on the edge, it is poised for some outstanding growth in the next couple of years," he said.

But while predictions of a rosy future were abundant, most industry officials conceded the utility market is not currently economic.

With present day costs where they are, it is quite accurate to say there is no utility market today, said Eric Graf, Texas Instrument's marketing manager for photovoltaics programs, which has staked its future on spherical cell technology.

While many utilities have announced PV demonstration, one of the most recent being Texas Utilities' 1 MW solicitation, clearly it is uneconomic right now, he said.

But like a host of other companies from Siemens to Amoco Corp.'s Solarex unit—the only oil company left in the field—Graf and TI are staying in the thick of the solar business, betting costs will come down enough to prove that Mobil, after 19 years in the industry, made an untimely error.

Science Office Has Expanded Security Role

BY ERIC ROSENBERG

The White House Office of Science and Technology (OSTP) will have a greatly expanded role in national security issues, including devising policy to halt the spread of advanced weaponry to rogue states and restructuring U.S. military forces for the post-Cold War era.

According to Jane Wales, the Clinton administration's nominee to be the office's associate director for national security and international affairs, the White House office will take a proactive role in setting the military agenda.

"As a conduit of scientific information and analysis I will seek to ensure that the best scientific knowledge is brought to bear on issues of national security concern," Wales said late last month during confirmation proceedings before the Senate committee on commerce, science and transportation.

The office also will promote bilateral civilian technology cooperation "to ensure that federal science and technology investments are put to the service of our nation's security and prosperity."

The National Security and International Affairs directorate is a Clinton-era merger of two separate White House areas of responsibility—the science and technology aspects of national security policy and the promotion of international technology cooperation.

In many respects, the merger underscores a Clinton campaign theme of closely linking economics with national security.

Neither scientist nor national security guru, Wales began her career as a journalist. She was a staffer for then-Sen. Walter Mondale. She served in the Carter administration as an assistant to State Department spokesman Hodding Carter. She later directed the Security Options Project, a research organization. She most recently was employed as a foundation officer at the Carnegie Corp. and the W. Alton Jones Foundation.

"I come before you with no pretense that I am fully experienced in

all of the issues and challenges presented to you today. But in many ways this position is the logical next step in my professional life," she told the panel.

But Wales has ties to top Clinton officials with whom she would work if confirmed. For example, four years ago she wrote an op-ed piece for the *New York Times* with embattled Assistant Defense Secretary for Peacekeeping-designate Morton Halperin on what they felt was an ill-advised policy on the first use of nuclear weapons.

The national security portfolio for the new office will be extensive. It "will include co-chairing or otherwise participating in interagency efforts to implement the technical aspects of the president's non-proliferation initiative," Wales said in written answers submitted in response to panel questions.

"This includes an interagency study on the disposition of plutonium from dismantled warheads in the United States and the former Soviet Union, an ongoing review of U.S. export control policies and the development of policy options for containing the spread of advanced conventional weapons," she wrote.

Latest 55 TRP Selections All In Deployment; Last Round Next

BY KEN JACOBSON

Another 55 proposals, all in the category of technology deployment, were identified last week as having been selected to negotiate for matching funds under the Technology Reinvestment Project, the Clinton administration's flagship defense conversion program (see tables beginning on page 11).

Deputy Defense Secretary William Perry, speaking at a White House news conference on November 24, stated that the two rounds of projects so far announced—41 were named last month (*NTW*, Oct. 25, p. 13) in addition to the most recent winners—represent the commitment of about half of TRP's \$472 million in FY 1993 resources. The 55 projects announced last week were described in a White House statement as accounting for \$110 million in requested federal matching funds.

That statement pointed to early December for the announcement of a final group of FY '93 awards. Before the remaining selections can be finalized, however, the fact that between one-fourth and one-third of TRP's FY '93 budget was earmarked will have to be dealt with, according to Lee Buchanan, director of Defense Sciences at the Advanced Research Projects Agency, TRP's lead administrative agency.

A project's being earmarked in the report that accompanied the 1993 Defense Appropriations bill—no earmarks were written into the statute itself—was "not an issue in the selection process," Buchanan told *New Technology Week*. TRP evaluators would have been "remiss if [they] had ruled [proposals] out because they were earmarked," he stated, adding: "We provided an opportunity to propose into the program in

every case."

Buchanan stressed that "none of the money talked about" in connection with the first two rounds of announcements "is going to a recipient in lieu of an earmark." He added that if, once the final selections have been made, earmarked projects are among those that end up out of the running, TRP will have to "go back to Congress and ask to be relieved" of the corresponding earmarks.

This, he explained, would be necessary because the FY '93 earmarks—like those appearing in the conference report that accompanied the 1994 Defense Appropriations bill—were specified as items of special congressional interest, and any change in the spending of funds so specified requires prior approval from the appropriators. **(Please note: This corrects a statement appearing on p. 5 of the November 22 issue of *NTW* to the effect that TRP's managers would not be bound by this restriction in dealing with FY '93 earmarks.)**

Of the latest 55 winning proposals, 33 will be managed by the National Institute of Standards and Technology through its Manufacturing Extension Partnership, Commerce Secretary Ron Brown stated; nine of the technology deployment projects in the first round will also come under MEP. Manufacturing extension centers made up one-third of the selections announced last week, Brown noted.

Among the projects named November 24 was Smart Valley CommerceNet, which Brown described as "seeking to create an open, Internet-based infrastructure for elec-

tronic commerce" in California's high-tech capital (*NTW*, July 26, p. 1); the total cost of the project, including both federal and private-sector contributions, was given as \$8 million.

Also on the list is the National Infrastructure for Gear Metrology, a proposal valued at \$4.5 million on the same basis (*NTW*, Aug. 23, p. 4). That proposal was led by the American Society of Mechanical Engineers and includes NIST and Oak Ridge National Laboratory.

The largest single project, the \$25.7-million Chicago Manufacturing Technology Extension Center, aims to assist 9,000 small manufacturers in the Chicago metropolitan area. Argonne National Laboratory joined the proposal leader, the Economic Development Commission of the City of Chicago; two University of Illinois campuses; a development bank, Shorebank Corp.; and a number of other educational and research institutions in making the proposal.

The program with the longest list of participants—63, all but four of which are located in New Mexico—was the \$13.2-million New Mexico Manufacturing Extension Program. The New York State Science & Technology Foundation was the proposal leader on five projects selected, while Pennsylvania's Ben Franklin Technology Centers and Ohio's Edison Centers were involved in two winners each.

Altogether, Brown stated, \$1.5 billion in "year one" federal funding was sought by 550 applicants in TRP's technology deployment category; on that basis, selections announced last week ranged in size from \$25,000 to \$8.3 million. Projects selected in TRP's two other categories—technology development, and manufacturing education and training—were announced last month and figure to be among those announced in the final round.

NEW TECHNOLOGY WEEK IS A PUBLICATION OF KING COMMUNICATIONS GROUP, INC.

Llewellyn King, Publisher.

PUBLISHED WEEKLY. COPYRIGHT 1993 (ISSN: 0894-0789).

SUBSCRIPTION PRICE: \$699 PER YEAR. FAX PRICE: \$1,096 PER YEAR.

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Technology Reinvestment Project
Announcements
DEPLOYMENT

Bold indicates lead proposer

Participants	City	State/Zip	Title	Total Cost *
University of Alaska, Anchorage Small Business Dev. Center	Anchorage	AK 99501	Alaska Technology Transfer Assistance Center	\$600,000
Alaska Science & Technology Foundation	Anchorage	AK 99501	(ATTAC)	
Far West Regional Technology Transfer Center	Los Angeles	CA 90007		
Maricopa County Community College District	Tempe	AZ 85281	Arizona Applied Manufacturing Center	\$3,100,000
AlliedSignal Aerospace	Phoenix	AZ 85010		
Arizona Department of Commerce	Phoenix	AZ 85016		
Arizona Public Service	Phoenix	AZ 85072		
Arizona State University	Tempe	AZ 85287		
Arizona Technology Incubator	Scottsdale	AZ 85257		
Digital Equipment Corporation	Tempe	AZ 85281		
GateWay Community College-Precision Machining Institute	Phoenix	AZ 85034		
GateWay Community College-Small Business Devel. Center	Phoenix	AZ 85034		
Glendale Community College	Glendale	AZ 85302		
Maricopa Community College	Tempe	AZ 85281		
Mesa Community College	Mesa	AZ 85202		
Micron Tool & Manufacturing, Inc.	Tempe	AZ 85282		
Motorola University/Mesa Community College	Mesa	AZ 85201		
Pima Community College District	Tucson	AZ 85711		
Rio Salado Community College	Phoenix	AZ 85003		
Tech Mold, Inc.	Tempe	AZ 85281		
Aerojet General Corporation	Rancho Cordova	CA 95741	Aerojet Commercialization Pilot Project	\$2,300,000
Aircraft Company	Galesburg	IL 61402		
Bentley Industries, Inc.	Grand Rapids	MI 49548		
Boeing Commercial Airplane Group	Seattle	WA 98124		
California Manufacturing Technology Center	Hawthorne	CA 90250		
DRE/Lawrence Livermore National Laboratory	Livermore	CA 94550		
Federal Aviation Administration	Atlantic City Int'l	NJ 08405		
General Motors- Cadillac Motor Car Division	Detroit	MI 48232		
Gracier Bay, Inc.	Emeryville	CA 94608		
Lawrence Berkeley Laboratory	Berkeley	CA 94720		
Michigan Energy Research & Resource Agency	Ann Arbor	MI 48113		
Institute for Research & Technical Assistance	Santa Monica	CA 90404	The Pollution Prevention Center: An Unusual	\$500,000
California Environmental Protection Agency	Sacramento	CA 95812	Partnership	
Los Angeles City Sanitation District	Los Angeles	CA 90039		
Los Angeles County Sanitation District	Whittier	CA 90601		
Orange County Sanitation District	Fountain Valley	CA 92708		
South Coast Air Quality Management District	Diamond Bar	CA 91765		
Southern California Edison Company	Irwindale	CA 91702		
Enterprise Integration Technologies Corporation (EIT)	Palo Alto	CA 94301	Smart Valley CommerceNet	\$8,000,000
HP/REN/WeatREN Corporation	Stanford	CA 94305		
Center for Information Technology	Stanford	CA 94305		
Southern Colorado Business & Technology Center	Pueblo	CO 81003	Technology Access Program (TAP)	\$52,000
Mit-Continent Technology Transfer Center	Houston	TX 77058		
Pueblo Economic Development Corporation	Pueblo	CO 81003		
Southern Colorado Economic Development District	Pueblo	CO 81003		
University of Southern Colorado	Pueblo	CO 81001		
National Technological University	Fort Collins	CO 80526	Manufacturing Extension Partnership: National	\$2,600,000
American Society of Mechanical Engineers	New York	NY 10017	Interactive Telecasts on Competitive	
Centers for Manufacturer Technology	Oak Ridge	TN 37831	Manufacturing Technologies and Techniques	
DRE/Lawrence Livermore National Laboratory	Livermore	CA 94550		
DCE/Los Alamos National Laboratory	Los Alamos	NM 87545		
Sandia National Laboratories	Albuquerque	NM 87185		
The Modernization Forum	Dearborn	MI 48128		
Colorado Bio/Medical Venture Center, Inc.	Lakewood	CO 80214	Rocky Mountain Bio/Medical Conversion &	\$400,000
Colorado Advanced Technology Institute	Denver	CO 80202	Commercialization Project	
Colorado State University	Fort Collins	CO 80523		
Massachusetts Biotechnology Research Institute	Worcester	MA 01605		
Office of Technology Transfer	Bethesda	MD 20892		
University of Colorado	Boulder	CO 80309		
State of Connecticut - Department of Economic Development	Rocky Hill	CT 06067	Connecticut State Technology Extension Program	\$5,500,000
Connecticut Technology Associates	West Hartford	CT 06127		
University of Connecticut	Storrs	CT 06269		
Photonics Research Center	Storrs	CT 06269	Connect: The New England Alliance for Photonics	\$1,500,000
Connecticut Innovation, Inc.	Rocky Hill	CT 06067	Technology Deployment	
Connecticut Micro-electronics & Opto-electronics Consortium	Storrs	CT 06269		
Electro-Optics Technology Center	Medford	MA 02155		
New England Fiber Optics Council	Westborough	MA 01581		
Optical Society of America	Washington	DC 20036		
Jr. el Corporation	Stratford	CT 06497		
Photonics Spectra	Pittsfield	MA 01201		
SPER - International Society For Optical Engineering	Bellingham	WA 98227		
Inter Technologies Research Center	East Hartford	CT 06108		
University of Connecticut	Storrs	CT 06268		
American Society of Mechanical Engineers	Washington	DC 20036	The Deployment of a National Infrastructure for	\$4,500,000
American Gear Manufacturers Association	Alexandria	VA 22314	Gear Metrology	
National Institute of Standards & Technology	Gaithersburg	MD 20899		
Oak Ridge National Laboratory	Oak Ridge	TN 37831		
Pennsylvania State University-ARL	State College	PA 16804		
Delaware Development Office	Dover	DE 19903	The Delaware Manufacturing Alliance	\$1,500,000
University of South Florida	Tampa	FL 33620	USF/CMR Technology Deployment Proposal to Provide	\$1,500,000

**Technology Reinvestment Project
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Participants	City	State/Zip Title	Total Cost *
Microelectronics Technology Consultants to Support Regional Electronics Manufacturing Industry			
Naval Training Systems Center	Orlando	FL 32826 Moving In A New Direction: Training & Simulation	\$4,600,000
Analysis & Technology Incorporated	Orlando	FL 32826 Technology Access	
DMAL Incorporated	Arlington	VA 22201	
Dynamics Research Corporation	Andover	MA 01810	
IBM Federal Systems Company	Manassas	VA 22110	
Institute for Simulation and Training	Orlando	FL 32826	
NASA	Kennedy Space Center	FL 32899	
Simulation Training & Instrumentation Command	Orlando	FL 32826	
University of Central Florida	Orlando	FL 32816	
University of Florida	Gainesville	FL 32611 Gulf Coast Alliance Technology Access Services	\$800,000
Florida A&M University	Tallahassee	FL 32316	
Florida State University	Tallahassee	FL 32316	
Gulf Coast Alliance for Technology Transfer (GCATT)	Bylin AFB	FL 32543	
Okaloosa-Walton Community College	Niceville	FL 32578	
Southern Technology Application Center	Alachua	FL 32615	
University of Florida-College of Engineering	Gainesville	FL 32611	
University of West Florida	Pensacola	FL 32516	
Iowa State University	Ames	IA 50011 Iowa Manufacturing Technology Center (Iowa MTC)	\$11,400,000
Ames Laboratory	Ames	IA 50011	
Des Moines Area Community College	Ankeny	IA 50021	
Iowa Technology Transfer Council	Des Moines	IA 50309	
Wallace Technology Transfer Foundation	Des Moines	IA 50309	
Illinois Department of Commerce & Community Affairs	Springfield	IL 62701 Illinois Technology Extension Enabling	\$7,200,000
American Foundrymen's Society, Inc.	Des Plaines	IL 60016 Partnership Project	
Chemical Industry Council of Illinois	Rosemont	IL 60010	
Illinois Coalition	Chicago	IL 60601	
Illinois Community College Board	Springfield	IL 62701	
Illinois Manufacturers Association	Chicago	IL 60606	
Illinois State Chamber of Commerce	Chicago	IL 60606	
Management Association of Illinois	Springfield	IL 62704	
Tooling and Manufacturing Association	Park Ridge	IL 60068	
Economic Development Commission of the City of Chicago	Chicago	IL 60605 Chicago Manufacturing Technology Extension Center	\$25,700,000
Argonne National Laboratory	Argonne	IL 60439	
BIRL - Industrial Research Laboratory	Evanston	IL 60201	
Center for Adult Experimental Learning	Chicago	IL 60606	
College of DuPage	Glen Ellyn	IL 60137	
Hazardous Waste Research and Information Center	Champaign	IL 61820	
IIT Research Institute	Chicago	IL 60616	
Illinois Business Technology Support Center	Chicago	IL 60601	
Illinois Institute for Technology	Chicago	IL 60616	
Jane Addams Resource Corporation	Chicago	IL 60640	
Joliet Junior College	Joliet	IL 60436	
Manufacturing Productivity Center Ltd.	Chicago	IL 60616	
Moraine Valley Community College	Faloe Hills	IL 60445	
Northern Illinois University	DeKalb	IL 60115	
Shorebank Corporation	Chicago	IL 60640	
South Suburban College	South Holland	IL 60473	
University of Illinois, Chicago	Chicago	IL 60607	
University of Illinois, Urbana-Champaign	Urbana	IL 61801	
Kansas Manufacturers Association	Wichita	KS 67214 The Kansas Manufacturers Association: A	\$1,700,000
Aero Comm Machining	Wichita	KS 67214 Consortium to Accomplish Defense Conversion	
Aerospace Products Company	Wichita	KS 67216	
Bob Healy & Associates, Inc.	Wichita	KS 67212	
Brittain Machine, Inc.	Wichita	KS 67217	
Commercial Aircraft Products, Inc.	Wichita	KS 67213	
Excel Manufacturing, Inc.	Wichita	KS 67215	
J. R. Quatom Metal Products, Inc.	Wichita	KS 67209	
JMT Industries	Wichita	KS 67214	
KMG Tool & Machine Company, Inc.	Wichita	KS 67209	
Mid-America Manufacturing Technology Center	Wichita	KS 67209	
Mid-Central Manufacturing, Inc.	Wichita	KS 67214	
MC Machine	Wichita	KS 67209	
Det. Brothars Machine, Inc.	Wichita	KS 67216	
Post Enterprises	Wichita	KS 67209	
Professional Machine & Tool	Wichita	KS 67204	
R & R Precision Machine, Inc.	Wichita	KS 67217	
Southwest Manufacturing	Wichita	KS 67277	
The McTinty Machine Company, Inc.	Wichita	KS 67219	
United Machine Company, Inc.	Wichita	KS 67214	
W/SE Partnership for Growth	Wichita	KS 67202	
Wichita State University	Wichita	KS 67260	
Wichita Tool Company	Wichita	KS 67213	
Wichita Wire, Inc.	Wichita	KS 67214	
Y-Tech	Wichita	KS 67214	
Youngers & Sons Manufacturing, Inc.	Viola	KS 67149	
Mid-America Manufacturing Technology Center	Overland Park	KS 66212 MMTC Colorado Regional Office	\$3,600,000
Colorado Advanced Technology Institute	Denver	CO 80202	
Colorado Buyer-Supplier Connection	Denver	CO 80202	
Manufacturing Excellence Center	Fort Collins	CO 80523	
Mid-America Manufacturing Technology Center	Fort Collins	CO 80524	
Office of Business Development	Denver	CO 80202	
Public Service Company of Colorado	Denver	CO 80202	
Kentucky Economic Development Cabinet	Frankfort	KY 40601 Kentucky Technology Service	\$1,700,000
Business & Technology Branch	Frankfort	KY 40601	
Kentucky Science & Technology Council, Inc.	Lexington	KY 40508	
Suburban Maryland Regional Technology Council	Rockville	MD 20850 Maryland Manufacturing Modernization Network	\$3,500,000
Advanced Technology Center	Hagerstown	MD 21742	
Anne Arundel County Technology Council	Annapolis	MD 21401	
Greater Baltimore Committee	Baltimore	MD 21202	
Howard County Technology Council	Columbia	MD 21045	

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Participants	City	State/Zip Title	Total Cost *
Lower Shore Regional Technology Council	Salisbury	MD 21801	
Maryland Business Council	Baltimore	MD 21202	
Maryland Center for Quality and Productivity	College Park	MD 20742	
Maryland Department of Economic and Employment Develop.	Baltimore	MD 21202	
Maryland Industrial Development Association	Belair	MD 21014	
Northeastern Maryland Technology Council	Belair	MD 21014	
Procurement Assistance Center	Baltimore	MD 21239	
Southern Maryland Regional Technology Center	La Plata	MD 20646	
St. Mary's County Technology Council	Hollywood	MD 20636	
Technology Extension Service	College Park	MD 20742	
Upper Shore Regional Technology Council	Wye Mills	MD 21679	
Western Maryland Regional Technology Council	Hagerstown	MD 21742	
National Tooling & Machining Association	Ft. Washington	MD 20744 Electronic Information Services for the Tooling &	\$1,800,000
California Manufacturing Technology Center	Hawthorne	CA 90250 Machining Industry	
DOE/Lawrence Livermore National Laboratory	Livermore	CA 94551	
DOE/Los Alamos National Laboratory	Los Alamos	NM 87545	
DOE/Sandia National Laboratories	Albuquerque	NM 87185	
Great Lakes Manufacturing Technology Center	Cleveland	OH 44115	
Martin Marietta Energy Systems	Oak Ridge	TN 37831	
Mid-America Manufacturing Technology Center	Overland Park	KS 66212	
Midwest Manufacturing Technology Center	Ann Arbor	MI 48106	
Northeast Manufacturing Technology Center	Albany	NY 12210	
Southeast Manufacturing Technology Center	Columbia	SC 29202	
The Modernization Forum	Dearborn	MI 48128	
Upper Midwest Manufacturing Technology Center	Minneapolis	MN 55401	
Department of Economic and Employment Development	Baltimore	MD 21202 University-Driven Technology Deployment Project	\$2,000,000
Anne Arundel County Technology Council	Annapolis	MD 21401	
Amy Edgewood Research, Development & Engineering Ctr.	Aberdeen Proving Ground	MD 21010	
Amy Medical Research and Development Command	Frederick	MD 21702	
Amy Research Laboratory	Adelphi	MD 20783	
Department of Economic & Employment Development	Baltimore	MD 21202	
Greater Baltimore Committee	Baltimore	MD 21202	
Howard County Technology Council	Columbia	MD 21045	
Lower Shore Regional Technology Council	Salisbury	MD 21801	
Maryland Dept. of Economic and Employment Development	Baltimore	MD 21202	
Maryland Venture Capital Trust	Baltimore	MD 21204	
Morgan State University	Baltimore	MD 21239	
NASA/Goddard Space Flight Center	Greenbelt	MD 20771	
Naval Research Laboratory	Washington	DC 20375	
Northeastern Maryland Technology Council	Belair	MD 21014	
Southern Maryland Regional Technology Council	La Plata	MD 20646	
St. Mary's County Technology Council	Hollywood	MD 20636	
Suburban Maryland Regional Technology Council	Rockville	MD 20850	
University of Baltimore	Baltimore	MD 21201	
University of Maryland - Baltimore County Campus	Baltimore	MD 21228	
Upper Shore Regional Technology Council	Wye Mills	MD 21679	
Western Maryland Regional Technology Council	Hagerstown	MD 21742	
Maine Metal Products Association	Portland	ME 04102 Environmentally-Conscious Manufacturing -	\$1,000,000
CMFC	Auburn	ME 04210 Technology Access Project	
Center for Technology Transfer	Portland	ME 04102	
MMFA	Augusta	ME 04333	
Maine DEP	Augusta	ME 04333	
NRCM	Augusta	ME 04330	
University of Massachusetts, Lowell	Lowell	MA 01854	
Michigan State University	East Lansing	MI 48824 Building a Communication Network Linking	\$3,600,000
Edward Lowe Foundation	East Lansing	MI 48824	
Merit Network, Inc.	Ann Arbor	MI 49105 Knowledge Providers, Small Business Users and	
Michigan Small Business Development Center	Detroit	MI 48201 Industrial Extension Agents in Michigan	
Industrial Technology Institute	Ann Arbor	MI 48106 Developing Common Methods and Training Agents for	\$2,200,000
Michigan Community College Association	Lansing	MI 48933 Industrial Extension	
Michigan Industrial Developers Association	Grand Rapids	MI 49503	
Michigan Small Business Development Center	Detroit	MI 48201	
Michigan State University Extension	East Lansing	MI 48824	
Minnesota Technology, Inc.	Minneapolis	MN 55401 Minnesota Consortium for Defense Conversion	\$3,800,000
St. Cloud State University	St. Cloud	MN 56301 Improving Manufacturing Processes in Small and	\$3,400,000
IM Company	St. Paul	MN 55144 Medium Sized Minnesota Companies	
Alexandria Technical College	Alexandria	MN 56308	
Anoka Technical College	Anoka	MN 55303	
Minnesota Job Skills Partnership	St. Paul	MN 55101	
Minnesota Technology, Inc.	Minneapolis	MN 55401	
Pine Technical College	Pine City	MN 55063	
St. Cloud Technical College	St. Cloud	MN 56303	
University of Minnesota, Duluth	Duluth	MN 55812	
Economic Policy Advisor to the Governor	Raleigh	NC 27603 North Carolina Alliance for Competitive	\$1,300,000
Microelectronics Center of North Carolina	Research Triangle Park	NC 27709 Technologies (NC ACTS)	
North Carolina Biotechnology Center	Research Triangle Park	NC 27709	
North Carolina Community College System	Raleigh	NC 27603	
North Carolina State University	Raleigh	NC 27695	
University of North Carolina - Office of Research Services	Chapel Hill	NC 27599	
Regional Technology Strategies, Inc.	Chapel Hill	NC 27515 USNet: An Enabling Service for Manufacturing	\$1,600,000
Bay State Skills Corporation	Boston	MA 02110 Networks	
Danish Technological Institute	Arhus	DN	
Delaware Development Office	Dover	DE 19903	
Innovation Partnership of Enterprise Florida	Tallahassee	FL 32399	
International Business Connections	Mappingers Falls	NY 12590	
Louisiana Department of Economic Development	Baton Rouge	LA 70804	
National Economic Initiatives Corporation	Marquette	MI 49855	
North Carolina	Raleigh	NC 27603	
Oklahoma Alliance of Manufacturing Excellence	Tulsa	OK 74119	
Oregon Economic Development Department	Salem	OR 97310	
The Beville Center	Gadsden	AL 35903	

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Participants	City	State/Zip Title	Total Cost *
Virginia Alliance For Manufacturing Competitiveness	Richmond	VA 23219	
Washington Department of Community Development	Olympia	WA 98504	
West Virginia Development Office	Charleston	WV 25305	
New Mexico Industry Network Corporation	Albuquerque	NM 87106 New Mexico Manufacturing Extension Program	\$13,200,000
Albuquerque Economic Development	Albuquerque	NM 87106	
Albuquerque Hispano Chamber	Albuquerque	NM 87106	
Albuquerque Technical-Vocational Institute	Albuquerque	NM 87106	
Albuquerque Technical-Vocational Institute	Albuquerque	NM 87106	
Alliance for Photonic Technology	Albuquerque	NM 87106	
Alliance for Transportation Research	Albuquerque	NM 87106	
RDM Corporation	Albuquerque	NM 87106	
Bernalillo County Commission	Albuquerque	NM 87102	
Cagle and Associates	Albuquerque	NM 87106	
City of Albuquerque	Albuquerque	NM 87103	
Clovis Community College	Clovis	NM 88101	
DOE/Los Alamos National Laboratory	Los Alamos	NM 87545	
DOE/Sandia National Laboratories	Albuquerque	NM 87185	
Digital Equipment Corporation	Albuquerque	NM 87112	
Dona Ana Branch Community College	Las Cruces	NM 88003	
Eastern New Mexico University, Roswell	Roswell	NM 88201	
Economic Forum	Albuquerque	NM 87110	
General Electric	Albuquerque	NM 87102	
Hewlett Packard	Albuquerque	NM 87109	
Honeywell	Albuquerque	NM 87121	
Industrial Development Corporation of Lea County	Hobbs	NM 88280	
Intel Corporation	Rio Rancho	NM 87124	
Laguna Industries	Leguna	NM 87026	
Los Alamos Economic Development Corporation	Albuquerque	NM 87544	
Luna Vocational-Technical Institute	Las Vegas	NM 87701	
Martin Marietta Corporation	Bethesda	MD 20817	
Motorola	Albuquerque	NM 87114	
New Mexico Economic Development Department	Santa Fe	NM 87502	
New Mexico Institute of Mining and Technology	Socorro	NM 87801	
New Mexico Junior College	Hobbs	NM 88240	
New Mexico Municipal League	Santa Fe	NM 87501	
New Mexico State University	Las Cruces	NM 88003	
New Mexico State University, Alamogordo	Alamogordo	NM 88311	
New Mexico State University, Carlsbad	Carlsbad	NM 88226	
New Mexico State University, Grants	Grants	NM 87020	
Northern New Mexico Community College	Espanola	NM 87532	
Norva Corporation	Albuquerque	NM 87102	
Perma Charge	Albuquerque	NM 87109	
Phillips Laboratory	Kirkland AFB	NM 87117	
Quatro	Albuquerque	NM 87109	
Rio Rancho Economic Development Corporation	Albuquerque	NM 87124	
RioTech	Albuquerque	NM 87106	
San Juan College	Farmington	NM 87401	
San Juan Economic Development Service	Aspec	NM 87401	
Santa Fe Community College	Santa Fe	NM 87502	
Small Business Development Centers	Santa Fe	NM 87502	
State Technology Assistance Resource System	Santa Fe	NM 87502	
State of New Mexico	Albuquerque	NM 87185	
State of New Mexico-Department of Labor	Albuquerque	NM 87103	
TINS	Dallas	TX 75207	
Technet	Albuquerque	NM 87109	
Teltech	Minneapolis	MN 55425	
Tri-Area Association for Economic Development	Santa Fe	NM 87501	
Tucumcari Area Vocational School	Tucumcari	NM 88401	
US West	Albuquerque	NM 87102	
University of New Mexico, Albuquerque	Albuquerque	NM 87131	
University of New Mexico, Gallup	Gallup	NM 87301	
University of New Mexico, Los Alamos	Los Alamos	NM 87544	
University of New Mexico, Valencia	Los Lunas	NM 87031	
University of Texas, El Paso	El Paso	TX 79969	
Western New Mexico University	Silver City	NM 88062	
White Sands Test Facility	Las Cruces	NM 88004	
New York State Science & Technology Foundation	Albany	NY 12210 Western New York Manufacturing Outreach Center	\$4,000,000
Alfred University	Alfred	NY 14802	
American Society for Quality Control	Elma	NY 14059	
Canisius College	Buffalo	NY 14208	
Center for Industrial Effectiveness	Amherst	NY 14228	
Chautauque County Industrial Development	Jamestown	NY 14701	
Eric Community College	Orchard Park	NY 14127	
FAI Technology Marketing	Huntington	NY 11743	
International Trade Council	Buffalo	NY 14202	
Jamestown Community College	Jamestown	NY 14702	
National Fuel Gas	Buffalo	NY 14203	
New York State Electric & Gas	Singhanton	NY 13903	
New York State Energy Office	Albany	NY 12223	
New York State Energy Research & Development Authority	Albany	NY 12223	
Niagara County Community College	Samborn	NY 14132	
Niagara Mohawk Power Corporation	Buffalo	NY 14203	
NY Aerospace & Defense Industry Consortium	Cheektowaga	NY 14225	
NY Venture Capital Association	Buffalo	NY 14203	
New York State Science & Technology Foundation	Albany	NY 12210 Manufacturing Outreach Center of N.Y. - Southern	\$2,000,000
Binghamton University	Binghamton	NY 13902 Tier	
Cornell University	Ithaca	NY 14853	
IBM Corporation	Owego	NY 13827	
Meritus Consulting	Endicott	NY 13760	
New York State Electric & Gas Corporation	Binghamton	NY 13902	
UnifEG	Endicott	NY 13760	
New York State Science & Technology Foundation	Albany	NY 12210 Hudson Valley Manufacturing Outreach Center	\$2,000,000
Hudson Valley Technology Development Center	New Paltz	NY 12561	
Northeast Manufacturing Technology Center (NEMTC)	Albany	NY 12210	
Long Island Research Institute	Setauket	NY 11773 The Long Island Technology Access Program	\$1,100,000
Brookhaven National Laboratory	Upton	NY 11973	

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American National Standards Institute	New York	NY 10036 National Standards Systems Network (NSSN)	\$4,900,000
ASTM	Philadelphia	PA 19103	
Aerospace Industries Association	Washington	DC 20005	
American Concrete Institute	Detroit	MI 48219	
American Gas Association	Cleveland	OH 44131	
American National Standards Institute	New York	NY 10036	
American Petroleum Institute	Washington	DC 20005	
American Society of Agricultural Engineers	St. Joseph	MI 49085	
American Society of Civil Engineers	New York	NY 10017	
American Society of Mechanical Engineers	New York	NY 10017	
American Welding Society	Miami	FL 33135	
Association for Info/Image Management	Silver Spring	MD 20910	
BSI Standards, Linford Wood, Milton	United Kingdom	UK	
Boeing Company	Seattle	WA 98124	
Canadian General Standards Board	Ottawa, Ontario	CD	
Canadian Standards Association	Readale, Ontario	CD	
Caterpillar, Inc.	Peoria	IL 61629	
Center for Devices & Radiological Health	Rockville	MD 20857	
Chemical Manufacturers Association	Washington	DC 20037	
Computer and Business Equipment Manufacturers Association	Washington	DC 20005	
Deere & Company	Moline	IL 61265	
Defense Information Systems Agency	Reston	VA 22090	
Department of Defense/OASD	Washington	DC 20301	
Department of Energy	Germentown	MD 20874	
Department of Energy-Technical Standards Program	Washington	DC 20585	
Document Center	Belmont	CA 94002	
Eaton Corporation	Milwaukee	WI 53216	
Electronic Industries Association	Washington	DC 20006	
Food and Drug Administration	Rockville	MD 20857	
IRM Corporation	Purchase	NY 10577	
IEEE	Piscataway	NJ 08855	
Information Handling Services	Englewood	CO 80112	
Information Handling Services	Englewood	CO 80150	
Institute of Electrical and Electronics Engineers, Inc.	Piscataway	NJ 08855	
Instrument Society of America	Research Triangle Park	NC 27709	
Inter Electrotechnical Commission	Switzerland	SZ	
Martin Marietta Corporation	Princeton	NJ 08543	
Motorola, Inc.	Schaumburg	IL 60196	
NCR Corporation	Roseville	MN 55113	
NEC America	San Jose	CA 95134	
National Association of Manufacturers	Washington	DC 20004	
National Committee for Clinical Lab Studies	Villanova	PA 19081	
National Institute of Building Science	Washington	DC 20005	
National Institute of Standards and Technology	Gaithersburg	MD 20899	
National Research Council of Canada	Ottawa, Ontario	CD	
PRC, Inc.	Alexandria	VA 22302	
Quality Sciences Consultants, Inc.	Issaquah	WA 98027	
R. B. Toth Associates	Alexandria	VA 22303	
Society of Automotive Engineers	Warrendale	PA 15096	
Underwriters Laboratories, Inc.	Research Triangle Park	NC 27709	
United Technologies Hamilton Standards Division	Windsor Locks	CT 06096	
University of Oklahoma	Norman	OK 73037	

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Participants	City	State/Zip Title	Total Cost *
New York State Science & Technology Foundation	Albany	NY 12210 New York City Manufacturing Outreach Center	\$5,300,000
Brooklyn College	Brooklyn	NY 11210	
Fashion Institute of Technology	New York	NY 10001	
Industrial Technology Assistance Corporation	New York	NY 10007	
New York City Technical College	Brooklyn	NY 11201	
Polytechnic University	Brooklyn	NY 11201	
New York State Science & Technology Foundation	Albany	NY 12210 Development and Application of an Initial	\$400,000
Pennslelar Polytechnic Institute	Troy	NY 12180 Assessment Procedure for Small Manufacturers (Quick View)	
Edison Materials Technology Center	Kettering	OH 45420 Hotline Expansion	\$200,000
Kron Steel Treating Company, Inc.	Akron	OH 44311	
Atmosphere Annealing, Inc.	Canton	OH 44710	
Case Western Reserve University	Cleveland	OH 44106	
Cincinnati Flame Hardening	Cincinnati	OH 45011	
Colorado School of Mines	Golden	CO 80401	
Information Control Technology	Cleveland	OH 44130	
Frie Steel Treating, Inc.	Toledo	OH 43613	
Fuclid Heat Treating	Euclid	OH 44117	
Heat Treating Network	Cleveland	OH 44130	
ITT Research Institute	Chicago	IL 60616	
Lindberg Heat Treating Company	Solon	OH 44139	
Massachusetts Institute of Technology	Cambridge	MA 02139	
Metal Treating, Inc.	Cincinnati	OH 45204	
Shore Metal Technology, Inc.	Highland Heights	OH 44143	
Thermal Treatment Center, Inc.	Wickliffe	OH 44092	
Edison Welding Institute	Columbus	OH 43212 The Alliance for National Excellence in Materials	\$7,600,000
Allison Gas Turbine	Indianapolis	IN 46206 Joining	
Pen Franklin Technology Center of Western Pennsylvania	Pittsburgh	PA 15213	
California Manufacturing Technology Center	Hawthorne	CA 90250	
Caterpillar, Inc.	Peoria	IL 61656	
Chrysler Corporation	Auburn Hills	MI 48326	
Conn/Step University of Connecticut	Storrs	CT 06269	
Ford Motor Company	Detroit	MI 48239	
General Electric Aircraft Engines	Cincinnati	OH 45215	
General Motors Corporation	Warren	MI 48090	
Great Lakes Manufacturing Technology Center	Cleveland	OH 44103	
Indiana Business Modernization and Technology Corporation	Indianapolis	IN 46204	
Midwest Manufacturing Technology Center	Overland Park	KS 66212	
Midwest Manufacturing Technology Center	Ann Arbor	MI 48106	
Ohio State University	Columbus	OH 43210	
University of Kentucky	Lexington	KY 40506	
University of Michigan	Ann Arbor	MI 48109	
Cleveland Advanced Manufacturing Program (CAMP)	Cleveland	OH 44103 Plastics Technology Deployment Center (PTDC)	\$4,000,000
Penn State, Erie	Erie	PA 16563	

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Participants	City	State/Zip Title	Total Cost *
National Technology Transfer Center	Wheeling	WV 26003	
High Plains Center for Technology Centers for Innovation, Technology & Enterprise Governor's Office of Economic Development Industry & Commerce Association of South Dakota Mid-Continent Regional Technology Transfer Center Upper Midwest Manufacturing Technology Center	Rapid City Pierre Pierre College Station Minneapolis	SD 57701 Electronic Extension Service SD 57501 SD 57501 TX 77843 MN 55401	\$2,000,000
National Coalition of Advanced Technology Centers Center for Occupational Research and Development (CORD)	Waco Waco	TX 76702 Enabling Extension Through NCATC Tools, Linkages, TX 76702 and Professional Development	\$4,000,000
Texas Innovation Network Automation Robotics Research Institute DOE/Los Alamos National Laboratory Federal Laboratory Consortium Johnson Space Center Jovial Vought Systems Mid-Continent Technology Transfer Center Rockwell International Sandia National Laboratories Superconducting Super Collider Laboratory Texas Instruments University of Texas System	Dallas Fort Worth Los Alamos Brooks AFB Houston Dallas College Station Richardson Albuquerque Dallas Dallas Austin	TX 75207 The Dual-Use Marketplace: Assisting TX 76118 Defense-Dependent Businesses Through Electronic NM 87545 Commerce TX 78235 TX 77058 TX 75265 TX 77843 TX 75082 NM 87105 TX 75237 TX 75243 TX 78701	\$400,000
Texas Department of Commerce American Productivity and Quality Center Consulting Group Institute for Manufacturing and Materials Management Microelectronics & Computer Technology Corporation Mid-Continent Regional Technology Transfer Center Southwest Research Institute Texas Department of Information Resources Texas Innovation Network	Austin Houston El Paso Austin College Station San Antonio Austin Dallas	TX 78711 Texas-One TX 77024 TX 79968 TX 78759 TX 77843 TX 78220 TX 78711 TX 75207	\$4,800,000
A. L. Philpott Manufacturing Technology Center Babcock & Wilcox Southeast Manufacturing Technology Center Southern Technology Council Virginia Alliance for Manufacturing Competitiveness Virginia State University	Hartsville Lynchburg Columbia Research Triangle Park Richmond Petersburg	VA 24115 Manufacturing Competitiveness Through VA 24505 Manufacturing Outreach: A Regional Strategy SC 29202 NC 27709 VA 23219 VA 23806	\$1,600,000
Washington Manufacturing Extension Center American Electronics Association Applied Technology Training Center Eldec Corporation Washington Coalition of Advanced Technology Centers	Everett Bothell Everett Lynnwood Seattle	WA 98203 Washington Manufacturing Extension Center WA 98011 WA 98203 WA 98046 WA 98106	\$3,100,000
Cleveland Advanced Manufacturing Program (CAMP) Cleveland State University Cuyahoga Community College	Cleveland Cleveland Cleveland	OH 44103 Expanding Teaching Factory Services in OH 44114 Northeastern Ohio OH 44115	\$6,700,000
Great Lakes Manufacturing Technology Center Martin Marietta Energy Systems, Inc.	Cleveland Oak Ridge	OH 44103 Standard MTC/MOC Manufacturer Information TN 37831 Database	\$400,000
Oklahoma Center for the Advancement of Science & Tech. Central Oklahoma Region Consortium Manufacturers Alliance of Northeast Oklahoma Consortium Northeast Central Region Consortium Northeast Oklahoma Manufacturers Consortium Northern Oklahoma Manufacturing Alliance Consortium Oklahoma Alliance for Manufacturing Excellence, Inc. Oklahoma Department of Commerce South Eastern Oklahoma Consortium Southeast Central Consortium Southeast Region Consortium	Oklahoma City Oklahoma City Muskogee Tulsa Bartlesville Ponca City Tulsa Oklahoma Poteau Shawnee Lawton	OK 73116 The Oklahoma Industrial Extension System OK 73142 OK 74403 OK 74145 OK 74006 OK 74601 OK 74119 OK 73126 OK 74953 OK 74801 OK 73505	\$5,400,000
Ben Franklin Technology Center of Western Pennsylvania California University of PA - Dept. of Industry & Technology Carnegie Mellon Univ. - Grad. School of Industrial Admin. Center for Hazardous Materials Research Community College of Allegheny County Concurrent Technologies Corporation Duquesne University - Graduate School of Business Duquesne University - Small Business Development Center Geneva College - Center for Technology Development Mon Valley Initiative Southwestern Pennsylvania Industrial/Resource Center Southwestern Pennsylvania Regional Development Council St. Vincent College - Small Business Development Center University of Pittsburgh - Katz Graduate School of Business University of Pittsburgh - Manufacturing Assistance Center University of Pittsburgh - Small Business Development Center Waynesburg College	Pittsburgh California Pittsburgh Pittsburgh Pittsburgh Johnstown Pittsburgh Pittsburgh Beaver Falls Homestead Pittsburgh Pittsburgh Latrobe Pittsburgh Pittsburgh Pittsburgh Waynesburg	PA 15213 Western Pennsylvania Manufacturing Extension PA 15419 Program PA 15213 PA 15238 PA 15233 PA 15904 PA 15282 PA 15282 PA 15010 PA 15120 PA 15213 PA 15222 PA 15650 PA 15260 PA 15261 PA 15213 PA 15370	\$8,700,000
Manufacturers Resource Center Northeast Tier Ben Franklin Technology Center Northeastern Pennsylvania Industrial Resource Center	Bethlehem Bethlehem Meat Pittston	PA 18015 Pennsylvania Manufacturing Extension Program: PA 18015 North/East Region PA 18643	\$12,600,000
Knowledge Express Data Systems	Wayne	PA 19087 National Technology and Commerce Initiative	\$9,500,000
Washington State Department of Community Development Washington State University	Olympia Pullman	WA 98504 WA 99164	
Great Lakes Composites Consortium Basic Industrial Research Laboratory/Northwestern University Hexcel Corporation NCF Industries, Inc. University of Kentucky Wilson Composite Group	Kenosha Evanston Pleasanton Long Beach Lexington Folsom	WI 53142 Low-Cost/High Volume Manufacturing of IL 60201 High-Performance Composite Material Structures CA 94588 for Infrastructure Applications CA 90805 KY 40506 CA 95630	\$2,800,000

Document Separator

ENVIRONMENT WEEK

By The Editors Of The Energy Daily And New Technology Week

KING COMMUNICATIONS GROUP, INC. • 627 NATIONAL PRESS BUILDING • WASHINGTON, D.C. 20045 • 202/638-4260

Thursday, November 18, 1993

EW Volume 6, Number 45

EPA Gets B- For Clean Air Work From Senate Environment Panel

BY GEORGE LOBSENZ

Three years after the 1990 Clean Air Act Amendments were signed into law, the Environmental Protection Agency has launched effective acid rain and ozone depletion programs, but stumbled on efforts to cut urban smog and toxic air pollution, according to a new congressional assessment.

The Senate study said while EPA had made some admirable progress in implementing the sweeping and technically complex clean air law, it was far behind schedule in issuing many key regulations and had not done enough to help states craft smog reduction programs in a timely fashion.

More generally, it said EPA needed to streamline its rulemaking process,
(Continued on page 7)

Group Offers New View Of Environmental Crimes

BY VIKI REATH

Environmental crimes, long viewed as just another type of victim-less white-collar offense, would be lumped together with murder and other violent crimes under newly proposed corporate sentencing guidelines.

"This is the most comprehensive document written on environmental crimes," said Jonathan Turley, a member of the U.S. Sentencing Commission's 16-member advisory group on environmental crimes, which submitted its 33-page proposed guidelines to the commission Nov. 16 after two years of development.

"The advisory group clearly felt that environmental crimes warranted separate treatment from the sentencing of other organized crime. Environmental crime is not like most other organized crimes in that environmental criminals often put individuals in a clear and present danger of serious bodily injury or death," Turley told *Environment Week*.

What happens next is uncertain, since the seven-member U.S. Sentencing Commission has the option of accepting or rejecting parts or all of the proposal, said Commissioner Ilene Nagel, who worked with the advisory group in developing its proposal. However, the presidentially appointed commission, which currently has two vacancies, almost certainly will come forward with sentencing guidelines for environmental crimes at some point, she said. And in any case, she urged businesses to pay particular attention to the proposal's compliance program, since waiting for final commission action could be too late.

While the proposal does not include sentencing for individuals, Turley

(Continued on page 2)

A federal judge in Little Rock, Ark., has found that the U.S. Army is not liable for a portion of the cleanup costs associated with Agent Orange production activities at the Vertac Superfund site in Jacksonville, Ark.—even though it had ordered production of the defoliant at the site in the 1960s.

According to U.S. District Judge George Howard, the mere fact that the Army used provisions of the 1950 Defense Production Act to require plant owner Hercules Inc. to meet certain Agent Orange production levels did not effect Hercules' basic responsibility for disposal of the plant's dioxin-containing wastes.

Judge Howard, in a series of mid-October decisions, also found Hercules and the now-defunct Vertac Chemical Corp. liable for cleanup costs that could total \$130 million. The state and the federal Environmental Protection Agency have spent more than \$10 million on initial

Judge Absolves Army At Vertac Superfund Site

BY PAUL KEMEZIS

incineration of drummed waste at the site but years of remediation work remain.

In the wake of the court ruling, the Defense Department

agreed to a small, \$1.4 million settlement with the state of Arkansas covering some pollution that had entered the Vertac site from a nearby Air Force base.

The federal court has been considering the Vertac liability issue since an initial suit was filed by Arkansas in 1980. The Department of Defense became involved in 1991, when the state charged that it shared responsibility due to the work on Agent Orange between 1965 and 1968.

Arkansas claimed that the Army had full power over chemical production and waste handling at the site and was aware from 1965 on of dioxin dangers from production. It noted that the Army had created the specifica-

(Continued on next page)

New Definition For Environmental Crimes? (From page one)

said that if the advisory group's recommendations are adopted they almost certainly will have an impact on sentencing decisions affecting individuals.

Beyond this, the proposal also includes a detailed compliance program that would reward corporations for good behavior, Turley continued. "This proposal would produce very high penalties for corporations that have a history of environmental violations, with no evidence of compliance with environmental standards," said Turley, law professor and director of the Environmental Crimes Project at George Washington University.

"A corporation that has a good compliance record will be entitled to a significant reduction in fines under these provisions."

Aside from its new proposals, Turley said the group's greatest achievement was showing that industry, government and public interest groups can reach consensus in this controversial area.

"Against all expectations, the advisory group demonstrated it is possible for dialogue and agreement over the treatment of environmental crimes," he said.

"In the past, corporations have been able to commit environmental crimes and simply pay the results in fines as the cost of doing business. If this proposal is adopted, corporations will no longer be able to assume they can make a profit from environmental crime."

According to John Subak, group vice president and general counsel of Rohm & Haas Co. and another member of the advisory group, the proposal's compliance program likely would be the group's most important contribution to environmental protection.

"The group developed what it views as a truly responsible compliance program...that people will pay attention to, whether or not the guidelines are adopted," said Subak.

"This is the only time a group that includes representatives from government, industry, private groups and the bar have prepared the components of an effective

compliance program. It's more detailed than other programs and, more importantly, has the input of people who have truly participated in developing compliance programs. It will be an important element of corporate guidance over the next few years."

When asked whether this would amount to little more than a revision to the current organizational chapter of sentencing guidelines for corporations, what is known as Chapter 8, both Turley and Subak responded negatively.

"If there is one thing the advisory group was in agreement on, it was to consider alternatives to Chapter 8," Turley said.

Subak added: "What we tried to do was take the structure of Chapter 8, but substantively be guided by many environmental statutes."

According to Nagel, the commission decided to pursue environmental crime guidelines because of a broad perception that there are "very few cases of corporate convictions, and because the law has been so rapidly changing in this unique area." It appointed the advisory group because its members lack environmental expertise.

"[T]here are no environmental prosecutors, defense attorneys or corporate counsels," Nagel said. "The environmental area is particularly complex, because there is a vast array of classifications under the same rubric. You have a simple record-keeping offense, where a permit would easily have been granted. That's different from a corporation that doesn't get a permit because it can't, different from midnight dumpers who don't obey the rules of the permits they have.

"And you have imputed liability, where there are signs all over saying no corporate employee should throw garbage overboard. But, somebody does it anyway. Under this proposal, the corporation is liable, no matter what. The question is should the sentence be different for that corporation that posts all the signs?"

Judge Absolves Army From Vertac Liability (From page one)

tions for the chemical and in March 1967 had ordered an increase in production.

In his ruling on the military liability issue, Judge Howard focused on Hercules' voluntary decision to bid for the contract and noted that company had profited from its Agent Orange production activities.

Also important, he said, was the fact that the Army never owned the raw materials during production and never directly supervised work at the plant.

He admitted that the Army had issued emergency orders to require deliveries of certain supplies from other companies to Hercules and allow duty-free imports of materials so that Hercules could maintain full production, but said this did not amount to "supplying" Hercules with raw materials.

Also, he said, a federal law requiring safety inspections at defense plants did not lessen the company's responsibility for waste disposal.

According to Judge Howard, the military "did not have authority over or involvement with Hercules' operation and decisions concerning the plant and the disposal of wastes" and therefore was not liable under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

He also said there was no evidence the military was the group that "arranged" for disposal of hazardous substances. It did not own the wastes and did not control how they were disposed. Instead, he said, Hercules acted voluntarily when it buried wastes at the site.

Officials of Hercules, which would shoulder the main costs under Howard's ruling, said that they intended to appeal the decision to the 8th U.S. Circuit Court of Appeals in St. Louis. But this probably would not be possible until other phases of the initial case were completed.

Business and insurance groups lobbying for changes in the liability scheme of the Superfund program would be well-advised to read a new report from the House Public Works and Transportation Committee.

The report, released with little fanfare last week by the panel following a two-year investigation of the much-criticized cleanup program, summarizes the opinions of one of the key congressional panels that will be involved in reauthorizing Superfund in the coming year. And for groups advocating changes, particularly in the liability system, the conclusions are not promising.

"There clearly are concerns about the current liability system," the panel wrote in the report's executive summary. But none of the alternatives to the current scheme of joint and several liability "would clearly represent an improvement in equity and fairness," the panel concluded in its report, *Administration of the Federal Superfund Program*. "While the current liability scheme has certain disadvantages, and while there are alternatives that might reduce these disadvantages, none of the alternatives thus far advanced is without significant disadvantages as well. The [panel] expects that alternative proposals will be presented but these alternatives need to successfully address the problems of financing and equity between responsible parties and others who might be called upon to pay for Superfund cleanups in order to be given serious consideration."

Of particular concern to the panel is the possibility that changes to the liability system might boost costs to the government. "Abandoning the current liability system would require the taxpayers to cover the costs of cleaning up a site they did not pollute, which might produce an even more unfair Superfund system than the one we have now," the panel wrote.

Similarly, in a statement released with the report, Rep. Norman Mineta (D-Calif.), chairman of the Public Works and Transportation Committee, scotched any idea of changing the current liability system.

House Panel Backs Existing Superfund Liability Scheme, Offers Suggestions For Improvement

BY DENNIS WAMSTED

"Some have tried to use the problems of liability to support the idea that we should now switch to a taxpayer-supported system. The importance of this report," Mineta said, "is that it makes clear that there are a number of improvements we can make in the operation of the present Superfund program which will improve the rate of cleanup, reduce legal costs and delays, and retain the basic polluter-pays liability system without shifting the burden to taxpayers."

Beyond the issue of liability, the report, which was prepared by the Subcommittee on Investigations and Oversight, chaired by Rep. Robert Borski (D-Pa.), examines key problems that have slowed the program in years past and suggests a number of possible remedies. For example, like other reviewers, the subcommittee concluded that the program as currently structured is biased against the use of innovative cleanup technologies.

"Superfund managers are discouraged from developing and using innovative technologies by economic, regulatory and administrative barriers," the panel wrote. "For example, if a cleanup remedy that uses an innovative technology fails, the remedy selection process starts over and the responsible party or regulator must incur the additional costs of selecting a new remedy."

To eliminate this bias, the panel calls for amending the program to allow EPA to pay for part of the

incremental cleanup costs caused by the failure of innovative and alternative technologies at Superfund sites.

The panel also urged EPA to use incentives to encourage the development and use of innovative technologies. "These incentives could take the form of budgetary rewards or relaxed administrative requirements related to the use of these technologies," the panel said. "EPA should identify the most threatening contaminants and the most appropriate sites, including federal facilities, to demonstrate the performance of innovative technologies."

Other cleanup-related recommendations in the panel's report include:

- urging the Environmental Protection Agency to implement its Superfund Accelerated Cleanup Model (SACM) to speed the pace of cleanups by shortening the initial waste removal and site investigation phases;

- establishing clear overall cleanup goals for the program and considering future land uses when defining cleanup goals for specific sites;

- identifying states that have adequate resources and expertise to manage Superfund sites and delegating responsibility to them, on a site-by-site basis, for enforcement, settlement and management and oversight of cleanups; and

- encouraging the use of settlement tools such as alternative dispute resolution, *de minimis* and *de micromis* settlements and mixed-funding agreements.

On this final point, the committee urged EPA to establish a third-party forum (using either arbitration or mediation) to settle, instead of litigate, cleanup disputes. "EPA should receive explicit authority to render binding allocation agreements to apportion cleanup costs when all participating parties agree in advance to be bound by the agency's allocation."

Finally, the panel said EPA "should propose limits to municipal liability for waste transported to and disposed of at Superfund sites based primarily upon the toxicity rather than the volume of the waste."

A New York law professor appears to be the first serious student of the environmental justice issue to suggest that none of the current proposals to ensure fairness will work, and that some actually could make the situation worse.

Vicki Been, an associate professor specializing in land use at New York University School of Law, offers no comfort to those who deny the problem exists. She acknowledges that discrimination exists against minorities and poor people in the siting of hazardous waste sites.

However, in contrast to many environmental justice activists, who back various legislative and administrative remedies, Been says the issue needs more analysis to determine whether well-meaning abstract solutions will help or hinder once translated into regulations.

"Before we fix the siting process, we need to determine if that's what's broke," Been told *Environment Week*. "Maybe it's market dynamics."

Been cites the New York City fair-share housing criteria, which use mathematical formulas to quantify how low- and moderate-income housing should be allocated, as the most promising approach to environmental equity.

Although they have definition problems of their own, the criteria aim to distribute low- and moderate-income housing on a proportional basis, Been writes in an article published in the *Cornell Law Review*. The article, "What's Fairness Got to Do With It? Environmental Justice and the Siting of Locally Undesirable Land Uses," was published in September.

In the article, Been cautions against rushing toward environmental justice remedies without clarifying the causes that have led to the disproportionate siting of hazardous waste facilities in poor and minority communities.

And while her opinions may be controversial, the Environmental Protection Agency has awarded her a 14-month, \$155,000 grant to study communities that host hazardous waste treatment, disposal and storage facilities regulated under the Resource Conservation and Recovery Act (RCRA), as well as those that host the toxic waste sites included on the EPA's National Priorities List for cleanup under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

While it is true that poor and minority communities bear a greater burden of these so-called LULUs than the general population, the real question, she said, is, "Did the people or the LULU come first?"

Residents moved to and from such neighborhoods for various reasons, and decisionmakers chose sites for various reasons, not always related to race or socioeconomic characteristics. In many cases, demographics played no role at all in the siting process.

Facilities may be more likely to locate in certain kinds of neighborhoods for reasons having nothing to do with demographics, she added. For example, the

Law Professor Urges Go-Slow Approach On Environmental Justice

BY VIKI REATH

location may be near major transportation routes, which would play a key role in the siting process.

Current studies "leave open the possibility that the LULUs were not disparately sited, but that

the dynamics of the housing and job markets led racial minorities and the poor to move to the host neighborhoods after the siting, because those neighborhoods then offered the cheapest available housing," she wrote.

It is possible that "even if an initial siting decision could be made free of racism, market forces might soon turn the areas surrounding LULUs into enclaves for those blocked from better housing by racial discrimination or poverty."

The central question is "whether society should use its resources to address directly differences among communities in health, mobility and other quality of life measures, rather than imposing the indirect remedy of a progressive siting scheme," she added.

Reforms such as stricter enforcement of housing discrimination laws, more serious residential integration efforts, changes in processes for siting low- and moderate-income housing, enhancing programs to help the poor find decent housing, greater regulatory protection for host neighborhoods and changes in production and consumption processes to reduce the number of LULUs needed all are possible remedies to the problem, she says.

Been also has a number of concerns about proposals pending on Capitol Hill. For example, she says the bill introduced this year by Rep. John Lewis (D-Ga.), and a nearly identical Senate bill, sponsored by Sen. Max Baucus (D-Mont.), that would halt the siting of new toxic chemical facilities in the 100 areas of highest impact, misses the point since it would not prevent the siting of facilities in neighborhoods already overburdened by social service facilities, but below the chemical threshold. In addition, it fails to differentiate between areas that contain treatment facilities and nearby residential neighborhoods.

She also says a bill proposed this year by Rep. William Clinger (R-Pa.) and Sen. John Glenn (D-Ohio), which would require the preparation of demographic information as well as a list of other waste facilities in the community as part of the environmental impact statement required in the permitting process, would merely replicate an ineffective approach used for years in federal and some state permits. "Because the requirements apply only at the final stages of site selection, there is no check on whether equal concern was afforded to the poor and minorities in arriving at the short list of suitable sites," Been wrote.

Been's controversial outlook could surface at an environmental justice hearing that Rep. Al Swift (D-Wash.), chairman of the Energy and Commerce subcommittee on transportation and hazardous materials, is scheduled to hold today (Nov. 18).

House Battles To Complete Action On EPA Cabinet Bill

BY VIKI REATH

Backers of 26 amendments were fighting late Wednesday to convince the House Rules Committee to include their proposals in the package sent to the floor when the House begins debate on legislation that would elevate the Environmental Protection Agency to a cabinet-level department.

The Rules Committee still was deciding whether to limit the number of amendments at press time.

The House Government Operations Committee approved the long-delayed bill to elevate EPA to cabinet status Nov. 4.

One amendment generally assured of passage would establish a new Office of National Environmental Policy Act (NEPA) Compliance in the Executive Office of the President. It would oversee federal agency compliance with NEPA, replacing the Council on Environmental Quality, which President Clinton has proposed to abolish.

Reps. John Dingell (D-Mich.) and Gerry Studds (D-Mass.), sponsors of the NEPA amendment, want to ensure that CEQ is replaced with another statutory office, thereby preventing any future president from abolishing it unilaterally.

Regardless of what happens with the amendments, the bill is expected to pass the House. The legislation's future is uncertain, however, since major battles are expected during the ensuing conference committee. One key battle is likely to take place over a controversial cost-benefit amendment included in the Senate's version of the legislation.

Backing an open rule is Rep. Billy Tauzin (D-La.), who wants to require the environmental justice office included in the new department to protect the legal and constitutional rights of private property owners affected by a Department of Environmental Protection decision.

Tauzin's amendment reflects a beef he has had with the agency since the mid-1980s on wetlands policy, an aide said. In particular, Tauzin is angry about the EPA's use of its veto power over permits the Army Corps of Engineers has issued under Section 404 of the Clean Water Act.

"Our district is at the bottom of the map," a Tauzin aide told *Environment Week*. "It covers the area around New Orleans. It's very rural and almost all wetlands. We have more wetlands in our district than in any other. The EPA doesn't have an office in the state, but flies in and flies out, makes these pronouncements [vetoing wetlands permits], and our residents can't even dig a driveway or a road. We're not even talking about development."

"And the municipalities [that] want to clean out a drainage ditch can't even get permission to do that. We need to keep our water moving. We don't want to drown in it."

Another amendment on "takings," this one backed by

Rep. Wally Herger (R-Calif.), would require the secretary to assess any Department of Environmental Protection regulation for any potential taking of private property.

Meanwhile, Rep. John Mica (R-Fla.) and others are feverishly working to submit the cost-benefit amendment that Government Operations Committee Chairman John Conyers (D-Mich.) rejected during the panel's markup. Conyers said the rules excluded amendments that went beyond management and organization issues.

Mica and Rep. Karen Thurman (D-Fla.), argue that if Conyers could accept a risk-assessment amendment submitted by Rep. Richard Zimmer (D-N.J.) during the markup, a cost-benefit amendment also should be allowed.

Zimmer's amendment would create a 15-member EPA advisory committee to examine human health, ecological and welfare effects, law, engineering, economics, risk communications and whatever other specialties the administrator considers appropriate. The committee would include representatives from the National Academy of Sciences, the National Academy of Engineering, the president's science advisor, a Society for Risk Analysis official and other appropriate individuals.

The Mica-Thurman cost-benefit amendment would require the federal government to provide data to state and local governments and their constituents on the cost of particular programs.

"It doesn't compel decisions to be made on the basis of cost," said Sharon Pinkerton, a Mica aide. "But when you identify costs and benefits, then you can set priorities, depending on what kinds of risks you're looking at."

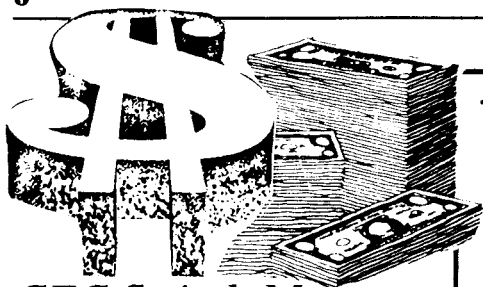
Another cost-benefit amendment, submitted by Rep. Joel Hefley (R-Colo.), would limit regulations whose costs exceed public health and environmental benefits.

Rep. Mike Synar (D-Okla.) opposes cost-benefit amendments, and is prepared to fight them all. "We are prepared to go to the floor and continue to argue that EPA continues to work in both cost-benefit and comparative risk in its decisionmaking already," a Synar aide said. "Cost-benefit analysis is done in a rational way on a case-by-case basis. There are a number of laws where cost-benefit analyses are precluded. Allowing this amendment would change those laws."

Current EPA programs, coupled with the risk-assessment amendment and inclusion of Thurman's proposal that EPA submit a long-term strategic business plan, with annual progress reports, amply cover comparative risk assessment, Synar's aide added.

William Clinger (R-Pa.) submitted amendments for a simple agency elevation and to require the assistant secretary for intergovernmental affairs to develop and implement a strategy to promote the easing of unfunded environmental mandates on state and local governments; three amendments submitted by Rep. Thomas DeLay (R-Texas) and two by Rep. Steven Schiff (R-N.M.) would reduce the number of federal environmental regional offices and assistant and deputy assistant secretaries; Rep. Rob Portman (R-Ohio) proposes to eliminate the environmental justice office.

The GOP amendments reflect attempts to scale back or control the new department's costs, a minority aide said.



CFC Switch May Be Easier Than Previously Thought

Switching to chlorofluorocarbon substitutes in automobile air conditioning units may be easier than previously thought, according to a small-scale trial by Elf Atochem North America, a major producer of CFC substitutes. The trial, which involved 17 employees, found that hydrofluorocarbons (HFCs) "seemed to work just fine in older systems—at least in the short term and the limited number of vehicles tested," the company said.

In the next phase of its tests, the company plans to study the substitutes performance over longer periods.

"If the results hold up, drivers may find that switching their cars to new refrigerants may not be as costly as was feared—and that it can be done by your neighborhood mechanic in about three hours," the firm said.

In its initial tests, Elf Atochem simply drained the old refrigerant and replaced it with a substitute. The test was designed to duplicate the worst case scenario: no hoses, O-rings, gaskets, seals or desiccants were replaced.

EPA, KAB Launch Pilot Recycling Education Effort

Keep America Beautiful and the U.S. Environmental Protection Agency Monday announced an experimental public education program designed to build awareness of the need to buy products containing recycled materials to stimulate markets for these products, thereby assuring the viability of recycling as a solid waste management option. The program will take place in 15 cities and be run by KAB affiliates under a cooperative agreement with EPA.

The program will attempt to influence consumers to purchase recycled products through public education efforts such as public service advertising, forums and community coalitions.

Joy Technologies Taps Hanson President, COO

The board of directors of Joy Technologies last week elected John Hanson as the company's president and chief operating officer. Hanson previously served as senior vice president of the corporation and president of its mining machinery division. He joined the Pittsburgh-based company in 1990 from Caterpillar Inc.

Joy Technologies manufactures and services mining equipment for use in the coal industry, and supplies air pollution control and ash handling equipment for use by electric utilities and other industrial firms. Its net sales in fiscal 1993 were \$581 million.

BUSINESS BRIEFS

Rhode Island Funds Pollution Prevention Work

Seeking to encourage pollution reduction efforts by state businesses, the Rhode Island Department of Environmental Management has set aside up to \$700,000 to fund projects designed to reduce or eliminate pollution at the source. The funds are available for feasibility studies, project design work, construction and evaluation activities, and can cover up to 90 percent of the project's total cost.

Since the program was launched in 1988, the state has provided nearly \$1 million to fund 17 pollution prevention programs.

According to Richard Enander, the scientist in charge of DEM's pollution prevention program, "This is part of a new approach to protecting the environment—cooperation. Our program is non-regulatory and non-confrontational, and we get results. We help businesses develop source reduction methods so that they can meet regulatory standards in cost-effective ways. It's cheaper to use less toxic materials in a process than it is to dispose of toxic materials after a process, and source reduction often leads to additional savings, as well."

For additional information on the grants call DEM's Office of Environmental Coordination at (401) 277-3434.

Charterhouse Buys Stake In Environmental Firm

Charterhouse Environmental Capital Group Inc. said earlier this month that it had acquired a major interest in ETG Environmental Inc. in an equity transaction worth \$7 million.

ETG is a Blue Bell, Pa.-based environmental services firm that specializes in technology-based hazardous waste remediation and waste processing. ETG's technological specialties include soil vapor extraction and thermal desorption.

Charterhouse Environmental, an affiliate of Charterhouse Group International, is a venture capital firm that targets U.S.-based firms specializing in industrial waste management and environmental technologies. Prior to its ETG purchase, the firm acquired a controlling interest in American Disposal Services and entered a joint development and marketing agreement with the Ghea Corporation for treating organic and inorganic materials.

Vinyl Institute Wants You

The Vinyl Institute is compiling a new directory of companies involved in the recycling, grinding and/or brokering of vinyl scrap. The directory, which will be the third published by the institute, will list companies that handle post-consumer and post-industrial vinyl scrap. Information listed will include the company's name, address, telephone and fax numbers, contact person and a brief description of the company's capabilities.

Companies interested in being listed in the directory, which is free of charge, should contact the Vinyl Environmental Resource Center at (800) 969-8469. Company information must be submitted by Jan. 14, 1994.

Grades Are Out For EPA Clean Air Program... (From page 1)

which it said involved time-consuming and redundant reviews by multiple layers of bureaucrats. It also called on the agency to move more nimbly on new scientific information on pollution problems. Most notably, it said EPA had to act on studies showing that soot and particulates were a bigger health threat than previously thought. On the positive side, it praised the agency for responding to studies showing that nitrogen oxides contributed more to urban smog in some cities than had been believed.

"Overall, we give EPA a 'B minus' for its implementation of the act," said Sen. Max Baucus (D-Mont.), chairman of the Senate Environment and Public Works Committee, who released the "report card" along with Sens. John Chafee of Rhode Island, ranking Republican on the panel, and Joseph Lieberman (D-Conn.), head of the panel's clean air subcommittee.

"This is not a bad grade, but it includes two 'D's' on programs that are central to the Clean Air Act's success. And the American people will not accept a 'D.' "

EPA received the poor marks for slow implementation of the air toxics program and for failing to provide strong leadership to states struggling to reduce industrial and auto emissions that cause urban smog.

The report was especially critical of the agency's reluctance to strongly back states seeking to adopt California's clean car program. Specifically, the assessment said EPA for months refused to weigh in against auto industry lawsuits aimed at preventing New York, Massachusetts and other eastern states from adopting California low-emission vehicle (LEV) standards. Although the agency filed a legal brief in support of New York last week (see related story, page 8), the Senate report said the action came late in the game and failed to address key issues.

The agency's weak stance on LEVs was characterized by the Senate report as part of a broader EPA failure to help states take politically difficult steps to control-smog-causing pollution. It said EPA was often late in providing vital legal and technical guidance to states on what pollution control measures they need to take to meet federal clean air standards.

At the same time, the senators said states had to meet their responsibilities and not use EPA lapses as an excuse to avoid imposing tough emission controls. A key deadline for states, said the report, was the requirement that they submit plans by Nov. 15, 1993, for achieving a 15 percent reduction in volatile organic compound emissions by November 1996. The report noted environmentalists already were up in arms over state delays.

The senators urged EPA to act against states that dragged their feet by imposing penalties authorized by the clean air law, such as the withholding of federal highway construction funds. The report noted that EPA already had warned California and other states that they risked sanctions for failing to adopt acceptable vehicle inspection programs to reduce tailpipe emissions. "EPA must follow through on this with a firm hand," said the report, *Three Years Later: Report Card on the 1990 Clean Air Act Amendments*.

On the air toxics program, the Senate study said bureaucratic delays and missteps had prevented EPA from meeting its near-term statutory obligations, which called for the agency to set limits on toxic releases from 40

industrial sectors by November 1992. Instead, EPA has issued standards for only two industries, dry cleaners and coke ovens.

While noting the requirement for 40 standards in two years was extremely ambitious, the Senate report said the timetable was based on the fact that EPA already had completed substantial work by 1990 on a toxic air rulemaking for the synthetic organic chemical industry, a regulatory initiative that by itself covered more than 40 different industries.

The assessment said the organic chemical rulemaking had bogged down because EPA decided to include an unnecessary emissions "averaging" scheme to provide more flexibility to regulated industries. The averaging proposal, developed by the Bush administration, would allow a plant operator to average toxic emissions on a facility-wide basis, reducing releases of some types of pollutants below required levels so it could increase emissions of other chemicals. The averaging plan has come under intense attack by environmentalists, who say it is technically impossible to judge whether reductions of one pollutant can effectively compensate for increases in another. The Clinton administration is reviewing their complaints.

In addition to being controversial, the Senate report said the averaging proposal flew in the face of congressional direction that EPA simply set technology-based air toxics standards as a first step, and then go back after that and evaluate residual health risks. The "maximum achievable control technology" (MACT) standards were specifically designed to avoid the endless legal wrangling over health-based standards that EPA sought to issue over the last two decades.

However, the averaging proposal, said the report, had resurrected the thorny issue of risk assessment because EPA was seeking to make the case that the health threats posed by different chemicals could be weighed and balanced—a technically difficult task at best.

While saying additional flexibility for regulated industries was generally desirable, the report emphasized: "EPA should not sacrifice the timely completion of its congressional mandates in attempting to achieve greater flexibility.... EPA could avoid the time-consuming and contentious analyses associated with estimates of public health and environmental risk until the second round of [residual risk] regulation by developing MACT standards based on the 'floor' established by Congress (the average control achieved by the top 12 percent of the best controlled similar sources)."

While sharply critical of EPA's performance on its urban smog and air toxics program, the Senate report praised the agency for shaping a successful acid rain emission trading system, one of the major innovations of the clean air law. The assessment said the market-based program already had resulted in both more cost-savings and sulfur dioxide emission reductions than expected.

The acid rain program was so encouraging, the report said, that "Congress and EPA should look for other opportunities to use performance-based and market-based approaches." However, it said any other trading program had to incorporate the key features of the acid rain initiative—firm pollution reduction requirements that were not contingent on trading; a reliable baseline of emissions; an aggregate cap on emissions from all sources; and tough monitoring and penalty provisions.

GTS Duratek To Build Vitrification Plant

GTS Duratek said Monday it had been awarded a contract valued at \$13.9 million to vitrify slightly radioactive sludge at the Department of Energy's Savannah River weapons complex. Under the terms of the contract, which was awarded by Westinghouse Savannah River Company, the firm that operates the site for DOE, GTS Duratek will design, build and operate a vitrification plant at the site. According to the company, based in Columbia, Md., the plant will be the world's first commercial-scale vitrification system for low-level radioactive waste.

All told, the company, a subsidiary of National Patent Development Corp., will process approximately 730,000 gallons of slurried waste now stored in tanks at the Savannah River site.

IWSA Sees Bright Future For Waste Incineration

Despite public concerns about incineration, a new survey by the Integrated Waste Services Association projects that cities and towns across the country will increase their use of waste-to-energy plants during the next 10 years. The survey found that plants capable of burning roughly 35,000 tons of municipal solid waste a day, generating more than 800 megawatts of power, will be brought into commercial service by 2000.

Currently, the U.S. burns about 16 percent of its trash—approximately 100,000 tons per day—to generate electricity. By 2000, IWSA expects the percentage of waste burned to generate power to climb to 20 percent.

Based in Washington, D.C., promotes integrated solid waste management policies that combine reduction, recycling, waste to energy and landfill disposal.

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EPA Opts In, Joins State Battle On California LEV Standards

BY GEORGE LOBSENZ

Responding to congressional criticism, the Environmental Protection Agency last week finally came to the aid of states fighting auto industry lawsuits seeking to prevent them from adopting California's clean car program.

EPA filed a legal brief Nov. 8 with the 2nd U.S. Circuit Court of Appeals on behalf of New York authorities against litigation by the Motor Vehicle Manufacturers Association to stop the state from implementing California's low emission vehicle (LEV) standards.

The state says the LEV program is vital to their efforts to reduce urban smog. Massachusetts also has moved to adopt the California standards and other Northeast states are strongly considering them.

The auto industry has challenged the New York and Massachusetts LEV programs, saying the two states have violated sections of the Clean Air Act that protect automakers from unreasonable production mandates from opt-in states. In particular, the industry says the two states are requiring automakers to build a "third car"—one that is different from both the California car as well as the vehicles built by Detroit to meet the less stringent emissions standards that apply in the rest of the country.

In general, the industry contends the New York and Massachusetts programs will require expensive modifications to the California car. For example, it says while New York—like California—has required the industry to sell a certain percentage of zero-emitting electric cars, the New York version will require a heater for the car battery because of that state's colder climate.

The industry recently lost a preliminary challenge to the Massachusetts program, but it won on some key issues in the case it filed in federal court in New York.

EPA filed its brief in support of New York's appeal to the 2nd Circuit, but that legal action only came after the agency had been sitting on the sidelines for months.

In a Jan. 7, 1993, letter to New York authorities, former EPA Administrator William Reilly refused to back the state. Reilly said while Congress ordered EPA to review and formally approve the California LEV program, "EPA does not have an approval role in the process by which eligible states adopt California emission standards."

EPA sources said the agency's neutral stance was partly the result of pressure from Rep. John Dingell (D-Mich.), the chairman of the House Energy and Commerce Committee and a strong ally of the auto industry.

When the Clinton administration came into office, four senators called on EPA Administrator Carol Browner to reconsider the agency's position and enter the legal fray on behalf of the states.

"[W]e are disappointed by EPA's failure to join the states as an active and supportive partner in their effort to adopt the LEV program," said Sens. George Mitchell (D-Maine), Max Baucus (D-Mont.), John Chafee (R-R.I.), and Joseph Lieberman (D-Conn.) in a May 7, 1993, letter to Browner. "The absence of clear support from U.S. EPA has rendered state LEV adoption efforts unnecessarily vulnerable...."

Upon reconsideration of the issue, EPA now has declared the LEV fight a matter of crucial importance to its urban smog reduction program.

"The outcome of this case will...have a direct bearing on EPA's ability to carry out its fundamental mission under the Clean Air Act to maintain and improve the quality of the nation's air," EPA told the 2nd Circuit.

New Schedule For EPA Hazardous Air Pollutant Regulations

The Environmental Protection Agency earlier this week released a revised schedule for issuing standards for the 189 hazardous air pollutants regulated under the Clean Air Act Amendments of 1990. The revised list is reproduced on the following pages.

Source Categories with Emission Standards Due by November 15, 1992

SYNTHETIC ORGANIC CHEMICAL MANUFACTURING
 COMMERCIAL DRYCLEANING (PERCHLOROETHYLENE) - DRY-TO-DRY MACHINES *
 COMMERCIAL DRYCLEANING (PERCHLOROETHYLENE) - TRANSFER MACHINES *
 COMMERCIAL DRYCLEANING (PERCHLOROETHYLENE) - TRANSFER MACHINES
 INDUSTRIAL DRYCLEANING (PERCHLOROETHYLENE) - DRY-TO-DRY MACHINES
 INDUSTRIAL DRYCLEANING (PERCHLOROETHYLENE) - TRANSFER MACHINES

Source Categories with Emission Standards Due by November 15, 1994

ACRYLONITRILE-BUTADIENE-STYRENE PRODUCTION
 AEROSPACE INDUSTRIES
 ASBESTOS PROCESSING *
 BUTYL RUBBER PRODUCTION
 CHROMIC ACID ANODIZING
 CHROMIC ACID ANODIZING *
 COKE OVENS: CHARGING, TOPSIDE AND DOOR LEAKS (CAA MANDATED
 PROMULGATION BY DECEMBER 31, 1992)
 COMMERCIAL STERILIZATION FACILITIES
 COMMERCIAL STERILIZATION FACILITIES *
 DECORATIVE CHROMIUM ELECTROPLATING
 DECORATIVE CHROMIUM ELECTROPLATING *
 EPICHLOROHYDRIN ELASTOMERS PRODUCTION
 EPOXY RESINS PRODUCTION
 ETHYLENE-PROPYLENE RUBBER PRODUCTION
 GASOLINE DISTRIBUTION - STAGE 1
 HALOGENATED SOLVENT CLEANERS
 HALOGENATED SOLVENT CLEANERS *
 HARD CHROMIUM ELECTROPLATING
 HARD CHROMIUM ELECTROPLATING *
 HYPALON (TM) PRODUCTION
 INDUSTRIAL PROCESS COOLING TOWERS
 MAGNETIC TAPES (SURFACE COATING)
 METHYL METHACRYLATE-ACRYLONITRILE-BUTADIENE-STYRENE PRODUCTION
 METHYL METHACRYLATE-BUTADIENE-STYRENE TERPOLYMERS PRODUCTION
 NEOPRENE PRODUCTION
 NITRILE BUTADIENE RUBBER PRODUCTION
 NON-NYLON POLYAMIDES PRODUCTION
 PETROLEUM REFINERIES - OTHER SOURCES NOT DISTINCTLY LISTED
 POLYETHYLENE TEREPHTHALATE PRODUCTION
 POLYBUTADIENE RUBBER PRODUCTION
 POLYSTYRENE PRODUCTION
 POLYSULFIDE RUBBER PRODUCTION
 PRINTING/PUBLISHING (SURFACE COATING)
 SECONDARY LEAD SMELTING
 SHIPBUILDING AND SHIP REPAIR (SURFACE COATINGS)

SOLID WASTE TREATMENT, STORAGE, & DISPOSAL FACILITIES (TSDF)
STYRENE-ACRYLONITRILE PRODUCTION
STYRENE-BUTADIENE RUBBER AND LATEX PRODUCTION
WOOD FURNITURE (SURFACE COATING)

Source Categories with Emission Standards Due by November 15, 1997

4-CHLORO-2-METHYLPHENOXYACETIC ACID PRODUCTION
2,4-D SALTS AND ESTERS PRODUCTION
4,6-DINITRO-O-CRESOL PRODUCTION
ACETAL RESINS PRODUCTION
ACRYLIC FIBERS/MODACRYLIC FIBERS PRODUCTION
AMINO RESINS PRODUCTION
BUTADIENE DIMERS PRODUCTION
CAPTAFOL PRODUCTION
CAPTAN PRODUCTION
CHLORONEB PRODUCTION
CHLOROTHALONIL PRODUCTION
CHLORINE PRODUCTION
CHROMIUM CHEMICALS MANUFACTURING
CYANURIC CHLORIDE PRODUCTION
DACTHAL (TM) PRODUCTION
FERROALLOYS PRODUCTION
FLEXIBLE POLYURETHANE FOAM PRODUCTION
HYDROGEN CYANIDE PRODUCTION
MINERAL WOOL PRODUCTION
NON-STAINLESS STEEL MANUFACTURING - ELECTRIC ARC FURNACE (EAF)
OPERATION
NYLON 6 PRODUCTION
OIL AND NATURAL GAS PRODUCTION
PETROLEUM REFINERIES - CATALYTIC CRACKING (FLUID AND OTHER) UNITS,
CATALYTIC REFORMING UNITS, AND SULFUR PLANT UNITS
PHARMACEUTICALS PRODUCTION
PHENOLIC RESINS PRODUCTION
POLYCARBONATES PRODUCTION
POLYETHER POLYOLS PRODUCTION
PORTLAND CEMENT MANUFACTURING
PRIMARY ALUMINUM PRODUCTION
PRIMARY COPPER SMELTING
PRIMARY LEAD SMELTING
PUBLICLY OWNED TREATMENT WORKS (POTW) EMISSIONS (CAA MANDATED
PROMULGATION BY NOVEMBER 15, 1995)
PULP & PAPER PRODUCTION
REINFORCED PLASTIC COMPOSITES PRODUCTION
SECONDARY ALUMINUM PRODUCTION
SODIUM CYANIDE PRODUCTION
SODIUM PENTACHLOROPHENATE PRODUCTION
STAINLESS STEEL MANUFACTURING - ELECTRIC ARC FURNACE (EAF) OPERATION
STEEL PICKLING - HCl PROCESS
TORDON (TM) ACID PRODUCTION
WOOD TREATMENT
WOOL FIBERGLASS MANUFACTURING

Source Categories with Emission Standards Due by November 15, 2000

AEROSOL CAN-FILLING FACILITIES
ALKYD RESINS PRODUCTION
ALUMINA PROCESSING
AMMONIUM SULFATE PRODUCTION - CAPROLACTAM BY-PRODUCT PLANTS
ANTIMONY OXIDES MANUFACTURING
ASPHALT CONCRETE MANUFACTURING
ASPHALT PROCESSING
ASPHALT ROOFING MANUFACTURING
ASPHALT/COAL TAR APPLICATION - METAL PIPES
AUTO AND LIGHT DUTY TRUCK (SURFACE COATING)
BAKERS YEAST MANUFACTURING
BENZYLTRIMETHYLAMMONIUM CHLORIDE PRODUCTION
BOAT MANUFACTURING
BUTADIENE-FURFURAL COTRIMER (R-11)
CARBONYL SULFIDE PRODUCTION
CARBOXYMETHYLCELLULOSE PRODUCTION
CELLOPHANE PRODUCTION
CELLULOSE ETHERS PRODUCTION
CELLULOSE FOOD CASING MANUFACTURING
CHELATING AGENTS PRODUCTION
CHLORINATED PARAFFINS PRODUCTION
CHROMIUM REFRACTORIES PRODUCTION
CLAY PRODUCTS MANUFACTURING
COKE BY-PRODUCT PLANTS
COKE OVENS: PUSHING, QUENCHING AND BATTERY STACKS
DODECANEDIOIC ACID PRODUCTION
DRY CLEANING (PETROLEUM SOLVENT)
ENGINE TEST FACILITIES
ETHYLIDENE NORBORNENE PRODUCTION
EXPLOSIVES PRODUCTION
FLAT WOOD PANELING (SURFACE COATING)
FUME SILICA PRODUCTION
HAZARDOUS WASTE INCINERATION
HYDRAZINE PRODUCTION
HYDROCHLORIC ACID PRODUCTION
HYDROGEN FLUORIDE PRODUCTION
INDUSTRIAL BOILERS
INSTITUTIONAL/COMMERCIAL BOILERS
INTEGRATED IRON & STEEL MANUFACTURING
IRON FOUNDRIES
LARGE APPLIANCE (SURFACE COATING)
LEAD ACID BATTERY MANUFACTURING
LIME MANUFACTURING
MALEIC ANHYDRIDE COPOLYMERS PRODUCTION
MANUFACTURE OF PAINTS, COATINGS & ADHESIVES
METAL CAN (SURFACE COATING)
METAL COIL (SURFACE COATING)
METAL FURNITURE (SURFACE COATING)
METHYLCELLULOSE PRODUCTION
MISCELLANEOUS METAL PARTS & PRODUCTS (SURFACE COATING)

MUNICIPAL LANDFILLS
 OBPA/1,3-DIISOCYANATE PRODUCTION
 ORGANIC LIQUIDS DISTRIBUTION (NON-GASOLINE)
 PAINT STRIPPER USERS
 PAPER AND OTHER WEBS (SURFACE COATING)
 PHOSPHATE FERTILIZERS PRODUCTION
 PHOSPHORIC ACID MANUFACTURING
 PHOTOGRAPHIC CHEMICALS PRODUCTION
 PHTHALATE PLASTICIZERS PRODUCTION
 PLASTIC PARTS AND PRODUCTS (SURFACE COATING)
 PLYWOOD/PARTICLE BOARD MANUFACTURING
 POLYESTER RESINS PRODUCTION
 POLYMERIZED VINYLIDENE CHLORIDE PRODUCTION
 POLYMETHYL METHACRYLATE RESINS PRODUCTION
 POLYVINYL ACETATE EMULSIONS PRODUCTION
 POLYVINYL ALCOHOL PRODUCTION
 POLYVINYL BUTYRAL PRODUCTION
 POLYVINYL CHLORIDE AND COPOLYMERS PRODUCTION
 PRIMARY MAGNESIUM REFINING
 PRINTING, COATING & DYEING OF FABRICS
 PROCESS HEATERS
 QUATERNARY AMMONIUM COMPOUNDS PRODUCTION
 RAYON PRODUCTION
 ROCKET ENGINE TEST FIRING
 RUBBER CHEMICALS MANUFACTURING
 SEMICONDUCTOR MANUFACTURING
 SEWAGE SLUDGE INCINERATION
 SITE REMEDIATION
 SPANDEX PRODUCTION
 STATIONARY INTERNAL COMBUSTION ENGINES
 STATIONARY TURBINES
 STEEL FOUNDRIES
 SYMMETRICAL TETRACHLOROPYRIDINE PRODUCTION
 TACONITE IRON ORE PROCESSING
 TIRE PRODUCTION
 URANIUM HEXAFLUORIDE PRODUCTION
 VEGETABLE OIL PRODUCTION

* Denotes area source category

ENVIRONMENT WEEK IS A PUBLICATION OF KING COMMUNICATIONS GROUP, INC.
Llewellyn King, Publisher.

PUBLISHED EVERY WEEK COPYRIGHT 1993 (ISSN: 1041-8105).
 SUBSCRIPTION PRICE: \$690 PER YEAR. FAX PRICE: \$1,045 PER YEAR.

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The Bioremediation Report

Covering the Technology and Business of Bioremediation

KING COMMUNICATIONS GROUP, INC. • 627 NATIONAL PRESS BUILDING • WASHINGTON, D.C. 20045 • 202/638-4260

Vol. 2, No. 11

November 1993

Grace Dearborn's Daramend Technology Is Being Monitored By EPA in Ontario

Late last month, the U.S. Environmental Protection Agency began monitoring a full-scale cleanup demonstration at a wood preserving facility in Canada where scientists are using a new proprietary technology to encourage bioremediation activity.

The demonstration, by a W.R. Grace & Co. business unit in Canada, Grace Dearborn Inc., is taking place at the Domtar wood treatment plant in Trenton, Ontario. The EPA is monitoring part of the *ex situ* portion of the demonstration under its Superfund Innovative Technology Evaluation (SITE) program.

Grace Dearborn's Daramend (TM) technology has already been recommended by the Canadian government for cleanup of contaminated soils in NATO countries and the company is hoping to get the EPA's blessing to sell the product in the U.S. market.

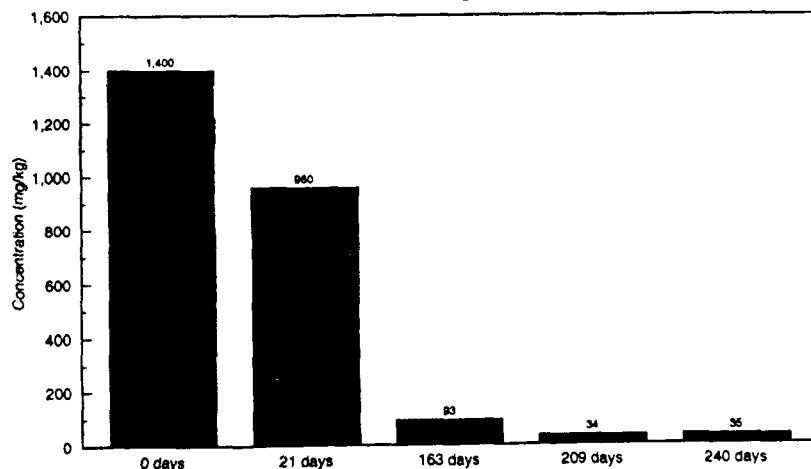
"In order to go commercially into the U.S. market, our reading of the situation is that the strongest tool you can have is an evaluation through the EPA's SITE program," said Grace Dearborn's Bioremediation Manager Alan Seech.

"When they write that report and show what the process can do, we'll have a very good tool for moving into the U.S. and any other market," Seech told TBR.

Company Confident

He is "very confident" about how the EPA evaluation will come out because the process has already been audited by the agency's Canadian counterpart, Environment Canada.

The Daramend system involves adding solid-phase biodegradable organic "amendments" prepared to a specific particle size and supple-



Residual total PAH concentration in soil treated on site with Grace Dearborn organic amendment technology

Highlights

- GE may find a way to avoid Hudson dredging.....p. 2
- H&H taking on more recalcitrant compounds now.....p. 3
- Envirogen funded for study of adhesion-deficient bacteria.....p. 4

mented with controlled-release macronutrients and trace elements. The soil-specific, plant-based additives increase the activity and survival rate of contaminant-degrading microorganisms.

The real strength of the process is in dealing with very heavy oils, polycyclic aromatic hydrocarbons (PAHs), chlorinated phenols, as well as some herbicides and pesticides, Seech said.

"We don't feel that we have anything to offer if you're looking at very light hydrocarbons, such as gasoline. What we have is a high-performance bioremediation process," he said.

The process can remediate PAHs and other "heavy" contaminants in soil for between \$125 and \$200 per metric ton, Seech said. Incineration can cost \$1,500 per metric ton. The company has used the proprietary treatment system to clean up soils contaminated with a variety of organic pollutants such as heavy oils, chlorinated phenols and PAHs. The process can produce soil that is suitable for agricultural plants, the company said.

The company claims the Daramend process can handle four to five times the initial concentrations of toxic substances than can be treated using other established biological technologies on the market.

The excavated soil being used for the new SITE demonstration in Trenton has a total chlorophenol concentration in the range of 276 milligrams per kilogram to 1228 mg/kg (pentachlorophenol from 249 mg/kg to 1176 mg/kg) and total polynuclear aromatic hydrocarbons (PAHs) from 577 mg/kg to 2068 mg/kg.

Previous studies in the U.S. suggested that soils with more than 300 to 400 milligrams of PCP per kilo were too toxic for direct bioremediation and that it needed pre-treatment by soil washing or other techniques. Grace Dearborn said its technology can reduce PCP concentrations to less than 5 milligrams per kilo in

soils treated with Daramend.

"We've been able to deal with pentachlorophenol at starting concentrations of as high as 2,200 parts per million and take that down to less than 10 ppm," Seech said.

Soil for the SITE demonstration plots will be screened to a particle size of 2 inches to remove debris that might interfere with homogenization and incorporation of the organic amendments, Grace Dearborn said.

Liner System

The liner system for the *ex situ* part of the work will consist of 10 centimeters of screened sand covered with a polyethylene liner and a 4-millimeter thick fiber pad. Another sand layer approximately 15 centimeters thick will be spread on top of the liner and fiber pad to minimize the potential for direct contact between the liner material and tillage, Grace Dearborn said. After the liner is constructed, soil will be spread to a uniform depth of 0.5 meters in each plot.

The full scale demonstration is being co-funded by Domtar, Environment Canada and the Ontario Ministry of Environment and Energy. Grace Dearborn will install, maintain — with tilling and irrigation — and test the *ex situ* system over 2,300 square meters, treating 1,500 tones of soil. The demonstration will also have an *in situ* portion involving 3,000 tones of soil over 5,625 square meters.

Along with the EPA's SITE program contractor, Grace Dearborn will also have an independent evaluation of the toxicity of the remediated soil performed by Ontario's University of Waterloo. The Canadian government holds the rights to the proprietary technology and Grace Dearborn is the exclusive licensee.

Pilot scale demonstrations have

shown that the organic soil amendment technology is also effective for *in situ* remediation, the company said.

□ Declan Conroy

GE Finding Natural PCB Biodegradation, Could Avoid Cleanup

General Electric is hoping to avoid paying for dredging of a section of the Hudson River to remove PCB contamination caused by fire retardants used at the company's electric equipment manufacturing facility up river of Glens Falls. Scientists at the GE Research and Development Center in Schenectady claim to have found evidence that PCBs are being broken down through naturally occurring aerobic bacteria in the river.

"Dredging the river could cost GE hundreds of millions of dollars," Richard Cahill, an Environmental Protection Agency Region 2 spokesman, told TBR.

EPA Considering

The stretch of river below the falls is currently being assessed as a possible Superfund site by the EPA. As part of that process, GE has contributed \$3 million for a series of studies to measure the contamination. Most of the PCB-contaminated areas are below Hudson Falls, the GE researchers found.

GE has already published several reports in recent years showing that PCBs in the environment come under attack from both aerobic and anaerobic organisms. In the most recent study, led by William P. Flanagan, a chemical engineer, and Ralph J. May, an analytical scientist, the team measured transient chemicals resulting from the breakdown of PCBs by aerobic bacteria.

However, the GE researchers did not study the rate at which PCBs are

The Bioremediation Report

Publisher
Llewellyn King

Editor
Mick Rood
202-662-9742

Circulation
Dawn Miles
202-662-9724

The Bioremediation Report, ISSN 1064-2455 is a monthly publication of the King Communications Group, 627 National Press Building, Washington, D.C. 20045. Subscription price \$395 per year. Overseas postage \$40 per year.

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biodegrading in the river and that may prove to be a key factor in future negotiations about what should be done.

The GE team found that one part of the degradation process involves the attack by anaerobic bacteria of PCBs buried in the non-oxygenated zones of subsurface sediments. The anaerobic microbes remove chlorines from the PCBs, reducing their potential toxicity and ability to bioaccumulate in humans and fish. The dechlorination process also makes the PCBs easier to destroy for aerobic bacteria living in the surface layer of the sediment, where they have access to oxygen.

In aerobic biodegradation, PCBs are broken down into a variety of metabolites, such as chlorobenzoates, that are ultimately converted to carbon dioxide, water, chloride ion, and cell material. The GE research focused on a technique that allows them to detect and measure the chlorobenzoates and other PCB metabolites in contaminated sediments.

Metabolic Search

The GE team tested hundreds of samples of undisturbed Hudson River sediments, some free of PCBs and others with varying degrees of contamination. No metabolites were found in the samples taken from sites without PCBs. But in all samples where PCBs were present, chlorobenzoates and other PCB metabolites were detected. The pattern of chlorobenzoates they observed closely matched that of the metabolites produced in GE's 1991 Hudson River field test in which PCB biodegradation was stimulated.

Based on these findings, the GE researchers concluded that the only possible explanation for the presence of metabolites in the contaminated sediments was microbial degradation of PCB molecules.

"It does seem that PCB levels are

dropping," the EPA's Cahill said.

The amount of chlorobenzoates in the sediments was very low, 100 to 10,000 times less than the PCB concentrations in the samples, they said. This, the GE researchers said, is consistent with laboratory studies that indicated that the metabolites are readily biodegradable and disappear quickly after they are formed.

Results of new GE study were reported in the October issue of *Environmental Science and Technology*, a journal of the American Chemical Society.

□ Declan Conroy

H&H Treats Tougher Compounds at Site

Earlier this year, *TBR* described the back-to-the-soil approach to bioremediation of H&H Ecosystems in North Bonneville, Wash. Since then, H&H has done a little crop rotation and added PCP's (pentachlorophenol) and creosote to their north 40.

The most recent effort was a demonstration site in Washington done under the auspices of the state Department of Natural Resources. The site was a utility pole storage facility in the Cascades that contained 200 cubic yards of contaminated soil. They reduced levels of PCP and creosote from 1,000 ppm to under 5 ppm in 7 days.

H&H Ecosystem's President, Terry Horn, said the key to their ability to degrade more recalcitrant compounds such as PCP was the HH 614 tiller (described in the March issue) and a proprietary radical ion which was used to sever chlorine atoms from chlorinated compounds. This radical ion, said Horn, is "something that nobody's bothered to look at; but it's something that you should have in your body every day."

Horn says that their success at the Cascades site led him to pursue remediation of two utility pole treatment sites (totaling 60,000 cubic yards) in Alabama that are all in post-closure. The sites' owner approached Horn because of problems they were having mixing soil. Horn said that the owner tried several different pieces of farm machinery to mix the soil but none of them did the job.

"The soil there is very gummy," Horn said. Work on the Alabama sites begins this fall.

A second demonstration site in Olympia, Wash., lends further support to the use of Simple Green (see March *TBR*) as a vapor suppressant. The site contained 1,200 cubic yards of kerosene and gasoline-contaminated soil at levels averaging 3,000 to 6,000 ppm. Very dilute concentrations of Simple Green sprayed on the pile proved highly effective in limiting volatilization, Horn said.

Simple Green Effect

Independent analysis by photoionization detector (PID) revealed downwind readings of 19 ppm on June 15th, treatment day number 1. These readings dropped to zero ppm following the use of Simple Green as a vapor suppressant. Readings taken periodically during the six-week remediation period revealed levels ranging from 0 to 3 ppm one to two inches above the pile.

Moreover, PID readings taken inside the housing of the aeration machine during a maintenance period was negligible; virtually all hydrocarbons were bioremediated. Horn said that remediation on the excavated pile began June 15 and that "we put everything back in the hole on August 4th."

Horn also reports that his company is still improving upon the design of the tilling unit or "turborator," as he

calls the HH 614. The third unit is currently being constructed and will include even stronger tines to resist rocky debris up to 2 inches in diameter.

Their field experience has also taught them that a "laser level" substrate is essential to achieve ideal soil homogenization. He added they've also improved homogenization by putting a 6-inch layer of sand under the windrow and then covering this with a layer of wood fiber.

"We found the wood fiber was being digested too quickly and we had an untreated area in the bottom," Horn said.

He said that H&H Ecosystems has signed an exclusive licensing agreement with CEcon Corp. of Olympia, Wash. CEcon, an engineering firm, has right of first refusal on the purchase of all turborators sold in the Pacific Northwest.

□ Hunter McCleary

'Adhesion-Deficient' Bacteria Study Funds Recieved By Envirogen

Envirogen, Inc. has received a \$300,000 Phase II grant for development of an *in situ* bioremediation technology from the Small Business Innovative Research (SBIR) Program sponsored by the National Science Foundation.

The grant will be used to support Envirogen's continued research in the development and application of "adhesion-deficient" bacteria, a method

of increasing bacterial movement for *in situ* bioremediation. Envirogen established the feasibility of developing adhesion-deficient bacteria that can actively degrade hazardous chemicals in phase 1 of the study, which was also funded through the SBIR Program.

TCE Model Containment

Envirogen chose trichloroethylene, or TCE, as the model contaminant in phase 1. The company's overall R&D program emphasizes treatment of groundwater contaminated with chlorinated aliphatic compounds, particularly TCE. Once a widely used solvent and now a suspected human carcinogen, TCE has been identified as a pollutant at more Superfund sites than any other contaminant, according to Envirogen.

The research is designed to lead to the development of a commercial technology that solves problems associated with the adherence of bacteria to soil particles, according to Envirogen. Many types of aerobic bacteria naturally secrete a viscous substance which, when combined with subsurface soil properties, causes the micro-organisms to stick and limits their mobility.

"One critical barrier to introducing specific degradative bacteria into contaminated soils and aquifers is that microbial adhesion to soil surfaces may prevent penetration of the bacteria into the target zone," said Mary DeFlaun, manager of Envirogen's Advanced Biocatalysis Program and project director of research under the grant.

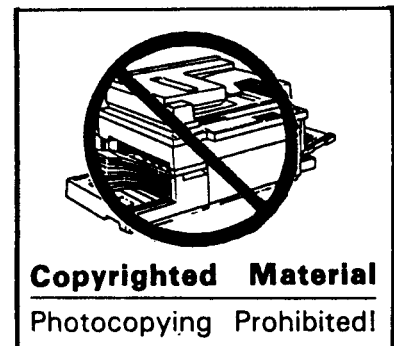
Chromatography Used

In phase 1, sand column chromatography was used to isolate adhesion-deficient variants of naturally occurring micro-organisms with TCE-degradation capabilities. In this process, groups of variants were passed through a series of columns. Organisms adhering to the sand were removed and the resulting variants were then tested for adhesion-deficient characteristics and competence at degrading TCE.

In phase 2, Envirogen will test the stability of the strains developed in phase 1. Penetration and degradation efficiency will be evaluated in different types of aquifer material. A pilot-scale model aquifer will be constructed and used to demonstrate an *in situ* bioremediation system based on the use of these bacterial strains.

Envirogen hopes the study will serve as a stepping stone to the custom creation of a variety of adhesion-deficient micro-organisms, each uniquely targeted toward a specific environmental contaminant.

□ Steve Usdin



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LYSATES

Study Optimistic

A new market study projects a brisk business well into the 1990s for the bioremediation of underground storage tank sites. *The U.S. Bioremediation Market, 1994-2000* forecasts that the total market for bioremediation for the next seven years will be \$2.2 to \$2.8 billion and that UST remediation will comprise about 75 percent of this sum.

Report author Olin Jennings of the Jennings Group in Columbia, N.J., also forecasts that bioremediation will capture an increasing share of the overall cleanup market in the coming years. Reasons cited included better educated regulators, customers and consultants. He also cited more field successes, improvements in technology, reduced costs and a more favorable regulatory environment.

Jennings that key market opportunities will be in the development of bioventing and biosparging applications; the use of centralized bioremediation facilities for petroleum-contaminated soil; biofilters; and significant improvements in the cost effectiveness of bioremediation.

The significance of this report, Jennings said, is that it is based on original research and interviews, not secondary sources. He said that his sources included interviews with 50 project managers and more than 30 industry executives. He also surveyed 100 industry consultants. Jennings added that the data will also be used to compile a bioremediation industry directory.

Dr. Douglas Munnecke of EBT Inc. in Montana, Calif., also a purveyor of bioremediation studies, said that most of the figures contained in the executive summary appear consistent with his knowledge of the industry. He did, however, add the market for UST bioremediation work should remain strong past 1997 when federal legislation requires nationwide UST cleanup. In contrast, the Jennings study forecasts a steep decline in revenues from UST sites once the 1997 deadline is passed.

The 200-page report was published jointly by the Jennings Group and Devo Enterprises in Washington, D.C. It costs \$3,500. For more information call 908-475-1100 or 202-543-2752.

□ McCleary

Leachate Diversion

ENSR Consulting and Engineering said its new leachate diversion system saved the operator of New England's largest landfill \$8 million by replacing traditional diversion techniques.

ENSR said the system is easier and less than half as expensive to install than a standard complex multi-layered liner system.

Subcontracting for Maguire Group Inc., ENSR developed the new system for Rhode Island Solid Waste Management Corp. (RISWMC) for the expansion of its Central Landfill in Johnston. The operator wanted to add a second section adjacent to the existing unlined landfill. The new liner

system was designed to prevent leachate migrating between the two landfills, to minimize the potential for slope failure and to eliminate construction and operation problems, ENSR said.

The new design was approved by the state Department of Environmental Management (RIDEM) when ENSR showed that it could meet three major environmental protection targets: leachate diversion and collection away from the adjacent closed unlined landfill, slope settlement and geocomposite liner slope stability.

The design for what ENSR called the phase 2 Leachate Diversion System (LDS) involved placing a geocomposite (bentonite-geotextile) and a sand layer at the top of each new refuse lift adjacent to the existing cell slope.

"It was a simplified, effective and less costly method to direct rainfall and leachate away from the landfill slope onto the baseliner," said Arthur Lazarus, ENSR principal technical specialist.

Installing the LDS was straightforward, Lazarus said. The first layer followed placement of the initial lift of solid waste and daily cover. The geocomposite material was then placed directly over this layer perpendicular to the slope. It was unrolled down the slope over one-third of the lift and covered with a 12-inch thick layer of sand, the sand layer holds the geocomposite in place until the next layer of solid waste is placed and prevents drying

or over-saturation of the geocomposite. The LDS is then repeated on top of each subsequent 10- to 15-foot lift of solid waste.

ENSR tested the hydrologic characteristics of the design using the HELP (Hydrologic Evaluation of Landfill Performance) model. This predicted how well the system would handle the volume of leachate expected to move through the landfill because of the potential for the leachate to overflow into the existing landfill next door.

"We modeled for worst-case scenarios," and none of them showed back flow in the geocomposite lined

sections, Lazarus said. The modeling also indicated that the final cover design "essentially eliminates" percolation of rainfall after the landfill is to be capped and closed, he said.

□ Conroy

New Video Serves as Bioremediation Primer

While bioremediation has made remarkable advances both in the laboratory and the field, it remains an enigma to many. One effort to improve the level of awareness of bioremediation is through a new

video primer just released by the Great Lakes and Mid-Atlantic Hazardous Substance Research Center in Michigan.

The 36-minute video, "Bioremediation: A Video Primer," offers a quick introduction to the subject. While viewers will not be certified site managers after watching it, they could certainly carry on an intelligent conversation about bioremediation. Perhaps the best use for this video is to educate clients, senior management or the public. Indeed, Michael Berger, the project's production manager, reports that most people who buy the video use it to "educate those around them." Berger says that a sampling of buyers reveals that industry, academia and government are well represented.

The primer strikes a good balance between portraying bioremediation as a proven technology and one where its limits are still being explored. An example is their discussion of bioaugmentation, the addition of microbes to a site. The process is described as one option in managing a sit, but one that is "inconclusive" in its value.

The only shortcoming of the video is occasional lapses into techno-lingo by some of the interviewed experts. Technical descriptions are littered with such terms as water-phase, specificity and electron acceptor. Fortunately, a host follows most of these passages with simplified restatements.

Berger says the response to the video has been excellent with more than 100 copies distributed since its release this past summer. He said that an accompanying survey indicates interest exists for a more technical, course-length video.

The video was funded by the U.S. EPA through the Great Lakes and Mid-Atlantic Hazardous Substance Research center, which produced it. The Great Lakes Center is a consor-

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tium comprised of the University of Michigan, Michigan State University and Howard University. The video costs \$35. For more information, call Michael Berger at 313-998-6145.

□ Usdin

Guide

The EPA Office of Solid Waste and Emergency Response, Technology Innovation Office has published a "Bioremediation Resource Guide and Bioremediation Resource Matrix" with useful information for anyone concerned with government-funded bioremediation projects.

The 27-page document is intended "to support decision-making by regional and state corrective action permit writers, remedial project managers, on-scene coordinators, contractors, and others involved in evaluating cleanup alternatives for Resource Conservation and Recovery Act of 1976 (RCRA), Underground Storage Tank (UST), and Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) sites by directing readers to bioremediation resource documents, databases, hotlines, and dockets as well as identifying regulatory mechanisms (e.g., research development and demonstration permits) that have the potential to ease the implementation of bioremediation at hazardous waste sites," according to the EPA.

The guide includes abstracts of representative examples of more than 80 bioremediation bibliographies, guidance, workshop reports, overview documents, study/test results, and test designs/protocols. The bioremediation resource matrix identifies the technology, media, and contaminants covered in each abstracted document.

The guide is available through the EPA Office of Solid Waste and Emergency Response, Technology Innovation Office, Washington, D.C. 20460.

EPA Orders Cleanups

The U.S. Environmental Protection Agency has ordered three companies to perform cleanup actions at the Operating Industries Inc. (OII) Superfund site, Monterey Park, Calif. The three companies are Textile Rubber and Chemical Inc., Gemini Industries Inc., and Hoechst Celanese Corp.

"These companies have failed to resolve their liability for the site, despite the considerable efforts U.S. EPA has made to reach a settlement," said Jeff Zelikson, director of EPA's regional hazardous waste management division.

"Over 170 other companies have already settled with U.S. EPA for portions of the cleanup. By issuing this order, U.S. EPA is using its enforcement authority to ensure that these companies share in the cleanup activities."

The EPA issued a unilateral administrative order against the three companies which contributed over one million gallons of waste containing hazardous substances to the OII landfill, but so far have failed to participate in site cleanup efforts.

The order requires the companies to participate in the management and disposal of wastes from the OII site in cooperation with other companies who are already performing cleanup work at the site under court settlements with the EPA.

The overall cost of the ordered work will depend on the volume of wastes that must be treated, but the agency estimates that the minimum cost of complying with the order is approximately \$1 million.

The EPA expects to issue additional orders against other non-settling companies in the future.

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November 18-19, 1993 Washington, D.C.

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EPA Bioremediation Publications

To order EPA documents, call 513-569-7562. For NTIS documents, call 1-800-553-6847.

Bioremediation Case Study Collection: 1991 Augmentation of the Alternative Treatment Technology Information Center (ATTIC)	EPA/600/R-92/043
Characterizing Heterogeneous Wastes	NTIS PB92-216894
Fundamentals of Ground-Water Modeling	NTIS PB92-232354
A Study to Determine the Feasibility of Using a Ground Penetrating Radar	NTIS PB92-169382
Bioremediation of Hazardous Waste	EPA/600/R-92/126
Methodologies for Evaluating In Situ Bioremediation of Chlorinated Solvents	NTIS PB92-146943
TCE Removal from Contaminated Soil and Ground Water	NTIS PB92-224104
In Situ Bioremediation of Contaminated Ground Water	NTIS PB92-224336
Technology Evaluation Report: Biological Treatment of Wood Preserving Site Ground Water by Biotrol, Inc.	NTIS PB92-110048
Applications Analysis Report: Biological Treatment of Wood Preserving Site Ground Water by Biotrol, Inc.	NTIS PB91-227983
Microbial Removal of Halogenated Methanes, Ethanes, and Ethylenes in an Aerobic Soil Exposed to Methane (Journal Version)	NTIS PB89-103196
Sequential Reductive Dehalogenation of Chloranilines by Microorganisms from a Methanogenic Aquifer	NTIS PB90-117219
Creosote-Contaminated Sites	NTIS PB90-129552
Action of a Fluoranthene-Utilizing Bacterial Community on Polycyclic Aromatic Hydrocarbon Components of Creosote	NTIS PB90-245721
Assessing Detoxification and Degradation of Wood Preserving and Petroleum Wastes in Contaminated Soil	NTIS PB90-245275
Alaskan Oil Spill Bioremediation Project	NTIS PB90-216466
Laboratory Studies Evaluating the Enhanced Biodegradation of Weathered Crude Oil Components through the Application of Nutrients	NTIS PB90-264011
Total Organic Carbon Determinations in Natural and Contaminated Aquifer Materials	NTIS PB91-129205
Anaerobic In Situ Treatment of Chlorinated Ethenes	NTIS PB91-137067
In Situ Bioremediation of Spills from Underground Storage Tanks: New Approaches for Site Characterization, Project Design, and Evaluation of Performance	NTIS PB89-219976
Comparison of Methods to Determine Oxygen Demand for Bioremediation of a Fuel-Contaminated Aquifer	NTIS PB89-207351
Available Models for Estimating Emissions Resulting from Bioremediation Processes: A Review	NTIS PB90-228610
Role of Microorganisms in the Bioremediation of the Oil Spill in Prince William Sound, Alaska	NTIS PB90-263070
Approach to Bioremediation of Contaminated Soil	NTIS PB91-116152
Protocol for Testing Bioremediation Products against Weathered Alaskan Crude Oil	NTIS PB91-137018
Reductive Dehalogenation: A Subsurface Bioremediation Process	NTIS PB91-144873
Field Evaluation of In Situ Biodegradation for Aquifer Restoration	NTIS PB88-130257
Alternative Biological Treatment Processes for Remediation of Creosote-Contaminated Materials: Bench-Scale Treatability Studies	NTIS PB91-179085
Nitrate for Bioremediation of an Aquifer Contaminated with Jet Fuel	NTIS PB91-164285
Movement of Bacteria through Soil and Aquifer Sand	NTIS PB91-164277
Selection of Nutrients to Enhance Biodegradation for the Remediation of Oil Spilled on Beaches	NTIS PB91-233304
Effect of Sodium Chloride on Transport of Bacteria in a Saturated Aquifer Material	NTIS PB92-110428
Oil Spill Cleanup	NTIS PB92-110469
Enhanced Bioremediation Utilizing Hydrogen Peroxide as a Supplemental Source of Oxygen: A Laboratory and Field Study	NTIS PB90-183435
Bioremediation of Contaminated Surface Soil	NTIS PB90-164047
Guide for Conducting Treatability Studies under CERCLA, Aerobic Biodegradation Remedy Screenings	NTIS PB92-109065
Interactive Simulation of the Fate of Hazardous Chemicals during Land Treatment of Oily Wastes: Ritz User's Guide	NTIS PB88-195540
Microbial Decomposition of Chlorinated Aromatic Compounds	EPA/600/2-86/090
Removal of Volatile Aliphatic Hydrocarbons in a Soil Bioreactor	NTIS PB88-180393
Transformation of Halogenated Aliphatic Compounds	NTIS PB88-170568
Understanding Bioremediation: A Guidebook for Citizens	EPA/540/2-91/002

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Thursday, November 25, 1993

EW Volume 6, Number 46

Smog Agency Pushes Northeast Toward Low Emission Vehicle Program

BY GEORGE LOBSENZ

In a nightmare scenario for automakers, a regional air pollution control agency has proposed that 11 Northeast states and the Washington, D.C., area adopt the California clean car program. However, the industry already is maneuvering in Washington to limit the spread of the low emission vehicle (LEV) plan.

The Ozone Transport Commission (OTC), invoking its authority under the Clean Air Act Amendments of 1990, formally released a proposed low emission vehicle program Nov. 17, saying the smoggy Northeast could not meet federal clean air standards without it.

The commission was created by Congress to coordinate air pollution control in the congested Northeast corridor; lawmakers said a regionwide strategy might be necessary in view of studies showing that pollution from one city could be blown downwind, contributing to a neighboring

area's smog problem. The clean air law empowered the OTC to make recommendations to EPA about regionwide emissions control measures needed for the Northeast to achieve federal clean air standards.

EPA has nine months to decide whether to require the OTC-recommended measures across the region, which encompasses Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland and the District of Columbia and adjacent areas of northern Virginia.

The proposed OTC program would take effect in January 1996, and give automakers two years to begin producing LEV cars for the 1999 model year. Automakers then will have to meet progressively tougher fleetwide average emissions standards in the years ahead through a mix of traditional, alternative fuel and electric cars. The program includes requirements for the sale of "transitional" low emission vehicles, "ultra" LEVs and "zero" emis-

(Continued on page 2)

EPA Cabinet Bill Misses The Mark In House, Again

BY VIKI REATH

Rep. John Mica (R-Fla.) might think the quiet passage of a bill that abolishes the Council on Environmental Quality Saturday afternoon, by two senior House committee chairmen, makes a good tale for Thanksgiving dinner.

But, to a well-informed Democratic aide it is a real turkey of a story. The bill's passage was normal procedure for a non-controversial bill.

"Fine," Mica told *Environment Week* Tuesday. "Then, why was [Rep.] John Conyers (D-Mich.) shocked when I told him on Saturday?"

But the Democratic aide said Conyers knew all about it, since the proposal started out as an amendment to the

(Continued on page 4)

Appeals Court Ruling On WTI A Major Defeat For Greenpeace

BY PAUL KEMEZIS

The 6th U.S. Circuit Court of Appeals, in a major defeat for Greenpeace, has thrown out a March decision by the U.S. District Court in Cleveland that dioxin emissions from the Waste Technologies Industries hazardous waste incinerator in East Liverpool, Ohio, posed an imminent danger to public health.

The Nov. 19 ruling removes for the time being a major legal cloud hanging over the controversial incinerator and also bolsters industry claims that Congress, in the 1976 Resource Conservation and Recovery Act, made it difficult to challenge Environmental Protection Agency permits once a short appeal period had expired.

The appeals court ruled that the lower court had no jurisdiction to hear the Greenpeace suit since, in fact, it was a challenge to conditions for the WTI facility contained in a permit approved by EPA in 1985.

It said that under RCRA such a case could only be brought before the U.S. Appeals Court for the District of Columbia within 90 days of the EPA permitting decision.

The court said that the dioxin risk alleged by Greenpeace was already known back in 1985 but no action had been taken against the permit in the D.C. circuit at that time. This suggested that Greenpeace raised the dioxin issue in 1993 not because of imminent danger but "simply as a

(Continued on page 8)

Smoggy Northeast Eyes California Plan... (From page one)

sion vehicles, or ZEVs.

The OTC proposal differs from the California program in that it does not require Northeast states to adopt California's clean fuel standards.

In addition, OTC called for public comment on an alternative approach under which the LEV program only would be required in smoggy urban areas. "States would then have the opportunity to choose for themselves whether they wish to implement the program statewide, given the consumer, business and administrative benefits of statewide programs," the OTC said. "In this case, emission reductions from the LEV program could be used by individual states to provide emission offsets for new and modified industrial sources in attainment areas."

OTC also said it would consider other emissions control alternatives to a LEV program, but that it knew of no other way to cut smog-causing pollution sufficiently for the region to achieve federal clean air standards in a timely fashion.

"Highway mobile sources are responsible for an average of 44 percent and 42 percent of all states' NOx and anthropogenic volatile organic compound inventories, respectively, across the Ozone Transport Region," OTC said. "Based on such inventories and modeling analysis, it is clear that a dramatic reduction in mobile source emissions is necessary if the [federal ozone smog standard] is to be attained and maintained across the [region]."

OTC also said recent cost analyses by the California Air Resources Board showed the LEV program was a less expensive emissions reduction method than tighter controls on industrial pollution or the federal reformulated gasoline program.

The OTC proposal comes as automakers are desperately fighting to stop New York, Massachusetts and other Northeast states from individually opting into the California LEV program. The industry has filed suit against New York and

Massachusetts, claiming their programs would violate the Clean Air Act by imposing excessively costly production and maintenance requirements on automakers.

Among other claims, the automakers say the states' failure to adopt California's fuel standards could cause problems with LEV emissions control systems. They also say building LEVs for colder Northeast states will require design modifications—such as battery warmers—to the cars planned for California. They contend those modifications would violate Clean Air Act provisions barring opt-in states from requiring automakers to build a "third car"—different from the California car and from vehicles built for the rest of the country.

While pressing their legal attack, the automakers also have quietly opened discussions with the Environmental Protection Agency on a voluntary agreement under which the industry would accelerate efforts to sharply decrease tailpipe emissions from cars. The talks reportedly sprang out of the Clinton administration's announcement last month that the government would form a consortium with the Big Three automakers to develop a less-polluting, more fuel-efficient car.

Industry officials acknowledge they went to EPA with the aim of persuading agency officials to embrace an alternative emissions control plan to the California car program. Pat Morrissey, a spokesman for General Motors, said the industry's proposal for accelerated emissions controls was designed to meet the needs of Northeast states so they did not have to adopt the California program.

Congressional observers say if EPA signs on, the automakers' plan could limit the spread of the LEV program. "This new proposal by the automakers could minimize the extent to which the auto industry will have to comply with the LEV requirement in various states," according to a clean air report recently issued by the leadership of

the Senate Environment and Public Works Committee.

The industry's new willingness to pursue improved emissions controls contrasts sharply with its position when Congress passed tougher tailpipe emission standards in the 1990 clean air law. The law requires an initial round of tailpipe emissions cuts in the mid-1990s—so-called Tier I standards—and then calls for EPA to decide by 2004 whether a second round of even tighter Tier II emissions cuts are necessary to reduce urban smog.

During congressional deliberations, the automakers argued vociferously that the Tier II standards were technologically infeasible without a hugely expensive research and development program that would force large price increases for cars.

Now, the industry is telling EPA it could produce low-emitting cars that would come close to achieving the Tier II standards well before the 2004 date set in the clean air law.

The discussions with EPA appear to reflect the industry's eroding legal position in its court fights against the New York and Massachusetts program. It recently lost a preliminary round against Massachusetts, and while it has won on some issues in the New York case, EPA recently abandoned its neutral stance in that litigation and filed a brief in support of New York, which has appealed adverse rulings to the 2nd U.S. Circuit Court of Appeals.

EPA's legal move could be potent because the courts traditionally grant deference to federal agencies' interpretation of disputed laws. Under the Bush administration, EPA declined to back the opt-in states, saying the Clean Air Act gave the agency no role in approving their adoption of the California LEV program. The Clinton administration has reversed course, saying EPA has a strong interest in assuring Northeast states can adopt the California LEV program if they deem it a cost-effective smog control strategy.

Clinton Administration Puts Stamp On U.S. Environmental Policy

BY VIKI REATH

The Clinton administration is beginning to put its stamp on U.S. environmental policy. Under a new plan announced Nov. 19 by Environmental Protection Agency Administrator Carol Browner, federal policymakers will focus on specific industrial sectors when developing environmental rules instead of trying to write generic rules applicable to all industrial sectors. In addition, the agency is redoubling its efforts to seek input from stakeholders before issuing new rules or presenting proposals to Congress, Browner said.

As part of its initiative, EPA plans to take an industry-by-industry approach to preventing and reducing pollution through cluster rulemaking, ensure that recordkeeping and reporting requirements are clear and consistent, streamline permits and seek innovative approaches from industry leaders.

The goal is results, rules that work, not ones that will invite criticism and become targets of lawsuits, thereby delaying implementation, Browner (right) told reporters at a news conference Monday.

"We will reach out and engage in dialogue with stakeholders," Browner said at the press conference, which was called to introduce EPA's 10 assistant administrators. Browner refused to say which industries would be addressed first.

Browner added that the reason it is taking so long to present the agency's Superfund reauthorization proposal to Congress is that EPA officials have been doing their best to resolve differences through meetings among stakeholders, such as those held by the National Advisory Committee on Environmental Protection and Technology (NACEPT) on Superfund.

The biggest dispute to surface from an interagency task force appointed to grapple with Superfund reauthorization is over the Treasury Department proposal to drop strict, joint and several liability. Browner said the Treasury Department is the only government depart-

ment supporting this idea, which is strongly backed by the insurance industry.

However, Elliot Laws, EPA's new assistant administrator for solid waste and emergency response, which oversees Superfund activities, admitted later that there is "a lot of focus [at the White House] on the Treasury proposal.

"One thing all agree on is that they must address the problems...to make cleanups cost-effective and to make sure the land gets back to productive use," Laws added.

When asked why so much attention is being focused on a proposal that will affect private parties more than the government, Laws said officials are concerned with the whole economy.

"We can't only be concerned about government costs," he said. "We're concerned about how the costs will affect industry, too." Laws added that he expects "the parameters" of EPA's proposal, which includes resolution of the liability dispute, to be complete by mid-December.

Another goal EPA has set for itself is revising the Clean Water Act to increase the states' revolving loan fund to give more flexibility to the states, perhaps through a fee program, said Bob Perciasepe, assistant administrator for water. Also, the agency hopes to tighten non-point source rules and use an ecosystem approach, and, under the Safe Drinking Water Act, to create a state revolving fund and a fee program to enable states to continue to execute their roles in source protection.

Dr. Lynn Goldman, a pediatrician and the first medical doctor to be named assistant administrator for prevention, pesticides and toxic substances, has been working with the Food and Drug Administration and the U.S. Department of Agriculture to reform food safety. Her office is working on legislation on

pesticides that would revise tolerances to protect children and workers, restore labeling and develop sustainable agricultural systems. Also, the agency plans to add chemicals to the Toxic Release Inventory (TRI) and to try to remove lead from the environment before children are exposed.

Mary Nichols, assistant administrator for air, said her office will work on improving health conditions in the "pockets of areas where residents face unusually high risks...usually low-income, often-minority [neighborhoods]." Also, she hopes a number of current voluntary programs, such as radon, indoor air and secondary tobacco smoke, ultimately may lead to legislation.



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Cabinet Bill Misses Mark *(From one)*

Environmental Protection Agency cabinet-elevation bill that was approved by Conyers' Government Operations Committee Nov. 4.

The amendment was rejected by the Rules Committee, along with 16 others, as being outside the scope of the EPA cabinet legislation, which is geared largely to outline the organization and administration of the proposed department. But it resurfaced on Saturday—as H.R. 3512, the National Environmental Policy Act (NEPA) Administrative Reorganization Amendments of 1993.

The bill would replace the CEQ, which oversees the National Environmental Policy Act, with a new, smaller office. It was marked up Nov. 18 by the Merchant Marine and Fisheries Committee, which is chaired by Rep. Gerry Studds (D-Mass.), one of the bill's principal sponsors.

Mica is upset, because he, too, had an amendment—to require cost-benefit analyses on all EPA rules—that was deemed non-germane. But, because he is a Republican, he was unable to push his proposal through committee and bring it to the House floor.

"For the leadership, there's one set of rules, and for the others there's another," Mica said. "Studds and [Rep.] John Dingell (D-Mich.) snookered the Rules and [Government] Operations Committees. It was done without any debate in the mid-afternoon, with only a handful of people there. They subverted the whole process."

No subversion here, said another Democratic aide, not bothering to suppress a chuckle.

"The Democrats have the power," he said. And, passing non-controversial bills "under suspension" (of the regular rules) is standard procedure in the House. Furthermore, Mica's amendment is intensely controversial.

Studds and Dingell, chairman of the Energy and Commerce Committee, and the bill's cosponsor, had negotiated the terms of the new bill with the White House, which had proposed abolishing CEQ outright.

"In a nutshell, this bill abolishes the CEQ and the Office of Environmental Quality (OEQ) and replaces them with the substantially smaller Office of NEPA Compliance in the Executive Office of the President," Studds said describing his proposal

during the House's Nov. 20 session.

"In part, this reduction in office size reflects the repeal of the requirement for the mammoth annual CEQ report, the transfer of a number of functions in existing law to the new Department of Environmental Protection—when that legislation is enacted—the opportunity for the president to assign even further environmental functions to other units in the Executive Office of the President, and the streamlining of the mission of the new office to fewer, but critically important core NEPA functions."

The bill resolves the issues between the president, who wanted to abolish CEQ, and Congress, which wanted the office to remain in existence to prevent future meddling by other administrations.

Mica admits he has no problem with the bill that passed. His only problem is with the process. But he hopes to turn the tide for his amendment by the time the winter recess ends in late January.

"Support for our amendment is mounting," Mica said. "We brought so much attention to the lack of risk management [at EPA] that we have more than enough support to keep elevation from happening without adding [a] risk assessment [amendment]."

Mica said his support base for the amendment, whose cosponsor is Rep. Karen Thurman (D-Fla.), includes most Republicans in the House as well as many conservative Democrats.

"Other members now are mad because of the Studds-Dingell amendment," Mica said. "If the proposed cost-benefit analysis was in effect now, EPA wouldn't be all over ball park," said Mica, referring to the millions of dollars spent in different places with allegedly little environmental protection to show for it.

"If it was effective, the General Accounting Office and Inspector General wouldn't have put out reports saying EPA is unfocused," he said.

"The agency is trying to take on more than it's capable of handling. It can't prioritize. We think they could do a better job if they did look at cost-risk benefit analysis."

Mica's aide credited a massive letter-writing campaign he spearheaded with pressuring the Democrats to retreat from the bill to stave off defeat. Among those outside groups that support Mica's proposal are several state, county and local government organizations, as well as the National Association of Home Builders and several independent business associations.

The House Democratic leadership announced it was removing the EPA cabinet bill from consideration last week, in part because Rep. William Clinger (R-Pa.), who has offered a clean bill, left to have an eye operation. Clinger's simple elevation proposal is the last on a list of 10 amendments scheduled for debate when the bill reaches the House floor.

A Democratic aide dismissed the possibility that the cost-benefit amendment would prevail.

"The bill to elevate the EPA is probably going to be the major environmental achievement of this administration," the aide said Tuesday. "Why would President Clinton sign a bill that would weaken environmental standards?"

Rep. Henry Waxman (D-Cal.) and others who oppose the House cost-benefit amendment, which is similar to the one approved overwhelmingly by the Senate earlier this year during its consideration of the EPA legislation, say it would undermine all current environmental statutes by reopening issues that were resolved after previous protracted debates. Also, it would weaken the emphasis on health effects. President Clinton has said he hopes the amendment can be addressed separately, so it does not derail the cabinet bill.

Mica, who has taken a special interest in EPA mismanagement, fraud and abuse and visited its headquarters last April, said the opposite is true.

"Some people say it's [the cost-benefit amendment] trying to diminish the power of environmental statutes," he said. "But if EPA is focused, the agency could do a better job of addressing major issues."

ENVIRONMENT WEEK IS A PUBLICATION
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Environmental Justice Advocates Get Unexpected Support

BY VIKI REATH

The words were familiar, but the voices were new at last Thursday's environmental justice hearing in the House of Representatives.

The new voices represented WMX Technologies Inc., the large waste disposal and treatment company, and the American Bar Association (ABA), the nation's influential lawyers' association.

"[W]e feel that the problems at the root of the environmental justice movement are real, that we as a society need to use the tools at our disposal to combat these problems, and that congressional action is appropriate," Charles McDermott, director of government affairs for WMX, wrote in testimony submitted to the House Energy and Commerce transportation and hazardous materials subcommittee.

Among the specific points raised in McDermott's testimony: 68 percent of black children in America suffer from lead poisoning, more than twice the rate for white children, and 57 percent of the nation's Hispanic-Americans and 46 percent of blacks suffer from excessive exposure to carbon monoxide, compared with 33 percent of whites.

Barry Hill of ABA's environmental law committee added that minority and low-income populations experience higher than average exposure to selected air pollutants, hazardous waste facilities, contaminated fish and agricultural pesticides.

The unexpected support boosted the spirits of environmental justice leaders, they told *Environment Week* in interviews following the hearing.

For example, Ben Chavis, executive director of the National Association for the Advancement of Colored People, said he is optimistic that this support will convince President Clinton to be more forceful than previous administrations in enforcing environmental laws equally.

"There needs to be more coordination of policy," added Chavis, one of 13 witnesses who testified at the hearing called by subcommittee Chairman Al Swift (D-Wash.). As a member of the President's Council on Sustainable Development, Chavis expects to help coordinate that policy as he works with committee members from various federal offices.

Despite WMX's statement, the business community as a whole remains wary.

"The [National Association of Manufacturers] acknowledges the concerns of environmental equity advocates that certain racial, ethnic, or socioeconomic groups may be exposed to pollution and hazardous substances at levels greater than that for non-minority, more affluent segments of society," said Paul Murray, a Michigan environmental manager who testified for NAM.

NAM recommends consistent enforcement and reliance on "neutral, third-party organization" scientific research to analyze all factors influencing human health in a community, including facility operations, health care, diet, lifestyle, housing and whatever other appropriate health-related factors affected groups

believe should be evaluated.

Perhaps more important than NAM's cautious approach, activists see little evidence that the Environmental Protection Agency is acting on

President Clinton's Earth Day commitment to remove environmental inequities.

EPA officials may be mouthing the right words, but there is little evidence that they are doing anything different, said activist Deohn Ferris, another witness.

Bob Bullard, another activist who testified at the hearing, criticized EPA for funding studies by researchers critical of the environmental justice movement. Such behavior frustrates residents who see people dying from the cumulative effects of pollution in their overburdened communities, added Ferris, director of the Environmental Justice Project for Lawyers for Civil Rights Under the Law.

"This [environmental justice] is the environmental agenda of the next century and involves reorienting the way businesses is done, to the end that profit is not made through poisoning people," Ferris said. "These are global issues. People better get on the train, or they'll be left behind at the station."

Still, the attitudes of WMX and the ABA indicate some new groups are climbing aboard, said Bullard, a sociologist who has written extensively on the issue.

"Now they understand the handwriting on the wall," said Bullard, a professor at the University of California at Los Angeles.

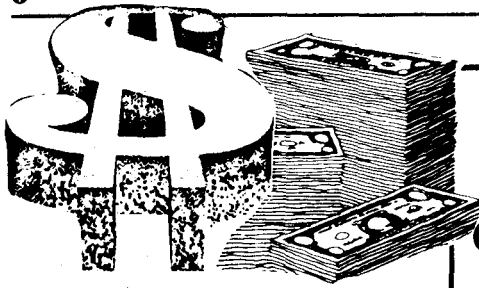
Further evidence that the movement is gaining momentum is the entrance of black churches, he added, saying they view the environmental justice movement as another aspect of the successful 1960s struggle to pass the 1964 Civil Rights Act.

"Everything's on the table," Bullard said, referring to Clinton's Earth Day message, particularly his promise to issue an executive order on environmental justice. According to EPA Administrator Carol Browner, the order will be issued "soon."

Meanwhile, Bullard added, members of Congress should hold hearings in affected communities—in southeast Chicago and in "Cancer Alley," the 85-mile strip along the Mississippi River in Louisiana, between Baton Rouge and New Orleans, which got its name from allegations that the area's high cancer rate is linked to the presence of 138 petrochemical facilities.

"They can see the conditions for themselves," he said. "There are no landfills, toxic waste dumps or incinerators on Capitol Hill."

Added Ferris: "A government that evaluates paperwork burden on industry, regulatory impact on small business and effects on endangered wildlife should do no less than scrutinize the impact on people."



BUSINESS BRIEFS

Greenhouse Controls Threaten Texas Industry

Texas would be hit hard by greenhouse gas control policies, according to a report by the Center for Global Studies at the Houston Advanced Research Center. The state accounts for an estimated 14 percent of all U.S. emissions, the center said, and per capita the state's releases are about twice the rate for the entire United States, which has the highest per capita emissions in the industrialized world.

The high level of emissions is due to the concentration of refining and petrochemical industries in the state, and any mandatory reduction efforts likely would lead to a restructuring of the state economy, said Jurgen Schmandt, director of the policy center.

"At the very least, industry would need to change many of the ways it operates," he said. "Immediately, we could look for ways to use natural gas instead of coal and oil. Eventually, Texas companies would need to develop new equipment, new processes and new fuels to be more energy efficient."

Senate Confirms Cannon As EPA's New CFO

The U.S. Senate last week confirmed Jonathan Cannon as the Environmental Protection Agency's new chief financial officer and as assistant administrator of administration and resource management.

Cannon has worked in a number of positions at EPA since 1987, most recently as special advisor to the administrator, acting deputy administrator and acting assistant administrator of the Office of Policy, Planning and Evaluation. Cannon is a graduate of Williams College and holds a law degree from the University of Pennsylvania.

Pollution Control Company Directory Published

More than 7,000 companies are listed in the new edition of *The European Pollution Control and Waste Management Industry Directory*, which is published by Frost & Sullivan in cooperation with Ecotec Research and Consulting.

In addition to listing firms involved in the pollution control business, the '93 edition of the directory includes national market analyses. These analyses incorporate data for all pollution control sectors and highlight recent market developments, legislation and key players in each country. The directory also includes an assessment of the position of European companies in the worldwide environmental protection market.

The directory is available for \$295 by calling Amy Arnell at (415) 961-9000. A computer disk version of the directory is available at an additional fee.

Collision Course On Environmental Policy?

Business executives and the general public differ sharply on the importance of environmental cleanup activities, according to a new survey by Arthur D. Little. The survey found that 74 percent of the general public said environmental cleanup was important to improving the quality of life in America, while only 44 percent of the business executives polled placed such importance on environmental protection.

The differing attitudes on environmental protection contrast with other findings in the poll, where the public and the business executives were in general agreement. For example, both groups placed strong importance on the need to bolster public education (81 percent of the public and 78 percent of the businessmen) and enhance economic performance (75 percent of the public, 76 percent of the executives) in order to improve the quality of life.

Commenting on this gap, Ladd Greeno, the firm's senior vice president and managing director of its environmental, health and safety consulting practice, said the public and business may be on a "collision course where everyone loses—including the environment.

"Nobody is satisfied," Greeno said. "The public wants better environmental performance and they want it now. Businesses, on the other hand, are spending vastly increased amounts of money and time on environmental issues than they were a few short years ago, but they are frustrated by government regulations that too often result in a misdirection of efforts and priorities."

Despite the differing attitudes on environmental policy, the executives polled in the survey largely agreed that the business community was responsible for protecting the environment. In fact, protecting the environment was seen as being slightly more important by the executives than was providing health care (60 percent said business should play a major role in protecting the environment while 56 percent said the community should work to improve access to health care).

The survey included 500 executives nationwide from a sampling of the 1,000 largest manufacturing firms, the 1,000 largest financial services firms and the 50 largest utilities and transportation firms. Public opinions were drawn from a sample of 1,021 adults across the United States.

Delaware Pollution Prevention Initiative Wins State Award

The Delaware Green Industries Initiative has been selected as an award winner in the Council of State Governments' Innovations Transfer Program. Established in 1992, the initiative is designed to encourage businesses in the state to develop pollution prevention programs and to attract environmentally friendly industries to the state. The initiative offers a blend of tax credits, low-cost financing and technical assistance for participating firms. To date, 10 companies—ranging from a tire recycling facility to a seafood processing firm—have been accepted into the state program.

Late November/December Calendar Of Environment Events

DECEMBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

29-Dec. 3, The RCRA Compliance Institute, Denver, Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Environmental Reporting & Recordkeeping, Arlington, Va., Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, The Advanced RCRA Course, Williamsburg, Va., Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Mixed Waste Management, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Environmental Training, Denver, Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Clean Water Act Reauthorization, Arlington, Va., Contact: *Water Policy Report*, (703) 892-8505.

30-Dec. 2, Superfund XIV Conference and Exhibition, Washington, D.C., Contact: Hazardous Materials Control Resources Institute, (800) 397-7161.

30-Dec. 2, Practical Environmental Regulation Course, Cincinnati, Contact: Executive Enterprises, (800) 831-8333. (This course is scheduled for other cities throughout December; call for details.)

Dec. 1, Realistic Estimates of Risk: America at a Critical Juncture, Washington, D.C., Contact: Kristan Dammen, American Industrial Health Council, (202) 659-0060.

1-3, Fundamentals of Groundwater Contamination and Remediation Techniques, Chicago, Contact: College of Engineering, University of Wisconsin-Madison, (608) 262-2061.

2, RCRA Corrective Action, Williamsburg, Va., Contact: Government Institutes, (301) 921-2345.

2, Practical Training Skills for Environmental, Health & Safety Managers, Denver, Contact: Government Institutes, (301) 921-2345.

2-3, Facility Closure, Restoration & Remediation, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

2-3, Fundamentals of Indoor Air Quality, Orlando, Fla., Contact: The Environmental Engineers & Managers Institute, (404) 381-9865 (fax).

2-3, Federal Environment Law Today, Coral Gables, Fla., Contact: Federal Publications, (202) 337-7000. (This conference also is scheduled for Dec. 6-7 in Washington, D.C.)

5-8, Wastewater Treatment Conference, Phoenix, Ariz., Contact: Nancy Blatt, Water Environment Federation, (703) 684-2400.

6, Solvent Recovery & Recycling, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

6, Environmental Liability and Environmental Crimes Seminar, White Plains, N.Y., Contact: National Association of Manufacturers, (202) 637-3000.

6-7, State Revolving Loan Fund Training Seminar, New Orleans, Contact: Council of Infrastructure Financing Authorities, (202) 857-0686.

6-7, Environmental Compliance for Federal Facilities, Las Vegas, Nev., Contact: Government Institutes, (301) 921-2345.

6-10, Hazardous Materials Chemistry, Findlay, Ohio, Contact: Emergency Response Training Center, (800) 521-1292.

6-17, Air Pollution Control Technologies, Washington, D.C., Contact: U.S. Environmental Training Institute, (202) 338-3400.

7-8, Northeast Remediation Marketplace, Hartford, Conn., Contact: Terry McGee, JACA Corporation, (215) 643-5466.

7-8, Environmentally Friendly Fire Retardant Systems '93, Atlanta, Contact: Ernie Card, Intertech, (207) 781-9800.

7-8, Environmental Laws and Regulations Compliance Course, New Orleans, Contact: Government Institutes, (301) 921-2345.

7-8, Used Oil Update Conference, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

1993 Practical Compliance with Stormwater Permit Regulations, San Diego, Contact: Environmental Education Enterprises, (614) 792-0005.

7-9, New Jersey Air Permits Seminar Series, New Brunswick, N.J., Contact: Cook College, Office of Continuing Professional Education, (908) 932-9271.

7-9, 1993 Hazardous Waste Management and RCRA Compliance, San Diego, Contact: Environmental Education Enterprises, (614) 792-0005.

7-10, New Earth '93—Challenges of Environmental Rebirth of the Earth, Osaka, Japan, Contact: Scott Edwards, Fogarty & Klein Public Relations, (713) 867-3206.

7-10, Mastering Environmental, Health and Safety Auditing Skills and Techniques, Cambridge, Mass., Contact: Arthur D. Little, (617) 498-6767.

8-9, Effective Strategies for NEPA Compliance, Albuquerque, N.M., Contact: Government Institutes, (301) 921-2345.

8-9, Council on Packaging in the Environment 6th Annual Meeting, San Antonio, Texas, Contact: Colleen Barton, COPE, (202) 331-0099.

8-12, Regional Photochemical Air Quality Measurement and Modeling Studies, San Diego, Contact: Air & Waste Management Association, (412) 232-3444.

9-10, Avoiding Environmental Liability, New York, Contact: Practising Law Institute, (212) 765-5710.

(Continued on page 8)

Defeat For Greenpeace... (From page one)

way for facility opponents to seek what they hoped would be a more favorable forum" for their arguments, the court found.

Greenpeace representatives immediately charged that the appeals court had totally misread another section of RCRA allowing "citizen suits" against facilities that posed a health risk. They said they would ask the court to reconsider the decision and also might eventually appeal the case to the U.S. Supreme Court.

According to Richard Condit, an attorney with the Government Accountability Project, which represented Greenpeace, the decision, if upheld, would leave the public "helpless" when facilities operating under EPA permits created a health hazard.

At the same time, WTI issued a statement saying the decision sent a message to "oppositionists" that the company would prevail over "hysterical hyperbole" when it was able to present its case in a forum "where rules and laws are applied."

The initial case had been filed by Greenpeace Jan. 13, 1993, 48 hours before WTI was scheduled to carry out a trial burn under its EPA permit. On March 5, the U.S. District Court in Cleveland ruled that the trial burn could go ahead, but that any further operation of the plant should be halted until EPA had fully reviewed the trial burn results—a process that would take at least a year.

The lower court accepted jurisdiction under the "citizen suit" clause in RCRA, saying that even a plant which had received all necessary EPA permits still could pose an imminent health danger when put into operation and thus be subject to legal action.

WTI immediately appealed the case to the 6th Circuit in Cincinnati and that court quickly lifted the lower court's injunction against plant operation while the appeal was pending. Based on this WTI has been carrying out limited commercial operations since March while it awaits an EPA decision on a full commercial permit.

In its new order the appeals court said that the lower court's ruling was "flawed for several reasons." For starters, it said "Congress did not authorize citizen suits against persons operating hazardous waste facilities within the limits of valid RCRA permits."

While such citizen suits were allowed against persons that violated permits or were otherwise acting to create an imminent endangerment, the court said the overall language of the law showed that Congress did not mean this to be a way to challenge normal permitted activities. That could only be done before the D.C. Circuit in the 90-day permit appeals window.

Further, the court said that even if Congress allowed some leeway for such suits, the case at hand clearly should not be included since it was "nothing more than an improper collateral attack on the prior permitting decisions of the EPA" designed to head off the trial burn.

If Greenpeace was allowed to sue in this case, the court said, all the protections created by Con-

gress to insure the integrity of EPA permitting decisions would be rendered useless. Opponents of facilities, it said, would be given the option to avoid immediate challenges to permits in the tough D.C. Circuit forum and instead make later "imminent endangerment" claims in other district courts under less restrictive rules.

"Fully legitimate" hazardous waste operators with valid permits for all operations would still face expensive legal challenges by groups "second guessing permit decisions," the court said. "This process could only hobble efforts to deal effectively with the mounting dangers of hazardous waste."

The court also noted that the 4th U.S. Circuit Court of Appeals had rejected a state of West Virginia challenge to

the WTI permit on similar grounds earlier this year. That case was never appealed.

But according to GAP's Condit, the West Virginia case was based on procedural permitting issues, not immediate dangers from dioxin emissions, and therefore the two cases were not comparable.

Greenpeace officials also noted that Dec. 7 would be the first anniversary of Vice President's Al Gore's pledge to close down WTI, signalling that new political action against the administration was likely in light of the court decision.

While EPA had participated in the lower court case, it had been careful to stay out of the appeal to the 6th Circuit, which was was carried forward by WTI alone. Administration officials had no immediate comment on the decision.

'This process could only hobble efforts to deal effectively with the mounting dangers of hazardous waste.'

Calendar Of Environment Events... (From page 7)

9-10, Competitive Environmental Strategy, Cambridge, Mass., Contact: Arthur D. Little, (617) 498-6767.

9-10, Impact of Environmental Regulations on Business Transactions and Operations, New York, Contact: Practising Law Institute, (212) 765-5710.

9-10, Practical Environmental Science, New Orleans, Contact: Government Institutes, (301) 921-2345.

13-14, Land Disposal Restrictions, Findlay, Ohio, Contact: Emergency Response Training Center, (800) 521-1292.

13-14, Integrated Resource Management and Landscape Modification for Environmental Protection, Chicago, Contact: ASAE, (616) 429-0300.

13-15, Non-CO2 Greenhouse Gases: Why and How to Control? Maastricht, The Netherlands, Contact: Vereniging LUCHT, (31) 15-696-884.

14-16, 1993 Landfill Regulation: Regulations and Technologies for Cleanup of Subtitle D, Subtitle C and Superfund Landfills, Columbus, Ohio, Contact: Environmental Education Enterprises, (614) 792-0005.

Document Separator

DEFENSE WEEK

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Monday, November 29, 1993

DW Volume 14, Number 47

CIA: North Korea Won't Build ICBMs For At Least 15 Years

BY JOSEPH LOVECE

Although North Korea's missiles and nuclear program pose a threat to neighbors, it is unlikely to field intercontinental ballistic missiles capable of hitting the United States for at least 15 years, according to a new unclassified CIA assessment obtained by *Defense Week*.

The finding is timely given President Clinton's recent statements that North Korea cannot be allowed to develop the atomic bomb.

The CIA's conclusion was contained in a declassified report sent Nov. 15 to House Armed Services Committee Chairman Rep. Ron Dellums (D-Calif.). The report contains the most specific unclassified
(Continued on page 7)

Air Force Lawyers Pulled Punches On C-17 Report

BY TONY CAPACCIO

A special Air Force legal team that reviewed charges of improper management in the C-17 airlifter program deleted findings that service officials "impaired" oversight and provided "misleading" information, according to the Pentagon Inspector General.

The final Air Force report released in late April also ignored a series of documents indicating a service plan to financially bail out the nation's top defense contractor, the McDonnell Douglas Corp., in late 1990, according to the Nov. 18 IG report.

"We believe that the review team's approach was seriously flawed in that the team denied obvious facts, overlooked critical information and either did not under-
(Continued on page 6)

Navy Girds For Steep Aircraft Reductions

BY ERIC ROSENBERG

The Navy, in long-range recommendations, has slashed over \$2.5 billion from several big-ticket aircraft programs in order to meet budget reduction targets, according to internal service documents.

Defense Week obtained the Oct. 1 documents, which were written by Rear Adm. W.A. Earner, the Navy's director of budget and reports.

The recommendations are under consideration by Defense Secretary Les Aspin's staff. They will form the basis for the Navy's fiscal 1995 budget submission to Congress in January.

Should they be approved by Aspin and Congress, the recommen-
(Continued on page 11)

Draft Details Peace Enforcement In The New World Order

BY ANDREW WEINSCHENK

The Army has issued a draft white paper detailing for the first time how the service will tackle future Somalia-like "peace enforcement" missions and has incorporated the plan into specialized training for front-line troops.

The two-pronged effort should help the service grapple with the post-Cold War peace missions increasingly consuming its budget and manpower and shaping its public image.

First distributed internally in September, the paper addresses the many peculiar doctrine, training and equipment issues raised by peace enforcement. It gives commanders step-by-step advice on handling specific situations and serves up corporate wisdom about past experiences.

It has also served as a roadmap for first-time peace enforcement training. Army units including the 82nd Airborne Division completed special exercises Nov. 22 at the Army's Joint Readiness and Training Center at Ft. Polk, La. The 82nd would be among the first units to undertake a new U.S. peace enforcement mission.

"We're really breaking new ground," said Dan Nance, the training center's spokesman, two weeks ago. An elaborate scenario had the 82nd separating two factions on the fictional island of Cortina. Government and non-government agencies like the Red Cross participated in the exercise.
(Continued on page 8)

Pentagon Cancels Classified Program, Money To Ukraine

BY ERIC ROSENBERG

The Pentagon has cancelled a classified special access program, dubbed Link Acorn, and plans to transfer \$11 million of the unused funds to help the Ukraine fix ailing civilian nuclear reactors, according to a senior official.

Alice Maroni, the Pentagon's principal deputy comptroller, notified the Senate late last month that the classified program was terminated.

Maroni wrote in an Oct. 26 letter that the Ukraine effort "will contribute to the goals of enhancing non-proliferation, therefore strengthening U.S. national security."

The Pentagon in September originally wanted to take the funds from the Navy's F/A-18 Hornet modifications account, but since has had a change of heart.

"It is now necessary to derive the funding from Link Acorn," Maroni wrote. Link Acorn "has been terminated due to affordability reasons. The balance of the fiscal year 1993 research, development, test and evaluation funds, less termination costs, are excess to the needs of the program and are available for reprogramming."

Scant information is available about the classified project other than it was a joint effort between the Navy and Special Operations Command. Some believe it to be a communications research effort.

Maroni in a separate letter stated that the Pentagon will transfer \$6 million from a Pentagon data link program and \$4 million from Link Acorn for the "study, assessment and identification of nuclear waste disposal by the former Soviet Union in the Arctic region."

The Pentagon originally had planned to take the money from the Defense Business Operations Fund.

The budget official said schedule delays with the Multifunctional Information Distribution System, a tactical data link for jets and ships under development with France, Germany, Italy and Spain, freed up the funds.

"As a result of these delays, \$6 million of fiscal 1993 funds originally planned for engineering development efforts...are now excess to fiscal 1993 requirements..." she wrote.

Murtha, House Democrats Rally Around The Embattled Aspin

BY TONY CAPACCIO

House Democrats have mounted a little noticed defense of their embattled colleague, Defense Secretary Les Aspin. They are circulating a pair of "Dear Colleague" letters seeking to stem calls from Republicans for his resignation.

Sent to congressional offices Nov. 9 and Nov. 16, the letters sought to explain Aspin's decision not to send armor to Somalia.

The lack of armor has been cited by many critics as a contributing factor to Ranger casualties suffered during the now infamous Oct. 3 raid in Mogadishu. Texas Republicans Reps. Bill Archer and Sam Johnson earlier this month circulated their own letter calling for Aspin's resignation.

House defense appropriations subcommittee chairman Rep. John Murtha (D-Pa.) came to Aspin's defense in a Nov. 16 letter. Murtha branded the Archer-Johnson letter "an unfair attack on Les Aspin."

The Nov. 9 letter was signed by 41 Democrats, including House Majority Leader Rep. Richard Gephardt (Mo.) and Armed Services Committee Chairman Rep. Ron Dellums (Calif.). "It does no good to react to the tragic outcome by searching for a scapegoat," they wrote.

Murtha during a mid-October trip to Somalia was briefed on the mission by its commander, Maj. Gen. William Garrison, director of the secret Joint Special Operations Command.

The lawmaker delivered a letter to President Clinton from Garrison regarding the raid. "He stated that, in his professional opinion, the armor which had been requested (four M1A1 tanks and 14 Bradley Fighting Vehicles) would not have significantly altered the outcome of the events surrounding the operation."

Murtha also told colleagues that Garrison had provided for a ready reaction force that he considered "adequate in size to reinforce the elements performing the operation should it become necessary."

Garrison told Murtha he had sufficient Ranger and helicopter forces to conduct the operation and had "received and assessed all available intelligence."

"The letter [to Clinton] from the on-site commander concluded that those above him in the chain-of-command were not responsible for the events of Oct. 3," Murtha wrote.

In addition to Gephardt and Dellums, the Nov. 9 letter was signed by Reps. Dave McCurdy (Okla.), John Spratt (S.C.), David Bonior (Mich.), Buddy Darden (Ga.), Norm Dicks (Wash.), Charlie Rose (N.C.) and Jane Harmon (Calif.).

"If Aspin underestimated the situation in Somalia, it was because he wanted to downsize and disengage from a mission that had moved a long way from its original purpose to feeding starving Somalians," they wrote. "Whether you agree or disagree with Aspin's decision, it is hard to connect it with the outcome of the battle in Mogadishu. Even if Aspin had decided to send armor, it is not clear that the armor would have been in Mogadishu by Oct. 3," they wrote.

Had the armor arrived by Oct. 3, "it is not clear that it would have altered the battle," wrote the Aspin partisans.

Pentagon Panel Clears Up Live Fire Testing Confusion

BY TONY CAPACCIO

A special Pentagon panel has concluded the military services must conduct full-scale live fire testing on all weapons systems or seek a waiver if it can be proven the exercise would be both unreasonably expensive and impractical.

The conclusion is intended to clear up confusion and differing interpretations of how to implement the 1986 law mandating full-scale tests on systems.

The Army, Air Force and Navy have interpreted a series of subsequent guidelines issued in 1987 and 1988 as allowing the testing of components and sub-assemblies early in the development process as a substitute for firing ammunition against a fully assembled system later.

A National Research Council (NRC) committee convened last year at the Air Force's request concluded that the services were wrong in their differing interpretations.

The NRC recommended that the Pentagon review the issue and publish new guidelines. Test and Evaluation Director Charles Adolph commissioned the review, which recently completed its assessment. It concluded the original law meant full-scale testing should be conducted if a waiver is not granted.

The new guidelines are being reviewed by the military services chiefs and should be formally released next month, said officials two weeks ago at a conference sponsored by the George Washington Chapter of the International Test & Evaluation Association. "We don't foresee major changes," said an officer monitoring the program.

Most importantly, the Adolph panel clarified the requirements for live fire testing: "You will do full-up, system-level test unless you get a waiver," said Albert Rainis, the Pentagon official who chaired the committee. His remarks to the conference outlined the still unreleased guidelines. "That was the legal interpretation. That's what the guidelines should convey to everyone."

To further clarify the situation, the guidelines contain a short section describing a common set of definitions.

"One of the things we tried to do was to say the intent of the legislation was to provide a disciplined, build-up [test] process," Rainis said. "We tried to capture that in the guidelines. So that if full-up, system-level tests were not required you'd still have a structured program that would allow you to get the information."

"As a committee we agreed with the NRC," Rainis said in remarks to *Defense Week*. "We hope it ends the different interpretations and ensuing confusion."

A major goal was to formalize the process by which the services sought waivers from the full-scale testing requirement for their systems. The committee, however, was not chartered to review revisions to the original 1986 law.

Conference participants lauded the proposed eight-page guidelines for their clarity and brevity. "The guidelines are a marked improvement from the guidance in place for the last five or six years," said John Ogg, technical director for the F-22 fighter, a platform for which the Air Force is aggressively pursuing a waiver from full-scale testing.

Aside from news about the guidelines, a top Pentagon official said it was time to revise the law and give the

military services greater flexibility in conducting live fire tests.

The official, Director of Tactical Systems Frank Kendall, pointed to legislation proposed separately by the Section 800 Acquisition Panel and Sen. John Glenn (D-Ohio) that would loosen some testing provisions.

The 1986 law was passed to force aggressive live fire test planning and execution. It stemmed from the national firestorm surrounding allegations that the Army rigged testing of the Bradley Fighting Vehicles to minimize the appearance of casualties.

The product largely of one man's dogged effort, then-Air Force Col. James Burton, the law forced designers to focus early in the design phase on reducing casualties, said Kendall and other officials.

"The law had a salutary effect," said Richard Ledesma, deputy director of air and space program development testing. "It caused a more focused effort but that doesn't mean it wasn't there before."

Col. Burton worked for Ledesma during the Bradley controversy.

"I think we've gotten far enough along in implementing the intent of the legislation to be allowed some more flexibility in how we execute live fire tests," Kendall told *Defense Week*. "Congress will continue to watch and if we have Bradley-type problems again then we can impose more restrictive legislation. I'd like to see the department police itself now. I think we've got it—the message" from Congress, he said.

But the requirement as spelled out in the law might be too legalistic, he said.

"We've made some errors years ago in that process," Kendall said. "We weren't smart enough about how we did it. I think the live fire test program has gone a long way to correcting some of those areas and imposing the right kind of discipline. But I think the time might be right to shift the balance a little bit and allow us in the community the flexibility to design tests that are the most reasonable and cost effective."

Kendall said the Section 800 and Glenn initiatives "give us more flexibility and recognize that the process and community has matured and can make reasonable decisions about it."

But the Senate Armed Services Committee staffer most responsible for test issues, John Douglass, sought to temper any talk that the live fire test law would be reduced any time soon.

"The whole issue is one of balance," Douglass said in a luncheon speech. "We kind of got into the situation we are in today because the services were against doing live fire testing and when it was done, fudged the tests, and when it finally came out, there was a lot of foot-dragging and embarrassment and so on."

"As long as that attitude persists you are going to have members of Congress say, 'by golly, we are going to test to the last paragraph in every single contract because we can't trust the people to tell us the truth,'" Douglass said.

Douglass predicted the acquisition reform effort, including provisions to drop live fire testing, will not be well received by the House. "The House is not really eager to see any reform occur. So don't think that because the [Section 800 Panel] says we ought to get rid of that statute, it is going to go away. That is very unclear at this stage of the game," Douglass said.

At this point, the Senate panel is "ambivalent" about the issue, Douglass said. "But members are going to think twice before they throw out a statute requiring somebody to take a good look at whether live fire vulnerability testing needs to be done."

Reporter's Notebook

JAST A Moment: The deputy director for the fledgling Joint Air Strike Technology program may not be a Navy officer after all.

JAST is an Air Force, Navy and Marine Corps research effort to build a next generation fighter-bomber aircraft. While Air Force Brig. Gen. George Muellner will be the program chief, it was commonly held that the Navy would take the No. 2 slot.

But according to Pentagon sources, Navy Assistant Secretary Nora Slatkin, in what would be an unusual move, is considering a Marine Corps candidate for the position.

The emerging program already has an untraditional management structure: Muellner will report program progress to Slatkin, who reports to Acquisition Undersecretary John Deutch.

The only hard and fast name making the grapevine last week was Navy Capt. Jeff Cook, the program manager of the now-defunct A/FX jet.

Reaching Out: In search of more minority employees and better press, the Defense Intelligence Agency is pursuing what it calls a "targeted recruitment strategy."

According to Charles White, the DIA's director for the diversity management office (formerly the equal opportunity office), the Pentagon's one-time holding pen for Cold Warriors is on the prowl.

"A recruiter has been selected and is currently going through the security clearance process," White wrote in an Oct. 12 memo. "The recruiter will have responsibility for developing an implementation plan to...establish a partnership program at one or more Historically Black Colleges and Universities and Hispanic American Colleges and Universities."

White also said the DIA will step up overall college recruiting and "establish a program to 'wholesale' the agency."

At the local level, agency employees are encouraged to participate in an "adopt-a-school" program. "It will provide an opportunity for DIA to enter into a partnership with Malcolm X Elementary School" in Southeast Washington.

Said White: "Employees may be sought to tutor, teach, assist teachers and speak at career day programs."

Promotion: It's official. Ballistic Missile Defense Organization (BMDO) acting director Maj. Gen. Malcolm O'Neill has received his third star and has been named director of the missile defense office, according to the Army. The Senate approved the promotion Nov. 19.

Rather than hold confirmation hearings on the post, the Senate Armed Services Committee instead presented O'Neill with a list of written questions.

Now that BMDO has a man at the helm, it can fill the other empty slots, including deputy director, architect and general manager.

On The Heels Of West: Robert Helm has been appointed corporate vice president for government relations at the Northrop Corp. He succeeds Togo West, who is the Clinton administration's Army secretary pick.

According to a company statement, Helm will be responsible for Northrop's Washington operations "and for maintaining effective relations between Northrop and the U.S. government." Helm is no stranger to the nation's capital. Since he joined the firm in 1989, Helm has served as corporate vice president for legislative affairs. Prior to his Northrop stint, Helm served as deputy Pentagon comptroller, a director of defense programs at the National Security Council and a defense analyst with the Senate Budget Committee.

More From B-1 Bob: Grammar students wanting a definitive example of a run-on sentence can once again turn to Rep. Robert Dornan (R-Calif.) for sage advice.

In a Nov. 19 floor speech about a new parliamentary building and Battle of Guadalcanal memorial in American Samoa, the statesman delivered a 102-word sentence needing no less than 10 commas, according to the *Congressional Record*. To wit: "May I add to that the great help of our Pennsylvania colleague, a great Democrat, Jack Murtha, who was the key man in making sure that wonderful idea that we sort of all came together on went forward, and remember, it was because we went to Papua, New Guinea, first, and saw that the Australians in pulling out of this colony that they had held for many decades left behind as a parting gift, and all colonialists should leave in this way, by building one of the most beautiful natural wooden assemblies or parliaments of any young emerging nation in the world."

A New Top Inspector: The White House nominee for Pentagon Inspector General (IG) Stephen Ryan has an eclectic law enforcement background making him well suited for the top sleuth/auditor post.

As general counsel on the Senate Governmental Affairs Committee, Ryan worked extensively with the IG to investigate bloated, excess Pentagon inventory. Ryan also staffed efforts by Chairman Sen. John Glenn (D-Ohio) to strengthen IG offices throughout the executive branch and create a safety board overseeing the Energy Department's nuclear weapons complex.

Most recently, Ryan was an attorney with the high-powered law firm of Brand & Lowell, whose lead partner, Stanley Brand, is the former House of Representatives counsel. Ryan served as a member of the Clinton-Gore Small Business Administration transition team.

The 1980 Notre Dame law school *cum laude* graduate also served as deputy counsel to the Reagan administration President's Commission on Organized Crime, where he directed investigations into labor and long-shoremen union corruption.

Does Halperin's Proposed Job Step On Foggy Bottom Toes?

On top of answering charges about his "radical" past, Pentagon nominee Morton Halperin faces questions about whether his proposed job amounts to an unwarranted intrusion on the State Department.

Halperin is the Clinton administration's embattled nominee for assistant secretary for democracy and peacekeeping, a new position created by Defense Secretary Les Aspin.

But some lawmakers believe the position potentially stomps on foreign policy turf owned by the State Department. Halperin in written material submitted to the Senate Armed Services Committee acknowledged the possible overlap but said it was not a problem.

"Negotiations with other governments is, of course, primarily the responsibility of the Department of State," Halperin wrote in material released at his stormy Nov. 19 confirmation hearing.

"At the same time, as traditionally has been the case, there are many situations in which it is appropriate for officials of the Department of Defense, including military officers, to carry on negotiations with their counterparts in other governments on matters of primary concern to the Defense Department. I would expect to participate in such negotiations," he wrote.

The White House must resubmit Halperin's nomination early next year because the Senate wound up its legislative duties for the session without voting on the nominee.

Describing his would-be role in crafting policy, Halperin in his written material suggested his office would have many of the same duties as the State Department.

The proposed office would include five key subdivisions: deputy assistant secretaries for democracy and human rights; for peacekeeping and peace enforcement; for humanitarian and refugee affairs; for drug enforcement policy and support; and a director for the National Security Education program.

"With the exception of the National Security Education program," Halperin wrote, "there are offices in the Department of State that perform similar functions to those of each of the offices..."

The nominee noted that his office "will be in regular contact with the corresponding office or offices in State to ensure appropriate coordination."

As for why the new position is needed, Halperin wrote it will "provide policy advice to the Secretary and to help implement agreed administration policy within the Defense Department."

In other matters, the nominee gently criticized the Clinton administration over its policy toward the former Yugoslavian republics.

Halperin wrote: "...Our government should have made it clear to Serbian leaders that it would not stand by and permit the use of force against other nations in the former Yugoslavia and that we would not tolerate acts of genocide. If those warnings did not have the desired effect, I believe that the United States should have sought international agreement to come to the aid of the Bosnian government."

Contrary to conservative charges, the nominee claimed the United States should retain the right to use unilateral force around the globe.

He also fleshed out his vision of the relationship with the United Nations. "We must ensure that we participate in peace enforcement operations only when we are comfortable with the command arrangement and the objectives of the operation are clearly stated and are ones that we support."

Halperin also chided the United Nations. He said the Pentagon should seek "a number of improvements" in the U.N. Secretariat. These include fixes to the command and control structure and development of an effective means for disseminating intelligence and planning operations.

"We should be very wary of committing American forces to a U.N. operation—particularly if there is a possibility that significant force will have to be used—until fundamental changes are made in the U.N. structure," he wrote.

—ERIC ROSENBERG

Deutch Says Pentagon Procurement Budget Ripe For Dual-Use

BY ERIC ROSENBERG

The Pentagon's top acquisition official said nearly half of the military's \$85 billion annual procurement budget is ripe for "dual-use" applications.

John Deutch, the undersecretary for acquisition and technology, said approximately \$42 billion eventually may be used to buy equipment and material that have both military and commercial uses.

Purchasing equipment with twin military and commercial uses is one of the foundations of the Clinton administration's effort to cushion the economic blow of dramatically reduced defense budgets.

Officials are selling dual-use projects as something of a savior for an ailing economy and a cash-crunched Pentagon. Deutch said they will lower costs to the military by passing on cost savings from the greater economies in the commercial segment while spurring technology development.

The acquisition chief opined that "defense conversion" is a misnomer and that the term "reinvestment" was more apt. "We'll work on converting materials that can be used for both ploughshares and swords," he said at a Nov. 16 *Defense Week* conference on defense conversion.

Deutch said food and clothing for troops and fuel are the most obvious examples of items that the Pentagon can buy in the commercial sector. He singled information technologies and computer software as others down the road.

The Pentagon "is going to have to rely more heavily on these commercial goods and services in contrast to the defense-unique items based on military specifications," he said.

The Pentagon, he said, is "committed to identifying those areas where the Department can legitimately, without excess, with wisdom, with taste, make key investments that will serve

(Continued on page 9)

Air Force Ignored Key Evidence... (From page one)

stand or did not consider additional supporting evidence that was provided to it," said the IG.

The 12-page IG report, dated Nov. 18, was sent last week to Air Force Secretary Sheila Widnall. It was obtained by *Defense Week* Wednesday. House Government Operations Committee Chairman Rep. John Conyers (D-Mich.) received a copy last week but declined to release it. *Defense Week* obtained the document independent of the committee.

Air Force spokesman Lt. Col. Harold Smarkola said the Air Force had received the document Wednesday and was studying it before issuing comment.

The latest IG report is sure to rekindle debates about the extent of Air Force mismanagement of the \$39 billion program. The episode this spring led to the dismissal of C-17 program manager Maj. Gen. Michael Butchko for his "lack of judgment" and the removal of three officials from acquisition management duties.

The IG report was in essence a rebuttal to the earlier Air Force review team assessment.

The Air Force legal assessment, which was chaired by Deputy Air Force General Counsel Myron Nordquist, concluded some questionable "errors of judgment" were made by C-17 program managers.

Nordquist's report, however, stopped short of accusing anyone of improper conduct. "I found no credible evidence of wrongful, inappropriate, or ill-judged actions" by key C-17 program officers and Air Force financial officers. "My conclusion is based on '20-20 hindsight' about their performance within the context of a program with formidable systemic management challenges," Nordquist wrote.

The rebuttal sought to dispel this notion. Evidence cited by the IG in January and collected, but not used by, the Nordquist team "conclusively showed that the acquisition oversight process at the Office of the Secretary of Defense level was hampered by certain Air Force officials."

The final Air Force report "contains statements from previous drafts which were not retained." They included:

- "Sufficient factual basis existed to support an allegation that in December 1990 [sic] Air Force impaired Office of the Secretary of Defense oversight of the C-17 program."

- "The Air Force reviewing official finds that in December 1990 the foregoing [program financial concerns] caused the System Program Office to communicate misleading information."

- Information contained in a Dec. 24, 1990, memo from the program manager updating officials on the first delivered C-17's status "appears to be both false and misleading."

Nordquist, now an associate professor of law at the Air Force Academy, was unavailable last week for comment. "Notwithstanding the evidence we provided, as well as additional corroborating information obtained by the review team—none of which was addressed in its report—the review team denied the existence of any evidence of an improper plan to financially assist the contractor," said the IG rebuttal.

"We stand by our conclusion that there very definitely was a plan, in the sense of organized and concerted actions."

The plan in mid-1990 revolved around accelerating progress payments and accepting delivery of the first C-17 even though it did not meet contract specifications. The premature acceptance removed a \$1.6 billion liability from the McDonnell Douglas books.

Charged the rebuttal: "The review team ignored obvious evidence of the concerted efforts by senior Air Force officials to overpay progress payments, to proceed with award of subsequent contracts at understated prices (knowing that the cost increase would ultimately be borne by the government), and to effectuate an improper accounting practice change than maximized financial benefit to the contractor."

The Air Force review said the accounting practice change was unintended and based on a McDonnell Douglas "misinterpretation."

Not so, said the rebuttal. Air Force documents indicated that the C-17 program office coordinated, rewrote and edited "significant portions" of

McDonnell Douglas's Oct. 11, 1990, request for the accounting change.

"The marked-up draft and [fax] transmittal document from the program office to the contractor were not provided to us" but were contained in the review team's records. "Actions by the SPO to extensively revise the draft make the team's conclusion that a 'misunderstanding' occurred difficult to accept," said the rebuttal.

News of the report comes as senior Pentagon officials decide the program's fate.

On Wednesday, Acquisition Undersecretary John Deutch met with senior Pentagon and Air Force officials in a final review before deciding how to revise the program. The meeting was billed as a "what are all the things we have to do to clean up this thing" discussion, said one Pentagon official.

Deutch decided to proceed with purchases of six aircraft this fiscal year and advanced funding for six more in fiscal 1995. Another meeting is scheduled for next week to review commercial aircraft alternatives. Deutch has briefed lawmakers that he was thinking of funding just 40 of the anticipated 120 aircraft.

The Air Force team review was commissioned by Defense Secretary Les Aspin. It came after the IG in January alleged a widespread pattern of improper contracting practices undertaken on behalf of McDonnell Douglas by senior service officials.

Aspin directed that the Air Force review "provide any additional factual information that should be considered" in assessing the charges. The IG concluded, however, "we believe the review team failed in its duty as tasked by the Secretary of Defense." Transmitted by Deputy IG Derek Vander Schaaf, the rebuttal said some of the ignored information "has implications regarding the potential violation of federal law. We are conducting a further examination of the information in order to determine appropriate disposition."

A key IG allegation from January was that Air Force officials, from then-program manager Maj. Gen. Michael Butchko to Darleen Druyun,

(Continued on next page)

North Korea Not An ICBM Threat... (From page one)

intelligence estimates available on future Third World ICBMs, said an administration source last week.

According to a transmittal letter to Dellums, the text was culled from a secret report entitled "Prospects for the Worldwide Development of Ballistic Missile Threats to the Continental United States."

"At a minimum, North Korea would require nearly 10 years to develop an ICBM capable of delivering a chemical or biological weapon warhead and 10 to 15 years to develop an ICBM to carry a nuclear warhead," said the study.

"However, the probability of North Korean ICBM development is currently low because of competing demands for dwindling resources among existing high priority military programs," it added.

Of the non-NATO nations possessing the capability to produce ICBMs, only North Korea, Iran, Iraq and Libya have the political support or motivation to attack the United States, said the paper.

According to the report, "No evidence exists that any of the countries examined in this study are developing missiles—especially ICBMs—for the purpose of attacking" the United States.

All but Libya are technically capable of building such missiles in 15 years, but "for different reasons—political and economic—the probability is low that any of these four will complete development in that time."

Steve Hildreth, a Congressional Research Service strategic analyst, said, "What the CIA seems to be saying is that these countries will make a conscious policy choice not to proliferate due to economic and political considerations."

The CIA's findings also appear at odds with previous administration statements.

For example, in his Jan. 1991 report to the president and Congress, then-Secretary of Defense Dick Cheney wrote, "Within the decade, the continental United States could be in the range of ballistic missiles of several Third World nations."

The administration source said the new document's findings differ from previous CIA assessments because they are more detailed and specifically address political and economic factors, not just technology.

He said the most explicit earlier pronouncement on the subject had been CIA Director R. James Woolsey's July 1993 testimony to the House Foreign Affairs Committee. "After the turn of the century...some nations that are hostile to the U.S. may be able to develop indigenously ballistic missiles that could threaten the U.S.," Woolsey said.

The CIA's findings are significant because they deflate the arguments of missile defense supporters that emerging ICBM threats necessitate a national defense system.

Critics have charged that the Cold War's end prompted former "Star Wars" missile defense supporters to exagger-

ate the Third World threat in hopes of extracting maximum funding from Congress and swaying public opinion.

For example, in its January 1993 report to Congress, the Ballistic Missile Defense Organization identified this threat as key: "After the turn of the decade, some nations hostile to the U.S. could acquire ballistic missiles that could threaten the United States."

"Over the next 10 years we are likely to see several Third World nations establish the infrastructure and develop the technical knowledge required to undertake ICBM and space launch vehicle development, although testing and production of these missile systems would take some time," it added.

Likewise, during a September defense budget debate on the House floor, Rep. Floyd Spence (R-S.C.) repeated the prediction. "It is quite possible that other, unexpected missile threats to the continental United States could emerge within the next 10 to 15 years as well."

But the CIA painted a different picture. Although both Iran and Iraq could build ICBMs carrying chemical and biological weapons 10 years to 15 years after beginning development, neither is expected to start soon, said the report.

For Iraq, U.N. inspections and economic sanctions are preventing that country from developing ICBMs. Iran is at least five years away from starting because "the Iranian economy is already straining to support other higher priority weapons modernization programs necessary for regional security," said the CIA.

In Libya, the "leadership's actual commitment to such an expensive and technically and politically risky development program is questionable," said the report. Due to its limited technical capability, Libya probably could not build a system in 15 years.

And buying the technology won't help much. "It is unlikely that Libya, Iran and Iraq would significantly shorten their indigenous development timelines through the acquisition of foreign equipment and help," the CIA said.

In addition, any ICBMs which enemies could develop

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Bad News For Air Force... (From page 6)

the principal assistant deputy chief of staff for contracting, misled civilian Pentagon officials about the program status.

Wrote Nordquist: The team found no credible evidence they "withheld information from higher level managers in the acquisition chain of command nor is there any evidence that they misrepresented information regarding McDonnell Douglas Corp.'s financial condition to anyone."

"Rather, there is significant evidence, much gathered by the DoD IG (but not used) that key OSD officials were both involved and well-informed about all aspects of the C-17 program," the attorney wrote.

Countered the rebuttal: "We find no evidence to support an extraordinary conclusion by the review team that the OSD was kept fully informed of program status and countenanced whatever actions the Air Force took."

Nordquist's report "makes no reference to repeated instances in which misinformation or lack of candor on the part of the Air Force impeded the ability of officials in OSD to oversee the program," wrote Vander Schaaf.

Peace Enforcement In The New World Order... (From page one)

So did media stand-ins.

The paper's first draft was completed Aug. 31 by the Army Infantry School's "battle laboratory" and will be revised as needed. The 82nd's commanders prepared for their exercise in October using the paper.

Their recommendations and those from a March 101st Airborne Division exercise will be included in the final product, said Col. Arnold Canada, a battle lab official, two weeks ago. A final peace enforcement training package based on the white paper will be distributed to select Army units in June 1994.

The new white paper and training scenarios are significant in demonstrating the Army's new commitment to peace operations. In fact, some critics fear the Army is straying too far from its primary mission: fighting and winning wars. They question whether too many soldiers, time and money are soaked up by peace operations.

Still, those missions have rapidly become a top post-Cold War Army priority. In a speech following the notorious Oct. 3 Ranger raid in Somalia, Defense Secretary Les Aspin said the service would be reshaped from an anti-Soviet bulwark to a world-class peacekeeper. The white paper and exercises mark major milestones in that transformation.

The white paper details for the first time brigade and battalion training and evaluation requirements in preparation for peace enforcement operations. It also lays out standards for measuring proficiency.

The scenarios include such missions as "cordon and search" sweeps, non-combatant evacuations, establishing checkpoints and convoy security.

The white paper also outlines a laundry list of real-world dilemmas likely to be faced by peace enforcers and suggests appropriate step-by-step responses. Among the situations: snipers opening fire, an unruly crowd

approaching a U.S. unit, youths throwing rocks and drive-by shootings. In one "dilemma" unarmed civilians taunt U.S. forces from a passing vehicle. A response checklist suggests getting a license number, reporting the incident to superiors, making a detailed log entry and recording the provocation with a combat video camera. "Otherwise, ignore them; don't talk

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From Peacekeeper To Gatekeeper: The Army And The Image Game

The Army's ideal soldier for "peace enforcement operations" is a chameleon, part negotiator, humanitarian, warrior—and consummate spin-meister, according to a draft Army Infantry School "white paper."

But for those soldiers who aren't to the camera lights born, there's no need to worry. The Army has got just the ticket: rehearsed press conferences, stock themes and pre-arranged photo shoots.

The paper's "media relations" section lays out just how the Army will spin-doctor its next Somalia-type media campaign.

It begins by acknowledging that, like it or not, "peace enforcement operations are carried out, especially in the initial phases, under the full glare of public scrutiny."

Who can forget the opening night assault on Somali beaches by Navy and Marine Corps commandos caught live by U.S. television crews?

Modern communications technologies, the Army concedes, allow the press to "distribute reports and pictures faster than the news can be released by the command."

But that means "incidents, sometimes embroidered or slanted toward a partisan viewpoint, are screened on television the same day and in the countries that are parties to the dispute and their allies." To keep events properly spun, the Army suggests using press conferences preceded by strong "preparation and rehearsal." It also advises that "agendas" are "extremely useful to keep issues under control." Lack of planning for press conferences, it warns, "can lead to imbalances in coverage."

Before speaking to the press, military spokesmen are counseled to familiarize themselves with public affairs guidance provided by superiors. "If time permits, role play of the press conference should include the asking of 'tough questions.' The term 'no comment' should only be used as last resort."

To ensure that footage to the Army's liking gets air-time, the Infantry School recommends commanders "encourage the media to see what soldiers are doing and talk to them about their jobs."

The Infantry School also advises leaving little to chance by scouting out locations in advance for still photographers and video recordings.

But it's not all a matter of style and presentation. There's the question of substance too. To make sure the Army's preferred message gets heard, the school urges that "all leaders and soldiers should be provided a simple theme to convey to the press should they be interviewed. Regardless of the question asked, the responses should be tied back to the simple theme."

Again, practice makes perfect. "Time permitting, soldiers and leaders should be rehearsed in front of video cameras in mock interviews to practice communication of the theme," said the white paper.

Off-the-record statements, an old Washington press conference staple, "must not be made in briefings or discussions with...media members."

The paper also reiterated some traditional concerns about just what information the press reveals, warning that reporters must not photograph recognizable dead Americans or allied soldiers, charts, maps, supply depots or electronic warfare assets.

And just to make sure scribes understand their place on the Pentagon priority list, the Infantry School said "reporters must be reminded that their personal security is not a primary concern of military commanders."

—ANDREW WEINSCHENK

Training Begins For Peace Operations... (From page 8)

back," it counsels.

A section on intelligence issues warns commanders that Somalia-like operations "require non-traditional, low level, 'police-type' intelligence to support the command." Without being able to rely on high-tech satellite spying, intelligence officers will resort to "liaison, interrogations and document exploitation and debriefing of friendly patrols."

"Stabilizing ground units in a given area facilitates development of local area knowledge and the cultivation of low-level sources (snitches)," writes the school. "This is really close to developing 'police-type' intelligence akin to what the old 'cop on the beat' collected in his 'neighborhood,'" said the school.

In a "fire support" section, the school counsels commanders that mortars have proven "particularly effective" in providing illumination for infantry units. "However, fire support planners should carefully consider the safe 'dump' of the expended illumination canister to avoid civilian injuries."

The paper suggests firing illumination rounds over belligerents' heads. "Combined with effective negotiation, this technique demonstrates to the belligerent that he is targeted and may cause him to withdraw," said the paper.

An AC-130 gunship can also be "useful in showing force to the belligerents. It can be used as a tool for negotiating the withdrawal of belligerents out of the buffer zone" or forcing dismantlement of checkpoints.

In the logistics arena, the paper warns that U.S. forces may frequently be called upon to support allied troops. "Many third world countries that provide soldiers for peace operations may turn to the U.S. for support when their own country and the U.N. fail to provide basic [logistics] services," it said.

It also warns that locals will likely place early demands on units' logistics. "To the extent possible, satisfying their needs may be a means of promoting the unit's acceptance."

Dual-Use Budgets... (From page 5)

both the needs of making a strong military and which contribute to a stronger economy."

In order to foster dual-use purchases, the Pentagon is proposing an overhaul of its procurement system. Key to the reform process is less reliance on military specifications and the slicing away of regulations so that the Pentagon more closely mirrors the commercial sector.

But Deutch struck a cautionary note. Increased reliance on the commercial sector "must be selective." He said, "it's inevitable that everybody identifies their programs as being dual-use. That is not the way we hope to go."

"We intend to try and identify selectively those technology areas that genuinely make a contribution to the military and commercial sectors. It is a necessary condition that they have a vital potential contribution to lowering costs to the military."

He said the Pentagon selection process of dual-use efforts will attempt to stay above pork and regional politics. "We are going to advocate that selections be done on a competitive basis...and not to be identified with a particular region or an area that has had a recent defense reduction."

"Our objective must be to place emphasis on those assets that have the largest pay-off for defense potential and which have significant commercial payoff," he said.

The school recommends using liaison officers and special negotiation teams to keep minor problems from snowballing. Liaison officers have proven valuable coordinating logistic support, organizing civil affairs and explaining "rules of engagement."

The negotiation teams can "move quickly to locations where confrontation with the belligerents are anticipated to occur." The teams should have the necessary linguistic skills but also authority to negotiate on the behalf of commanders, said the school.

The teams could be particularly handy at checkpoints, "which are often the scenes of violence." The white paper laments that "in a world charged with extreme nationalistic, ethnic and religious passions and no place isolated from an omnipresent media, what might have been regarded as an unfortunate but minor incident [previously] can result in a major political setback and loss of international prestige to a nation sponsoring a peacekeeping or peace enforcement effort."

To prevent misunderstanding the paper offered a detailed check list of checkpoint "do's" and "don'ts." Do "smile when approaching a vehicle and talking to the driver," it said. "Speak naturally and no louder than needed." Don't "speak to women regardless of their age" or "point a weapon directly at a woman unless essential for security reasons."

Should negotiation be required, the paper recommends that negotiators display "mastery of detail, tact, patience, a sense of proportion, resourcefulness, objectivity and impartiality." On matters of principle, the negotiator "must be insistent without being belligerent."

Detailed advice on trade craft includes starting negotiations at the lowest possible level. "This process allows political *faux pas* that arise from negotiations to be blamed on subordinates while the senior leader maintains credibility."

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INDUSTRY ALERT

Lockheed Picks A Partner

Lockheed Aeronautical Systems Co. has teamed with Reflectone U.K. Ltd. to pursue C-130J Hercules training systems business.

Located in Bristol, England, Reflectone will be Lockheed's prime contractor and systems integrator on the C-130J training systems program.

Reflectone U.K. will generate Ada software for the training systems. Its sister company, Reflectone Inc., in Tampa, Fla., will supply the hardware.

Firm Snags Training Contract

The Air Force Ogden Air Logistics Center has awarded a \$30 million contract to CAE-Link Corp. to manage the combined Air Force/Navy E-3/E-6 flight crew training program, the firm announced.

This contract marks CAE-Link's fourth "total training system" program, the most for a single contractor, according to the company.

The program consolidates the Air Force E-3 AWACS tactical crew training system, previously managed by Boeing Corp., and the Navy E-6 TACAMO aircrew training system, recently operated by McDonnell Douglas Corp.

THAAD Clears Design Review

Lockheed Missiles and Space Co. has announced that the Theater High Altitude Area Defense (THAAD) Scud-busting missile successfully conducted a final design review on schedule Nov. 17 and 18.

The firm can now proceed with procuring and building the hardware necessary to begin flight testing in fall 1994.

Primary systems Lockheed examined in the review included the kill vehicle, avionics, booster and divert systems, the launcher and radar systems for early flight tests, the command test unit and ground support equipment.

McDonnell Douglas Goes Dutch

McDonnell Douglas Corp. has awarded a \$7 million subcontract to convert two DC-10 aircraft to military tanker transports for the Royal Netherlands Air Force. The subcontract was awarded to KLM Royal Dutch Airlines' engineering and maintenance unit.

McDonnell has a \$44 million U.S. Air Force contract to design and modify two DC-10 series 30 convertible freighters into KDC-10 tankers. Under the foreign military sales program, McDonnell Douglas Aerospace has completed a price proposal for a full contract, which the firm hopes will be for over \$100 million.

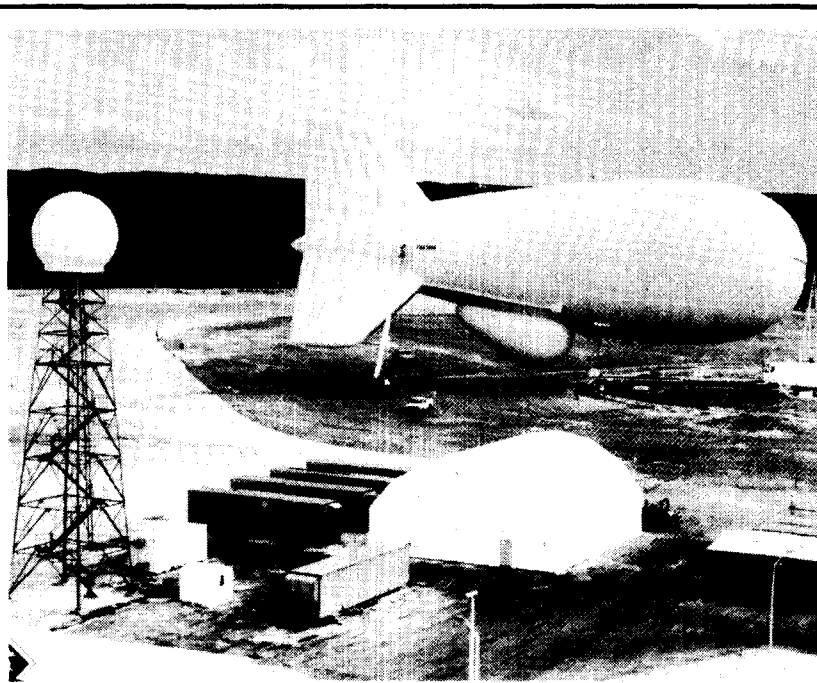
Engineering for the aircraft modification will be done at the company's Long Beach, Calif., facilities, where the Air Force KC-10 tanker was designed and built.

Breaking Ground In Hawaii

Holmes & Narver Construction Services Inc. won a \$3.2 million contract to provide a range of construction work on Navy installations on Oahu, Hawaii.

Under the two-year contract, the firm will perform "multi-trade construction services at the Pearl Harbor base and other installations on Oahu," it said in a release.

The company specializes in construction, maintenance, repair and modification services.



Kuwait Is Getting Sky Eye

The Government of Kuwait, through the U.S. Marine Corps, has awarded a \$35 million contract to TCOM L.P. for a low altitude surveillance system aerostat. The system's predecessor deployed in Kuwait was destroyed by Iraqi soldiers during the gulf war, according to the company.

The aerostat is an unmanned and tethered blimp carrying a Martin Marietta Corp. L-88 radar. One system will monitor Kuwait's entire border on land and sea, said TCOM.

Multi-Billion Dollar Aircraft Realignment... (From one)

dations will significantly affect the bottom line of St. Louis-based McDonnell Douglas Corp., the nation's top defense contractor.

According to the documents, the Navy has recommended steep cuts to major McDonnell Douglas money-makers: the F/A-18 C/D Hornet fighter-bomber, the T-45A jet trainer and a program to refurbish the AV-8B Harrier. Based on Pentagon aircraft cost figures, these cuts will total over \$2.5 billion.

The documents underscore the difficult decisions facing a Navy leadership being pressured to reduce defense spending. And they portend a major decline in aircraft and helicopter purchases over the decade, a fact of life that also will ripple through the boardrooms of many smaller component makers.

The reductions are geared to a force level that was approved in Aspin's "bottom-up" review. That study called for reducing the Navy by 1999 to 114 surface combatants, 55 attack submarines and 394,100 personnel. The centerpiece of the new force level will be 11 active and one reserve aircraft carriers.

In support of the reductions, Earner said the "department [of the Navy is] rightsized and maintains capability to joint warfighting tasks."

According to the charts, overall purchases will dramatically trail off from this year's 100 aircraft and helicopters to 63 in fiscal 1995, 67 in fiscal 1996, 98 in fiscal 1997, and 89 in fiscal 1998. The service plans to crank up production substantially in fiscal 1999 to 135 aircraft and helicopters as old programs are phased out and new production lines start up.

These cuts are on top of previous reductions put forth by Navy officials this past summer in internal budget debates. A separate Aug. 2 Navy document, for example, said there would be cuts to infrastructure and personnel accounts and innumerable programs like the United Technologies Corp., Sikorsky Aircraft SH-60F and CH-53E helicopters.

But the Aug. 2 document had also deemed the F/A-18 C/D—the Navy's premier multi-mission jet—sacrosanct. Navy officials at the time wrote that "recapitalization of current force structure remains the Navy's most important objective. To this end, current procurement levels of the F/A-18 C/D and E/F aircraft, the new attack submarine, DDG-51s and the amphibious force are maintained over other competing priorities."

However, the Navy soon thereafter had to reverse itself. The most significant aviation cuts outlined in Earner's Oct. 1 package are that 24 F/A-18 C/Ds will be slashed from the fiscal 1995 and 1996 budgets, worth roughly \$984 million. The Navy still plans to buy 24 of the jets in fiscal 1998, the documents said.

Part of the loss will be made up in fiscal 1999, when the Navy plans to buy an additional 12 F/A-18 E/Fs, the documents said.

The T-45A trainer also will take a big hit, dropping 72 aircraft, worth approximately \$1.5 billion, through fiscal 1999. According to Earner, the cuts break down as follows: 12 T-45As chopped in fiscal 1995; 18 dropped annually in fiscal 1996 through 1998; and six sliced in fiscal 1999.

A multi-billion dollar effort to remanufacture older model AV-8B Harriers into a newer configuration is in the cross hairs. The Navy charts show a reduction of 10 jets through fiscal 1999.

Other significant procurement reductions foretold by Earner through fiscal 1999 are the elimination of 17 Bell AH-1W helicopters and termination after fiscal 1997; the elimination of 34 Sikorsky SH-60Bs and termination after fiscal 1997; the elimination of 53 Sikorsky SH-60Fs and termination after fiscal 1994; the elimination of 22 Sikorsky HH-60H helicopters and termination after fiscal 1994.

Earner's document confirms that the program to upgrade older model Grumman Corp. EA-6B Prowlers also is dead.

All is not bad news for naval aviation. The document reaffirms that the V-22 Osprey and E-2C Hawkeye have been resurrected. As previously reported in *Defense Week*, the Navy intends to reverse its earlier decision and buy at least 20 new Grumman worth nearly \$1.6 billion. And the service is girding for full-blown V-22 production with six in fiscal 1997 and eight the following year, culminating in 12 by fiscal 1999.

Also, the Navy is planning a robust program to refurbish older model SH-60 helicopters. Funds to upgrade two choppers are budgeted in fiscal 1998 and 15 in fiscal 1999.

In another key change, the Navy is planning for the rapid procurement of a new cross-service trainer, the Joint Primary Aircraft Training System. Earner's document notes that eight of the planes are planned in fiscal 1997, escalating to 24 in fiscal 1998 and 1999.

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Llewellyn King, Publisher.

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SUBSCRIPTION PRICE: \$999 PER YEAR. (Outside U.S. and Canada add
annual postage of \$100. FAX PRICE: \$1,499 PER YEAR.

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CIA Analysis Supports Claims Of Critics... (From page 7)

would be poorly built and unreliable weapons. They would be the result of a "high-risk development program with no (or limited) testing in order to shorten schedules and reduce the visibility of the program," said the CIA. The result would be low-tech, inaccurate weapons barely able to reach the United States.

And because of modest technology infrastructures and weak economies, future Third World ICBMs would be produced in only small numbers, it said.

Such missiles would probably not be used indiscriminately against U.S. cities. The rockets "would probably be used as weapons of last resort or as deterrents against a threatened U.S. attack." They would also be vulnerable to U.S. destruction before launch.

"Analysis of political and military doctrines within countries supports the conclusion that a launch without provocation...for most countries is very unlikely," the CIA said. Only Libya and Iraq were seen as possible threats.

Hildreth praised the report's findings. "This clarifies what many of us have been saying for several years."

Dellums was also pleased. "Rep. Dellums has made

the claim, especially during floor debate this year on the Dellums-[Peter] DeFazio [D-Ore.] amendment to cut Ballistic Missile Defense, that the 'threat' didn't justify the spending," said a House Armed Services Committee spokesman. "We feel that this recently declassified report substantiates that claim."

The Dellums-DeFazio amendment to the fiscal 1994 defense authorization was defeated. It would have slashed the missile defense budget request from \$3.8 billion to \$1.5 billion, including \$400 million for national missile defense.

Both fiscal 1994 defense authorization and appropriations conferences provided \$650 million for national defense systems research.

The CIA's findings also shore up Defense Secretary Les Aspin's "bottom-up" review of future defense needs. Aspin relegated national defense to laboratory research.

George Schneiter, the director of strategic and space systems and head of the review's missile defense portion, said during a September speech. "The threat to the U.S. homeland is not projected in the near term."

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ENVIRONMENT WEEK

By The Editors Of The Energy Daily And New Technology Week

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Thursday, November 25, 1993

EW Volume 6, Number 46

Smog Agency Pushes Northeast Toward Low Emission Vehicle Program

BY GEORGE LOBSENZ

In a nightmare scenario for automakers, a regional air pollution control agency has proposed that 11 Northeast states and the Washington, D.C., area adopt the California clean car program. However, the industry already is maneuvering in Washington to limit the spread of the low emission vehicle (LEV) plan.

The Ozone Transport Commission (OTC), invoking its authority under the Clean Air Act Amendments of 1990, formally released a proposed low emission vehicle program Nov. 17, saying the smoggy Northeast could not meet federal clean air standards without it.

The commission was created by Congress to coordinate air pollution control in the congested Northeast corridor; lawmakers said a regionwide strategy might be necessary in view of studies showing that pollution from one city could be blown downwind, contributing to a neighboring

area's smog problem. The clean air law empowered the OTC to make recommendations to EPA about regionwide emissions control measures needed for the Northeast to achieve federal clean air standards.

EPA has nine months to decide whether to require the OTC-recommended measures across the region, which encompasses Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland and the District of Columbia and adjacent areas of northern Virginia.

The proposed OTC program would take effect in January 1996, and give automakers two years to begin producing LEV cars for the 1999 model year. Automakers then will have to meet progressively tougher fleetwide average emissions standards in the years ahead through a mix of traditional, alternative fuel and electric cars. The program includes requirements for the sale of "transitional" low emission vehicles, "ultra" LEVs and "zero" emis-

(Continued on page 2)

EPA Cabinet Bill Misses The Mark In House, Again

BY VIKI REATH

Rep. John Mica (R-Fla.) might think the quiet passage of a bill that abolishes the Council on Environmental Quality Saturday afternoon, by two senior House committee chairmen, makes a good tale for Thanksgiving dinner.

But, to a well-informed Democratic aide it is a real turkey of a story. The bill's passage was normal procedure for a non-controversial bills.

"Fine," Mica told *Environment Week* Tuesday. "Then, why was [Rep.] John Conyers (D-Mich.) shocked when I told him on Saturday?"

But the Democratic aide said Conyers knew all about it, since the proposal started out as an amendment to the

(Continued on page 4)

Appeals Court Ruling On WTI A Major Defeat For Greenpeace

BY PAUL KEMEZIS

The 6th U.S. Circuit Court of Appeals, in a major defeat for Greenpeace, has thrown out a March decision by the U.S. District Court in Cleveland that dioxin emissions from the Waste Technologies Industries hazardous waste incinerator in East Liverpool, Ohio, posed an imminent danger to public health.

The Nov. 19 ruling removes for the time being a major legal cloud hanging over the controversial incinerator and also bolsters industry claims that Congress, in the 1976 Resource Conservation and Recovery Act, made it difficult to challenge Environmental Protection Agency permits once a short appeal period had expired.

The appeals court ruled that the lower court had no jurisdiction to hear the Greenpeace suit since, in fact, it was a challenge to conditions for the WTI facility contained in a permit approved by EPA in 1985.

It said that under RCRA such a case could only be brought before the U.S. Appeals Court for the District of Columbia within 90 days of the EPA permitting decision.

The court said that the dioxin risk alleged by Greenpeace was already known back in 1985 but no action had been taken against the permit in the D.C. circuit at that time. This suggested that Greenpeace raised the dioxin issue in 1993 not because of imminent danger but "simply as a

(Continued on page 8)

Smoggy Northeast Eyes California Plan... (From page one)

sion vehicles, or ZEVs.

The OTC proposal differs from the California program in that it does not require Northeast states to adopt California's clean fuel standards.

In addition, OTC called for public comment on an alternative approach under which the LEV program only would be required in smoggy urban areas. "States would then have the opportunity to choose for themselves whether they wish to implement the program statewide, given the consumer, business and administrative benefits of statewide programs," the OTC said. "In this case, emission reductions from the LEV program could be used by individual states to provide emission offsets for new and modified industrial sources in attainment areas."

OTC also said it would consider other emissions control alternatives to a LEV program, but that it knew of no other way to cut smog-causing pollution sufficiently for the region to achieve federal clean air standards in a timely fashion.

"Highway mobile sources are responsible for an average of 44 percent and 42 percent of all states' NOx and anthropogenic volatile organic compound inventories, respectively, across the Ozone Transport Region," OTC said. "Based on such inventories and modeling analysis, it is clear that a dramatic reduction in mobile source emissions is necessary if the [federal ozone smog standard] is to be attained and maintained across the [region]."

OTC also said recent cost analyses by the California Air Resources Board showed the LEV program was a less expensive emissions reduction method than tighter controls on industrial pollution or the federal reformulated gasoline program.

The OTC proposal comes as automakers are desperately fighting to stop New York, Massachusetts and other Northeast states from individually opting into the California LEV program. The industry has filed suit against New York and

Massachusetts, claiming their programs would violate the Clean Air Act by imposing excessively costly production and maintenance requirements on automakers.

Among other claims, the automakers say the states' failure to adopt California's fuel standards could cause problems with LEV emissions control systems. They also say building LEVs for colder Northeast states will require design modifications—such as battery warmers—to the cars planned for California. They contend those modifications would violate Clean Air Act provisions barring opt-in states from requiring automakers to build a "third car"—different from the California car and from vehicles built for the rest of the country.

While pressing their legal attack, the automakers also have quietly opened discussions with the Environmental Protection Agency on a voluntary agreement under which the industry would accelerate efforts to sharply decrease tailpipe emissions from cars. The talks reportedly sprang out of the Clinton administration's announcement last month that the government would form a consortium with the Big Three automakers to develop a less-polluting, more fuel-efficient car.

Industry officials acknowledge they went to EPA with the aim of persuading agency officials to embrace an alternative emissions control plan to the California car program. Pat Morrissey, a spokesman for General Motors, said the industry's proposal for accelerated emissions controls was designed to meet the needs of Northeast states so they did not have to adopt the California program.

Congressional observers say if EPA signs on, the automakers' plan could limit the spread of the LEV program. "This new proposal by the automakers could minimize the extent to which the auto industry will have to comply with the LEV requirement in various states," according to a clean air report recently issued by the leadership of

the Senate Environment and Public Works Committee.

The industry's new willingness to pursue improved emissions controls contrasts sharply with its position when Congress passed tougher tailpipe emission standards in the 1990 clean air law. The law requires an initial round of tailpipe emissions cuts in the mid-1990s—so-called Tier I standards—and then calls for EPA to decide by 2004 whether a second round of even tighter Tier II emissions cuts are necessary to reduce urban smog.

During congressional deliberations, the automakers argued vociferously that the Tier II standards were technologically infeasible without a hugely expensive research and development program that would force large price increases for cars.

Now, the industry is telling EPA it could produce low-emitting cars that would come close to achieving the Tier II standards well before the 2004 date set in the clean air law.

The discussions with EPA appear to reflect the industry's eroding legal position in its court fights against the New York and Massachusetts program. It recently lost a preliminary round against Massachusetts, and while it has won on some issues in the New York case, EPA recently abandoned its neutral stance in that litigation and filed a brief in support of New York, which has appealed adverse rulings to the 2nd U.S. Circuit Court of Appeals.

EPA's legal move could be potent because the courts traditionally grant deference to federal agencies' interpretation of disputed laws. Under the Bush administration, EPA declined to back the opt-in states, saying the Clean Air Act gave the agency no role in approving their adoption of the California LEV program. The Clinton administration has reversed course, saying EPA has a strong interest in assuring Northeast states can adopt the California LEV program if they deem it a cost-effective smog control strategy.

Clinton Administration Puts Stamp On U.S. Environmental Policy

BY VIKI REATH

The Clinton administration is beginning to put its stamp on U.S. environmental policy. Under a new plan announced Nov. 19 by Environmental Protection Agency Administrator Carol Browner, federal policymakers will focus on specific industrial sectors when developing environmental rules instead of trying to write generic rules applicable to all industrial sectors. In addition, the agency is redoubling its efforts to seek input from stakeholders before issuing new rules or presenting proposals to Congress, Browner said.

As part of its initiative, EPA plans to take an industry-by-industry approach to preventing and reducing pollution through cluster rulemaking, ensure that recordkeeping and reporting requirements are clear and consistent, streamline permits and seek innovative approaches from industry leaders.

The goal is results, rules that work, not ones that will invite criticism and become targets of lawsuits, thereby delaying implementation, Browner (right) told reporters at a news conference Monday.

"We will reach out and engage in dialogue with stakeholders," Browner said at the press conference, which was called to introduce EPA's 10 assistant administrators. Browner refused to say which industries would be addressed first.

Browner added that the reason it is taking so long to present the agency's Superfund reauthorization proposal to Congress is that EPA officials have been doing their best to resolve differences through meetings among stakeholders, such as those held by the National Advisory Committee on Environmental Protection and Technology (NACEPT) on Superfund.

The biggest dispute to surface from an interagency task force appointed to grapple with Superfund reauthorization is over the Treasury Department proposal to drop strict, joint and several liability. Browner said the Treasury Department is the only government depart-

ment supporting this idea, which is strongly backed by the insurance industry.

However, Elliot Laws, EPA's new assistant administrator for solid waste and emergency response, which oversees Superfund activities, admitted later that there is "a lot of focus [at the White House] on the Treasury proposal.

"One thing all agree on is that they must address the problems...to make cleanups cost-effective and to make sure the land gets back to productive use," Laws added.

When asked why so much attention is being focused on a proposal that will affect private parties more than the government, Laws said officials are concerned with the whole economy.

"We can't only be concerned about government costs," he said. "We're concerned about how the costs will affect industry, too." Laws added that he expects "the parameters" of EPA's proposal, which includes resolution of the liability dispute, to be complete by mid-December.

Another goal EPA has set for itself is revising the Clean Water Act to increase the states' revolving loan fund to give more flexibility to the states, perhaps through a fee program, said Bob Perciasepe, assistant administrator for water. Also, the agency hopes to tighten non-point source rules and use an ecosystem approach, and, under the Safe Drinking Water Act, to create a state revolving fund and a fee program to enable states to continue to execute their roles in source protection.

Dr. Lynn Goldman, a pediatrician and the first medical doctor to be named assistant administrator for prevention, pesticides and toxic substances, has been working with the Food and Drug Administration and the U.S. Department of Agriculture to reform food safety. Her office is working on legislation on

pesticides that would revise tolerances to protect children and workers, restore labeling and develop sustainable agricultural systems. Also, the agency plans to add chemicals to the Toxic Release Inventory (TRI) and to try to remove lead from the environment before children are exposed.

Mary Nichols, assistant administrator for air, said her office will work on improving health conditions in the "pockets of areas where residents face unusually high risks...usually low-income, often-minority [neighborhoods]." Also, she hopes a number of current voluntary programs, such as radon, indoor air and secondary tobacco smoke, ultimately may lead to legislation.



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Cabinet Bill Misses Mark *(From one)*

Environmental Protection Agency cabinet-elevation bill that was approved by Conyers' Government Operations Committee Nov. 4.

The amendment was rejected by the Rules Committee, along with 16 others, as being outside the scope of the EPA cabinet legislation, which is geared largely to outline the organization and administration of the proposed department. But it resurfaced on Saturday—as H.R. 3512, the National Environmental Policy Act (NEPA) Administrative Reorganization Amendments of 1993.

The bill would replace the CEQ, which oversees the National Environmental Policy Act, with a new, smaller office. It was marked up Nov. 18 by the Merchant Marine and Fisheries Committee, which is chaired by Rep. Gerry Studds (D-Mass.), one of the bill's principal sponsors.

Mica is upset, because he, too, had an amendment—to require cost-benefit analyses on all EPA rules—that was deemed non-germane. But, because he is a Republican, he was unable to push his proposal through committee and bring it to the House floor.

"For the leadership, there's one set of rules, and for the others there's another," Mica said. "Studds and [Rep.] John Dingell (D-Mich.) snookered the Rules and [Government] Operations Committees. It was done without any debate in the mid-afternoon, with only a handful of people there. They subverted the whole process."

No subversion here, said another Democratic aide, not bothering to suppress a chuckle.

"The Democrats have the power," he said. And, passing non-controversial bills "under suspension" (of the regular rules) is standard procedure in the House. Furthermore, Mica's amendment is intensely controversial.

Studds and Dingell, chairman of the Energy and Commerce Committee, and the bill's cosponsor, had negotiated the terms of the new bill with the White House, which had proposed abolishing CEQ outright.

"In a nutshell, this bill abolishes the CEQ and the Office of Environmental Quality (OEQ) and replaces them with the substantially smaller Office of NEPA Compliance in the Executive Office of the President," Studds said describing his proposal

during the House's Nov. 20 session.

"In part, this reduction in office size reflects the repeal of the requirement for the mammoth annual CEQ report, the transfer of a number of functions in existing law to the new Department of Environmental Protection—when that legislation is enacted—the opportunity for the president to assign even further environmental functions to other units in the Executive Office of the President, and the streamlining of the mission of the new office to fewer, but critically important core NEPA functions."

The bill resolves the issues between the president, who wanted to abolish CEQ, and Congress, which wanted the office to remain in existence to prevent future meddling by other administrations.

Mica admits he has no problem with the bill that passed. His only problem is with the process. But he hopes to turn the tide for his amendment by the time the winter recess ends in late January.

"Support for our amendment is mounting," Mica said. "We brought so much attention to the lack of risk management [at EPA] that we have more than enough support to keep elevation from happening without adding [a] risk assessment [amendment]."

Mica said his support base for the amendment, whose cosponsor is Rep. Karen Thurman (D-Fla.), includes most Republicans in the House as well as many conservative Democrats.

"Other members now are mad because of the Studds-Dingell amendment," Mica said. "If the proposed cost-benefit analysis was in effect now, EPA wouldn't be all over ball park," said Mica, referring to the millions of dollars spent in different places with allegedly little environmental protection to show for it.

"If it was effective, the General Accounting Office and Inspector General wouldn't have put out reports saying EPA is unfocused," he said.

"The agency is trying to take on more than it's capable of handling. It can't prioritize. We think they could do a better job if they did look at cost-risk benefit analysis."

Mica's aide credited a massive letter-writing campaign he spearheaded with pressuring the Democrats to retreat from the bill to stave off defeat. Among those outside groups that support Mica's proposal are several state, county and local government organizations, as well as the National Association of Home Builders and several independent business associations.

The House Democratic leadership announced it was removing the EPA cabinet bill from consideration last week, in part because Rep. William Clinger (R-Pa.), who has offered a clean bill, left to have an eye operation. Clinger's simple elevation proposal is the last on a list of 10 amendments scheduled for debate when the bill reaches the House floor.

A Democratic aide dismissed the possibility that the cost-benefit amendment would prevail.

"The bill to elevate the EPA is probably going to be the major environmental achievement of this administration," the aide said Tuesday. "Why would President Clinton sign a bill that would weaken environmental standards?"

Rep. Henry Waxman (D-Cal.) and others who oppose the House cost-benefit amendment, which is similar to the one approved overwhelmingly by the Senate earlier this year during its consideration of the EPA legislation, say it would undermine all current environmental statutes by reopening issues that were resolved after previous protracted debates. Also, it would weaken the emphasis on health effects. President Clinton has said he hopes the amendment can be addressed separately, so it does not derail the cabinet bill.

Mica, who has taken a special interest in EPA mismanagement, fraud and abuse and visited its headquarters last April, said the opposite is true.

"Some people say it's [the cost-benefit amendment] trying to diminish the power of environmental statutes," he said. "But if EPA is focused, the agency could do a better job of addressing major issues."

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Environmental Justice Advocates Get Unexpected Support

BY VIKI REATH

The words were familiar, but the voices were new at last Thursday's environmental justice hearing in the House of Representatives.

The new voices represented WMX Technologies Inc., the large waste disposal and treatment company, and the American Bar Association (ABA), the nation's influential lawyers' association.

"[W]e feel that the problems at the root of the environmental justice movement are real, that we as a society need to use the tools at our disposal to combat these problems, and that congressional action is appropriate," Charles McDermott, director of government affairs for WMX, wrote in testimony submitted to the House Energy and Commerce transportation and hazardous materials subcommittee.

Among the specific points raised in McDermott's testimony: 68 percent of black children in America suffer from lead poisoning, more than twice the rate for white children, and 57 percent of the nation's Hispanic-Americans and 46 percent of blacks suffer from excessive exposure to carbon monoxide, compared with 33 percent of whites.

Barry Hill of ABA's environmental law committee added that minority and low-income populations experience higher than average exposure to selected air pollutants, hazardous waste facilities, contaminated fish and agricultural pesticides.

The unexpected support boosted the spirits of environmental justice leaders, they told *Environment Week* in interviews following the hearing.

For example, Ben Chavis, executive director of the National Association for the Advancement of Colored People, said he is optimistic that this support will convince President Clinton to be more forceful than previous administrations in enforcing environmental laws equally.

"There needs to be more coordination of policy," added Chavis, one of 13 witnesses who testified at the hearing called by subcommittee Chairman Al Swift (D-Wash.). As a member of the President's Council on Sustainable Development, Chavis expects to help coordinate that policy as he works with committee members from various federal offices.

Despite WMX's statement, the business community as a whole remains wary.

"The [National Association of Manufacturers] acknowledges the concerns of environmental equity advocates that certain racial, ethnic, or socioeconomic groups may be exposed to pollution and hazardous substances at levels greater than that for non-minority, more affluent segments of society," said Paul Murray, a Michigan environmental manager who testified for NAM.

NAM recommends consistent enforcement and reliance on "neutral, third-party organization" scientific research to analyze all factors influencing human health in a community, including facility operations, health care, diet, lifestyle, housing and whatever other appropriate health-related factors affected groups

believe should be evaluated.

Perhaps more important than NAM's cautious approach, activists see little evidence that the Environmental Protection Agency is acting on

President Clinton's Earth Day commitment to remove environmental inequities.

EPA officials may be mouthing the right words, but there is little evidence that they are doing anything different, said activist Deohn Ferris, another witness.

Bob Bullard, another activist who testified at the hearing, criticized EPA for funding studies by researchers critical of the environmental justice movement. Such behavior frustrates residents who see people dying from the cumulative effects of pollution in their overburdened communities, added Ferris, director of the Environmental Justice Project for Lawyers for Civil Rights Under the Law.

"This [environmental justice] is the environmental agenda of the next century and involves reorienting the way businesses is done, to the end that profit is not made through poisoning people," Ferris said. "These are global issues. People better get on the train, or they'll be left behind at the station."

Still, the attitudes of WMX and the ABA indicate some new groups are climbing aboard, said Bullard, a sociologist who has written extensively on the issue.

"Now they understand the handwriting on the wall," said Bullard, a professor at the University of California at Los Angeles.

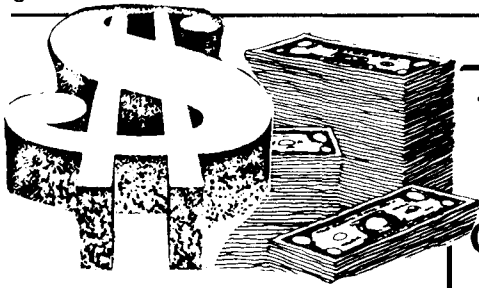
Further evidence that the movement is gaining momentum is the entrance of black churches, he added, saying they view the environmental justice movement as another aspect of the successful 1960s struggle to pass the 1964 Civil Rights Act.

"Everything's on the table," Bullard said, referring to Clinton's Earth Day message, particularly his promise to issue an executive order on environmental justice. According to EPA Administrator Carol Browner, the order will be issued "soon."

Meanwhile, Bullard added, members of Congress should hold hearings in affected communities—in southeast Chicago and in "Cancer Alley," the 85-mile strip along the Mississippi River in Louisiana, between Baton Rouge and New Orleans, which got its name from allegations that the area's high cancer rate is linked to the presence of 138 petrochemical facilities.

"They can see the conditions for themselves," he said. "There are no landfills, toxic waste dumps or incinerators on Capitol Hill."

Added Ferris: "A government that evaluates paperwork burden on industry, regulatory impact on small business and effects on endangered wildlife should do no less than scrutinize the impact on people."



BUSINESS BRIEFS

Greenhouse Controls Threaten Texas Industry

Texas would be hit hard by greenhouse gas control policies, according to a report by the Center for Global Studies at the Houston Advanced Research Center. The state accounts for an estimated 14 percent of all U.S. emissions, the center said, and per capita the state's releases are about twice the rate for the entire United States, which has the highest per capita emissions in the industrialized world.

The high level of emissions is due to the concentration of refining and petrochemical industries in the state, and any mandatory reduction efforts likely would lead to a restructuring of the state economy, said Jurgen Schmandt, director of the policy center.

"At the very least, industry would need to change many of the ways it operates," he said. "Immediately, we could look for ways to use natural gas instead of coal and oil. Eventually, Texas companies would need to develop new equipment, new processes and new fuels to be more energy efficient."

Senate Confirms Cannon As EPA's New CFO

The U.S. Senate last week confirmed Jonathan Cannon as the Environmental Protection Agency's new chief financial officer and as assistant administrator of administration and resource management.

Cannon has worked in a number of positions at EPA since 1987, most recently as special advisor to the administrator, acting deputy administrator and acting assistant administrator of the Office of Policy, Planning and Evaluation. Cannon is a graduate of Williams College and holds a law degree from the University of Pennsylvania.

Pollution Control Company Directory Published

More than 7,000 companies are listed in the new edition of *The European Pollution Control and Waste Management Industry Directory*, which is published by Frost & Sullivan in cooperation with Ecotec Research and Consulting.

In addition to listing firms involved in the pollution control business, the '93 edition of the directory includes national market analyses. These analyses incorporate data for all pollution control sectors and highlight recent market developments, legislation and key players in each country. The directory also includes an assessment of the position of European companies in the worldwide environmental protection market.

The directory is available for \$295 by calling Amy Arnell at (415) 961-9000. A computer disk version of the directory is available at an additional fee.

Collision Course On Environmental Policy?

Business executives and the general public differ sharply on the importance of environmental cleanup activities, according to a new survey by Arthur D. Little. The survey found that 74 percent of the general public said environmental cleanup was important to improving the quality of life in America, while only 44 percent of the business executives polled placed such importance on environmental protection.

The differing attitudes on environmental protection contrast with other findings in the poll, where the public and the business executives were in general agreement. For example, both groups placed strong importance on the need to bolster public education (81 percent of the public and 78 percent of the businessmen) and enhance economic performance (75 percent of the public, 76 percent of the executives) in order to improve the quality of life.

Commenting on this gap, Ladd Greeno, the firm's senior vice president and managing director of its environmental, health and safety consulting practice, said the public and business may be on a "collision course where everyone loses—including the environment.

"Nobody is satisfied," Greeno said. "The public wants better environmental performance and they want it now. Businesses, on the other hand, are spending vastly increased amounts of money and time on environmental issues than they were a few short years ago, but they are frustrated by government regulations that too often result in a misdirection of efforts and priorities."

Despite the differing attitudes on environmental policy, the executives polled in the survey largely agreed that the business community was responsible for protecting the environment. In fact, protecting the environment was seen as being slightly more important by the executives than was providing health care (60 percent said business should play a major role in protecting the environment while 56 percent said the community should work to improve access to health care).

The survey included 500 executives nationwide from a sampling of the 1,000 largest manufacturing firms, the 1,000 largest financial services firms and the 50 largest utilities and transportation firms. Public opinions were drawn from a sample of 1,021 adults across the United States.

Delaware Pollution Prevention Initiative Wins State Award

The Delaware Green Industries Initiative has been selected as an award winner in the Council of State Governments' Innovations Transfer Program. Established in 1992, the initiative is designed to encourage businesses in the state to develop pollution prevention programs and to attract environmentally friendly industries to the state. The initiative offers a blend of tax credits, low-cost financing and technical assistance for participating firms. To date, 10 companies—ranging from a tire recycling facility to a seafood processing firm—have been accepted into the state program.

Late November/December Calendar Of Environment Events

DECEMBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

29-Dec. 3, The RCRA Compliance Institute, Denver, Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Environmental Reporting & Recordkeeping, Arlington, Va., Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, The Advanced RCRA Course, Williamsburg, Va., Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Mixed Waste Management, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Environmental Training, Denver, Contact: Government Institutes, (301) 921-2345.

30-Dec. 1, Clean Water Act Reauthorization, Arlington, Va., Contact: *Water Policy Report*, (703) 892-8505.

30-Dec. 2, Superfund XIV Conference and Exhibition, Washington, D.C., Contact: Hazardous Materials Control Resources Institute, (800) 397-7161.

30-Dec. 2, Practical Environmental Regulation Course, Cincinnati, Contact: Executive Enterprises, (800) 831-8333. (This course is scheduled for other cities throughout December; call for details.)

Dec. 1, Realistic Estimates of Risk: America at a Critical Juncture, Washington, D.C., Contact: Kristan Dammen, American Industrial Health Council, (202) 659-0060.

1-3, Fundamentals of Groundwater Contamination and Remediation Techniques, Chicago, Contact: College of Engineering, University of Wisconsin-Madison, (608) 262-2061.

2, RCRA Corrective Action, Williamsburg, Va., Contact: Government Institutes, (301) 921-2345.

2, Practical Training Skills for Environmental, Health & Safety Managers, Denver, Contact: Government Institutes, (301) 921-2345.

2-3, Facility Closure, Restoration & Remediation, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

2-3, Fundamentals of Indoor Air Quality, Orlando, Fla., Contact: The Environmental Engineers & Managers Institute, (404) 381-9865 (fax).

2-3, Federal Environment Law Today, Coral Gables, Fla., Contact: Federal Publications, (202) 337-7000. (This conference also is scheduled for Dec. 6-7 in Washington, D.C.)

5-8, Wastewater Treatment Conference, Phoenix, Ariz., Contact: Nancy Blatt, Water Environment Federation, (703) 684-2400.

6, Solvent Recovery & Recycling, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

6, Environmental Liability and Environmental Crimes Seminar, White Plains, N.Y., Contact: National Association of Manufacturers, (202) 637-3000.

6-7, State Revolving Loan Fund Training Seminar, New Orleans, Contact: Council of Infrastructure Financing Authorities, (202) 857-0686.

6-7, Environmental Compliance for Federal Facilities, Las Vegas, Nev., Contact: Government Institutes, (301) 921-2345.

6-10, Hazardous Materials Chemistry, Findlay, Ohio, Contact: Emergency Response Training Center, (800) 521-1292.

6-17, Air Pollution Control Technologies, Washington, D.C., Contact: U.S. Environmental Training Institute, (202) 338-3400.

7-8, Northeast Remediation Marketplace, Hartford, Conn., Contact: Terry McGee, JACA Corporation, (215) 643-5466.

7-8, Environmentally Friendly Fire Retardant Systems '93, Atlanta, Contact: Ernie Card, Intertech, (207) 781-9800.

7-8, Environmental Laws and Regulations Compliance Course, New Orleans, Contact: Government Institutes, (301) 921-2345.

7-8, Used Oil Update Conference, Alexandria, Va., Contact: Government Institutes, (301) 921-2345.

1993 Practical Compliance with Stormwater Permit Regulations, San Diego, Contact: Environmental Education Enterprises, (614) 792-0005.

7-9, New Jersey Air Permits Seminar Series, New Brunswick, N.J., Contact: Cook College, Office of Continuing Professional Education, (908) 932-9271.

7-9, 1993 Hazardous Waste Management and RCRA Compliance, San Diego, Contact: Environmental Education Enterprises, (614) 792-0005.

7-10, New Earth '93—Challenges of Environmental Rebirth of the Earth, Osaka, Japan, Contact: Scott Edwards, Fogarty & Klein Public Relations, (713) 867-3206.

7-10, Mastering Environmental, Health and Safety Auditing Skills and Techniques, Cambridge, Mass., Contact: Arthur D. Little, (617) 498-6767.

8-9, Effective Strategies for NEPA Compliance, Albuquerque, N.M., Contact: Government Institutes, (301) 921-2345.

8-9, Council on Packaging in the Environment 6th Annual Meeting, San Antonio, Texas, Contact: Colleen Barton, COPE, (202) 331-0099.

8-12, Regional Photochemical Air Quality Measurement and Modeling Studies, San Diego, Contact: Air & Waste Management Association, (412) 232-3444.

9-10, Avoiding Environmental Liability, New York, Contact: Practising Law Institute, (212) 765-5710.

(Continued on page 8)

Defeat For Greenpeace... (From page one)

way for facility opponents to seek what they hoped would be a more favorable forum" for their arguments, the court found.

Greenpeace representatives immediately charged that the appeals court had totally misread another section of RCRA allowing "citizen suits" against facilities that posed a health risk. They said they would ask the court to reconsider the decision and also might eventually appeal the case to the U.S. Supreme Court.

According to Richard Condit, an attorney with the Government Accountability Project, which represented Greenpeace, the decision, if upheld, would leave the public "helpless" when facilities operating under EPA permits created a health hazard.

At the same time, WTI issued a statement saying the decision sent a message to "oppositionists" that the company would prevail over "hysterical hyperbole" when it was able to present its case in a forum "where rules and laws are applied."

The initial case had been filed by Greenpeace Jan. 13, 1993, 48 hours before WTI was scheduled to carry out a trial burn under its EPA permit. On March 5, the U.S. District Court in Cleveland ruled that the trial burn could go ahead, but that any further operation of the plant should be halted until EPA had fully reviewed the trial burn results—a process that would take at least a year.

The lower court accepted jurisdiction under the "citizen suit" clause in RCRA, saying that even a plant which had received all necessary EPA permits still could pose an imminent health danger when put into operation and thus be subject to legal action.

WTI immediately appealed the case to the 6th Circuit in Cincinnati and that court quickly lifted the lower court's injunction against plant operation while the appeal was pending. Based on this WTI has been carrying out limited commercial operations since March while it awaits an EPA decision on a full commercial permit.

In its new order the appeals court said that the lower court's ruling was "flawed for several reasons." For starters, it said "Congress did not authorize citizen suits against persons operating hazardous waste facilities within the limits of valid RCRA permits."

While such citizen suits were allowed against persons that violated permits or were otherwise acting to create an imminent endangerment, the court said the overall language of the law showed that Congress did not mean this to be a way to challenge normal permitted activities. That could only be done before the D.C. Circuit in the 90-day permit appeals window.

Further, the court said that even if Congress allowed some leeway for such suits, the case at hand clearly should not be included since it was "nothing more than an improper collateral attack on the prior permitting decisions of the EPA" designed to head off the trial burn.

If Greenpeace was allowed to sue in this case, the court said, all the protections created by Con-

gress to insure the integrity of EPA permitting decisions would be rendered useless. Opponents of facilities, it said, would be given the option to avoid immediate challenges to permits in the tough D.C. Circuit forum and instead make later "imminent endangerment" claims in other district courts under less restrictive rules.

"Fully legitimate" hazardous waste operators with valid permits for all operations would still face expensive legal challenges by groups "second guessing permit decisions," the court said. "This process could only hobble efforts to

deal effectively with the mounting dangers of hazardous waste."

The court also noted that the 4th U.S. Circuit Court of Appeals had rejected a state of West Virginia challenge to

the WTI permit on similar grounds earlier this year. That case was never appealed.

But according to GAP's Condit, the West Virginia case was based on procedural permitting issues, not immediate dangers from dioxin emissions, and therefore the two cases were not comparable.

Greenpeace officials also noted that Dec. 7 would be the first anniversary of Vice President's Al Gore's pledge to close down WTI, signalling that new political action against the administration was likely in light of the court decision.

While EPA had participated in the lower court case, it had been careful to stay out of the appeal to the 6th Circuit, which was carried forward by WTI alone. Administration officials had no immediate comment on the decision.

'This process could only hobble efforts to deal effectively with the mounting dangers of hazardous waste.'

Calendar Of Environment Events... (From page 7)

9-10, Competitive Environmental Strategy, Cambridge, Mass., Contact: Arthur D. Little, (617) 498-6767.

9-10, Impact of Environmental Regulations on Business Transactions and Operations, New York, Contact: Practising Law Institute, (212) 765-5710.

9-10, Practical Environmental Science, New Orleans, Contact: Government Institutes, (301) 921-2345.

13-14, Land Disposal Restrictions, Findlay, Ohio, Contact: Emergency Response Training Center, (800) 521-1292.

13-14, Integrated Resource Management and Landscape Modification for Environmental Protection, Chicago, Contact: ASAE, (616) 429-0300.

13-15, Non-CO2 Greenhouse Gases: Why and How to Control? Maastricht, The Netherlands, Contact: Vereniging LUCHT, (31) 15-696-884.

14-16, 1993 Landfill Regulation: Regulations and Technologies for Cleanup of Subtitle D, Subtitle C and Superfund Landfills, Columbus, Ohio, Contact: Environmental Education Enterprises, (614) 792-0005.

Document Separator

DEFENSE WEEK

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Washington, D.C. 20045
(202) 638-4260
Telefax: (202) 662-9744

Monday, December 6, 1993

DW Volume 14, Number 48

Study Finds Excessive Cost, Design Problems With V-22 Osprey

BY ERIC ROSENBERG
AND TONY CAPACCIO

Congressional investigators have concluded in a new study that the V-22 Osprey tiltrotor aircraft could cost billions of dollars more than anticipated and require a total of 12 years to properly develop, according to a draft report.

The report also said a litany of technical problems persists with the aircraft, which can take off like a helicopter, tilt its rotors and fly like a fixed-wing plane.

A distillation of a draft General
(Continued on page 11)

Lawmakers Line Up Behind Major Swedish Tank Sale

BY ANDREW WEINSCHENK

In an impressive show of support, over 100 congressmen have urged President Clinton to vigorously promote a \$2.7 billion sale of 210 M1A2 tanks to Sweden.

But their entreaties reveal how a company's interests and politicians' fundraising needs often intersect in Washington. The tank's producer, General Dynamics Land Systems Division, has contributed to many congressmen urging the sale.

The pleas also illustrate how Congress struggles to stem conventional arms proliferation with one hand

and cushion Pentagon budget cuts through increased defense exports with the other.

Twenty-six senators asked for President Clinton's support on Nov. 19. Four days later 92 representatives followed with their own appeal. The message of all 118 lawmakers was the same: in an increasingly competitive world the president will have to close the big deals.

"We ask you to become personally and vigorously involved at the highest levels and to give instructions to the

(Continued on page 7)

Promotion Board Scandal Shakes Air Force Hierarchy

BY TONY CAPACCIO

An Air Force General who allegedly attempted to influence a promotion board claimed that Chief of Staff Gen. Merrill McPeak privately sanctioned giving a candidate low selection scores, according to a report by the Air Force Inspector General.

The report by Air Force Inspector General Lt. Gen. Eugene Fischer absolved McPeak, the most senior uniformed Air Force officer, of any wrongdoing, including tacitly approving the alleged influencing by his Deputy Chief of Staff for Operations, Lt. Gen. Buster Glosson. The Air Force report concluded in early November that Glosson attempted to improperly sway the 1993 major general promotion board. According to the charges, he did so during conversations with three board members the week before it convened on Oct. 14.

The report has been approved up the Air Force legal chain, from the Judge Advocate General through the General Counsel. According to the

(Continued on page 8)

Theater Missile Defense Dollars Could Soar By 2006

BY JOSEPH LOVECE

The missile defense office may recommend spending \$22 billion from fiscal 1994 to fiscal 2006 to develop and buy four different Scud-busting weapons, according to internal Pentagon budget documents obtained by *Defense Week*.

The documents represent a snapshot of the Ballistic Missile Defense Organization's (BMDO) efforts to develop five-year budget recommendations for the secretary of defense. The figures could form the basis of the organization's fiscal 1995 request to Congress.

Missile defense analysts have written numerous funding plans in preparing the five-year blueprint called the program objectives memoranda, or POM, said a Pentagon source. BMDO has not yet formally presented its POM to acquisition czar John Deutch, he added. The budget charts may not reflect the final BMDO request.

They reveal for the first time, however, BMDO's take on the long-range fiscal impact of Defense Secretary Les Aspin's "bottom-up" review of future military needs.

Aspin's defense plan capped theater defense spending from fiscal 1995 to 1999 at \$12 billion. It also said BMDO

(Continued on page 14)

Original F-22 Wing Design Was Disaster Waiting To Happen

BY TONY CAPACCIO

The all-composite wings on the Lockheed Corp.'s original candidate for the next generation Air Force fighter, the F-22, were prone to a catastrophic failure when hit by 23mm and 30mm rounds, *Defense Week* has learned.

The life-threatening results were uncovered during four October 1992 live fire tests against a wingbox section at the Boeing Aircraft Co.'s Tulalip Test Site, Seattle, Wash.

News of the catastrophic test results comes as the Air Force is attempting to sell the Pentagon and Congress on exempting the aircraft from live fire testing of a fully loaded and assembled F-22. The waiver request is awaiting congressional approval.

The Air Force instead has proposed continuing its aggressive component and subassembly testing with the culmination being live fire testing on an entire wing in about 1997.

The unexpected results are a strong advertisement for the benefits of early live fire testing before aircraft designs are finalized. But they also raise questions about whether the Air Force waiver plan should be granted. The test results led Lockheed to increase wing spar weight by 120 pounds as it abandoned an all-composite design in favor of one beefed up with titanium.

The all-composite design had been touted by Lockheed and the Air Force as providing unprecedented performance for the \$96 billion, 648-aircraft program, the most expensive research program in the Pentagon's 10-year acquisition pipeline. Although the Air Force has acknowledged the test results, it has underplayed the industrial lessons learned. "The testing has identified shortcomings of the original, all-composite structural concept," said an Aug. 30 Air Force press release.

Likewise, *Aviation Week* in a Sept. 6 article said "live-fire tests indicated the original all-composite wingbox design would not hold up against 30mm, high explosive rounds."

But the results were more serious, two officials directly connected to the tests acknowledged. "We concluded that if we went with the baseline [design], which was all-composite and we took the hit, we would end up losing control of the aircraft and losing the aircraft," said F-22 Technical Director John Ogg in remarks to *Defense Week*.

"We thought the wing was invulnerable. Our tests have since proven us wrong," Ogg said after a presentation last month before the George Washington Chapter of the International Test and Evaluation Association.

Lockheed Corp. spokesmen Doug Oliver and Jeff Rhodes declined to comment on the original design, referring all comments to the Air Force. Spokeswoman Capt. Tracy O'Grady said Ogg's statements represented the Air Force view.

Ogg said the pre-shot computer models used to predict the impact of a major plane-killing phenomena—hydrodynamic ram-induced structural failure—was wanting.

"It wasn't predicted in the beginning that it was

going to be a raving success...It was a marginal situation at best," Ogg said. But "clearly, there were some folks who were surprised at the extent of damage that resulted from taking that shot."

Hydrodynamic ram-induced failure refers to the rippling aftershock of a projectile hitting a liquid-filled compartment as it smashes the wing structure. The October 1992 tests were conducted against a wingbox filled with water.

The pre-shot models predicted that the wing would sustain some damage "but not to the extent where we would end up losing the pilot," Ogg conceded. "We actually predicted the damage would be confined...We clearly did not anticipate a total decapitation of the [wingbox] skin."

In a follow-up written statement to *Defense Week*, Ogg said, "The original configuration was viewed by all parties as possessing the best weight/cost/design that met durability/strength/aerodynamic constraints while appearing to offer an acceptable tolerance to live fire threats."

One Pentagon official familiar with the test results said the pre-shot computer predictions and picture projections were "ridiculous. It wasn't even close."

"It was pretty evident in the first shot that the structure wouldn't sustain damage," said Thomas Clark, the chief live fire tester for Boeing Military Aircraft, in an interview. This damage was caused by 23mm shots, a supposedly less dangerous threat than 30mm rounds the F-22 is designed to withstand.

"We had a wing that was nice and light and strong but was vulnerable," Clark said. "The fiberglass substructure is brittle. It breaks."

Titanium inserts will "picture frame" the composite area and minimize damage spread "to the point where we probably won't have a catastrophic failure and where hopefully the aircraft will take a hit and still come home," Clark said.

"Titanium limits the damage so that you won't have a catastrophic failure," Clark said.

Ogg said it was not Lockheed's fault it did not predict the catastrophic damage when the original wing was designed. "Computer models to date have not been adequate to judge the impact of hydraulic ram on composites," he said.

"When we went into this we said this is the right configuration, it's lightweight. We believe it can sustain a hit but we are not sure," Ogg said of the all-composite wings.

The test results have been taken to heart. "We've made the changes to sustain a hit and actually we can predict damage using updated codes," he said.

"From a technical perspective we are highly confident that when we go test a full-up wing we are not going to have a problem," he said. "The wing is kind of the final proof. If I didn't have confidence at this stage the wing could not sustain a hit of that magnitude and survive, I'd be off making changes. I would not wait to test two or three years from now."

John Douglass, a senior staff member on the Senate
(Continued on page 15)

Long-Range Budget Bad News For Some Navy Ship Programs

BY ERIC ROSENBERG

Internal Navy budget documents prepared by the service's comptroller division show the Clinton administration's first shipbuilding blueprint is seeking to boost ship construction and conversion to 46 vessels through fiscal 1999—three ships more than the Bush administration planned.

The Oct. 1 documents show total new ship purchases and ship conversions dipping to six vessels in fiscal 1995 from this year's seven and rising to nine ships in fiscal 1996. Ship procurement will then steadily increase from seven ships in fiscal 1997 to eight the following year and settling at nine in fiscal 1999.

Defense Week obtained the documents, which were written by Rear Adm. W.A. Earner, the Navy's director of budget and reports.

The recommendations are under consideration by Defense Secretary Les Aspin's staff. They could form the basis for the Navy's fiscal 1995 budget submission to Congress in January.

While the Navy's premier shipbuilding program, the DDG-51 destroyer, skirted the full brunt of the budget axe in internal fiscal debates, other ship programs weren't so lucky.

The budget document reaffirms some previously reported Navy positions: the Navy will request a new nuclear aircraft carrier in the next fiscal year, a new

Seawolf attack submarine in fiscal 1996 and a new model attack submarine in fiscal 1998. It will also shave three DDG-51s through the decade and request three annually.

But the document also casts light on the future of lower profile projects. For example, a new amphibious assault ship, the LX, was protected. The Navy intends to request one in fiscal 1996, and two annually in fiscal 1998 and 1999. A single LHD amphibious attack ship will be requested in fiscal 1999.

However, the service cut a TAGOS ocean surveillance ship from fiscal 1996 and added it in fiscal 1999. The Navy cut an oceanographic vessel that was to be bought in fiscal 1996. The Navy also cut an AOE combat support ship from the fiscal 1999 plan.

A fledgling program to build a new auxiliary dry cargo ship class beginning in fiscal 1998 was scotched. And a program to convert older model TAO fleet oilers was dramatically pared, with five ships scuttled between fiscal 1995 and 1997. The Navy will, however, convert a single TAO in fiscal 1997 and another in 1999.

The Navy added a robust effort to upgrade 10 aging ammunition ships and fast combat store ships, the documents said.

Lawmaker: Proposal To Cut Hornets Would Hit Thousands Of Workers

BY ERIC ROSENBERG

A Navy proposal to reduce dramatically the annual purchases of front-line F/A-18 C/D jets will cost "tens of thousands of good American jobs" and force immediate layoffs at McDonnell Douglas Corp. and around the nation, said a lawmaker from the St. Louis region.

Rep. Jim Talent (R-Mo.) said in a Dec. 1 letter to Defense Secretary Les Aspin that the rumored cuts would have serious ripple effects beyond McDonnell's production facilities in his backyard. The aircraft's vast laundry list of component suppliers would feel the direct hit as well.

"For each \$100 million cut from the F/A-18 program, conservative estimates show that some 1,200 jobs would be lost among the program's more than 2,000 suppliers in 43 states," he wrote, raising the political stakes should the Navy settle on the cuts.

By Talent's figures, the proposed reduction would translate into roughly 12,000 job losses nationwide.

A freshman on the Armed Services Committee, Talent wrote Aspin in response to a *Defense Week* article which said the Navy was pondering deep cuts to the F/A-18 C/D. The article cited internal Navy budget documents prepared by the service's comptroller office.

The documents said the Navy was considering cutting 24 of the high-performance fighter-bombers from the fiscal 1995 and 1996 budgets, worth roughly \$984 million. In addition, the documents said deep cuts were in the offing for the T-45A trainer and AV-8B Harrier upgrade project, both also McDonnell Douglas programs.

Talent's letter was concerned only with the F/A-18 cuts: "I am writing to urge you in the strongest possible terms to reject any Navy proposal to cut the procurement rate of F/A-18 C/Ds from the 36/36/24 rate for fiscal years 1995, 1996 and 1997."

Cutting below that rate "will force immediate layoffs in an effort to control direct and indirect costs," he claimed. It will also raise aircraft unit costs, thereby threatening international F/A-18 sales, he said.

Talent also appealed to Aspin with a military argument: cutting aircraft will exacerbate a deficiency of night-attack planes and make it "very difficult" to support 12 aircraft carriers, he claimed.

Meanwhile, Navy Secretary John Dalton last week confirmed the cuts were being considered.

"We're still reviewing the F/A-18 C/D buys for the next few years but we haven't made a decision on that," he said at a meeting with defense reporters. "The whole thing is being reviewed with respect to the C/Ds."

Dalton stressed the Navy was not weighing cuts to the multi-billion dollar successor, the F/A-18 E/F.

Reporter's Notebook

C-17 Update: Acquisition Undersecretary John Deutch has asked the Air Force to come up with an acceptable plan for proceeding to full-scale C-17 production, the so-called Milestone IIIB threshold, which is scheduled to occur in late 1995. Passing that threshold would allow the service to buy 40 or more aircraft.

The service was directed by Deutch after last month's DAB review to come up with an acceptable plan. One was submitted last week but rejected by Deutch as inadequate. The service's revised plan is being reviewed by Pentagon officials. Don't expect a final DAB decision memo on the C-17 for at least a month, said a well-placed source.

Air Force Chief of Staff Gen. Merrill McPeak misspoke Friday when he told a breakfast meeting of defense reporters that Deutch had given his approval for the program to proceed.

"The underscretary has allowed the program to proceed to Milestone IIIB," McPeak said. "We will buy four more [aircraft] this year, with a potential to buy six more next year [for a total of 26]. We're cleared into the early part of this program and all other options are on the table."

B-2 Blues: McPeak also lamented that there was no national consensus to build more than 20 B-2s bombers, the first of which is scheduled for operational delivery to Whiteman AFB, Mo., on Dec. 17.

But don't expect to see the Air Force push for more. "We will not lobby as an organization for more B-2s...We are not going to hire anybody to influence that."

Slatkin Aide: The House Armed Services Committee has lost its 19th or 20th staffer to Pentagon service, Sharon Storey. A secretary/staff assistant on the committee's procurement panel, Storey started last week as special assistant to Nora Slatkin, the Navy's assistant secretary for research, development and acquisition.

History Lesson: The Pentagon has some good news and some bad news for scholars studying U.S. military and foreign policy. The good news is that it is contracting Steven Rearden to write a study about the secretary of defense and foreign affairs from 1965 to 1985. The bad news is that it's secret.

That's too bad, because according to the Nov. 18 *Commerce Business Daily*, it may make for some

interesting reading. For example, the Pentagon appears to still have animosity towards Jimmy Carter. One topic is titled "realism and idealism, 1977-1981."

The other topics include "Vietnam: shattering the foreign policy consensus, 1965-1969," "The era of detente, 1969-1973," "Ford, Schlesinger and the search for a new consensus, 1973-1977" and "Weinberger and the Reagan build-up, 1981-1985."

Where Wolf?: In early November an international arms consultant marketing the Russian Kamov Ka-50 "Werewolf" helicopter said the chopper never entered Russian service as claimed and that only six prototypes were built. Nevertheless, Kamov is still busy trying to attract customers.

The November issue of *Military Technology* has a full page ad from Kamov showing the chopper flying between two huge fanged jaws. "Werewolves don't just fight at night; Ka-50—the threat is now available!" the ad says.

Ahhhhhh: The Army has got something for the soldier who thought he had everything: "Brief Relief" urinary bags and "disposa-john solid waste systems." The new products are described in an Army "white paper" outlining candidate equipment for "peace enforcement" operations.

According to a summary, the urinary bags are non-toxic, spill-proof, leak-proof, odorless and "trash container safe." They also come with a polymer/enzyme that converts urine into "lemon-scented gel." The solid waste toilet includes a large, disposable bag with sealer, tissue paper and moist towlette.

Perhaps this is an effort to avoid offending the local population during sensitive peace missions. We just can't wait until the Army issues a "lessons learned" report on the gear or subjects it to "live fire" tests. And who's the lucky grunt who gets to perform an "operational test and evaluation"?

Naval Shift: Longtime Office of the Secretary of Defense naval warfare specialist C. Joseph Martin was transferred from his job recently.

The word is that John Deutch, the acquisition undersecretary, had a say in the matter.

Martin was the deputy director for maritime systems and worked directly for Frank Kendall, the director of tactical systems. He has been reassigned to civilian duties in the Navy.

The Army plans to spend \$2.6 billion buying unneeded Longbow Apache helicopter missiles and has reduced the chopper's radar performance without proper approval, according to the Pentagon Inspector General (IG).

The IG also charged in a newly declassified Nov. 9 report that the Army failed to cut the contractor's fee to compensate for the reduced radar performance.

A Martin Marietta Corp. and Westinghouse Electric Corp. joint venture, therefore, stands to gain an "excessive" incentive fee.

The IG also said that the service has failed to give the helicopter a planned air-to-air capability. As a result, the large investment being made in the relatively defenseless chopper is "questionable."

The Longbow Apache is one of the Army's last remaining major modernization programs. Officially titled "Longbow Hellfire Modular Missile System," it will cost a total of \$11.1 billion, including the purchase of 13,311 missiles.

The IG said that as many as 9,882 of those missiles—carrying a \$2.6 billion pricetag—are not needed. Proper reductions could net savings of roughly \$2.2 billion for fiscal 2000 through fiscal 2006.

The Longbow system will give the Apache helicopter a "fire-and-forget" capability in all weather and at night.

The IG based its missile calculations on "what is necessary to defeat the projected threat." The Army uses a "capabilities" formula that simply assigns 32 missiles to each of 414 projected Apache Longbow helicopters.

Another reason for inflated missile requirements is the Army's failure to discriminate between the AH-64C and AH-64D models' relative ability to use the missile. The IG believes the "C" model should carry fewer of the new Longbow missiles.

Unlike the "D" model, the C model does not carry the Longbow fire control radar. It must rely on D models "handing off" targeting information to shoot the Longbow missile. And

IG: Too Many Longbow Missiles And Not Enough Oversight

BY ANDREW WEINSCHENK

the hand-off decreases the chopper's ability to put the missile on target.

"The most effective use of a [Longbow] missile would be attained when it is fired from an AH-64D," said the IG. Each Longbow missile costs \$266,000 while the basic Hellfire costs \$68,000.

The Army disagreed with the IG's strictly threat-based methodology but

'The most effective use of a [Longbow] missile would be attained when it is fired from an AH-64D'

said it would recalculate the missile requirements during the first quarter of fiscal 1994.

On the radar front, the IG charged that both the Army and the Pentagon acquisition chief had lowered performance requirements without proper approval after the contractor experienced problems.

The reductions have been made to the chopper's stationary target indicator, or STI, for finding non-moving targets and those using countermeasures or hiding in fog or foliage.

On all Pentagon programs performance standards and contract specifications are derived from the so-called "required operational capabilities" (ROC) document drafted by the Joint Requirements Oversight Council (JROC). The Army's and Pentagon acquisition chief's actions "precluded the JROC from exercising its authority to approve changes to the ROC," said the IG.

It also complained that the Army Materiel Systems Analysis Activity should have completed a report on the target indicator before any performance reductions were allowed.

When the agency completes its study, the IG recommended that the Pentagon's tactical systems director, Frank Kendall, determine whether the reduced performance requirements "adversely affect" the chopper's operational effectiveness.

The Pentagon concurred. The Army did as well, adding, "Not returning to the JROC was due to a honest interpretation of non-specific guidance" instead of an attempt to "bypass the JROC process."

The Army disagreed with a recommendation to reduce the incentive fee awarded the Longbow contractors. The IG argued that since radar performance had been reduced the contractor incentive fee should also be cut. It recommended the program office negotiate an "equitable adjustment" or impose one unilaterally if the contractor refused to cooperate. It did not say what it considered a proper reduction.

The Army countered that just because performance criteria had been lowered did not mean that the contractor was doing less work.

The Pentagon was similarly resistant to the IG's recommendation to reexamine putting air-to-air missiles on the Longbow helicopter.

The Apache helicopter's May 1977 mission needs statement called for it to carry modified Stinger missiles to defeat enemy helicopters. But in early testing, the Stinger proved a poor air-to-air missile.

As a result of these performance problems and separate fiscal reasons, the service decided to drop the capability. But it left the door open by installing a device to which a launcher could be attached.

That wasn't good enough for the IG. It questioned "the Army's concerns about the affordability of an air-to-air capability when the Army plans to expend \$11.1 billion for a system that may not be able to defend itself effectively." Without the air-to-air capability, that "large investment is questionable." Again, the Army disagreed, saying the chopper's cost and operational effectiveness were not "driven" by the air-to-air self-defense capability.

O'Neill Charts Future Course For Ballistic Missile Defense Office

BY JOSEPH LOVECE

A reorganized missile defense office will emphasize cost-effective weapons and prepare a national defense system which could be deployed by 2002, the office's new director told the Senate Armed Services Committee last month.

Before receiving his third star and confirmation as head of the Ballistic Missile Defense Organization (BMDO), Lt. Gen. Malcolm O'Neill submitted Nov. 18 answers to committee questions.

O'Neill's responses give clues to what direction he will take the organization and how it will implement the Pentagon's "bottom-up" review of future defense needs.

Shrinking budgets and changing priorities necessitate a BMDO reorganization. "I am currently conducting internal process action teams...to optimize use of our personnel resources," he said.

"Changes will involve shifting proper emphasis to core programs and essential support, establishment of national defense technology programs and other advanced technology work and reduction/termination of programs that are no longer relevant," O'Neill told the lawmakers.

O'Neill interpreted the new national defense program, which the bottom-up review relegated to laboratory research, as a way to build the system in steps.

"Based upon our present assumptions concerning what constitutes a cost effective, operationally effective and ABM [Anti-Ballistic Missile] Treaty-compliant LDS [Limited Defense System] program definition and funding, the earliest date which we could deploy an LDS would be 2002," he said.

The first phase to 1997 will develop and demonstrate technology to hit intercontinental missiles head-on outside of the atmosphere, a so-called "exoatmospheric kinetic kill vehicle."

Current plans call for selecting multiple contractors in the spring of 1994 to perform weapon flight experiments, he added. By the end of fiscal 1995 a single contractor will be chosen after competitive seeker flights.

The winning firm will design, construct and test the system with flight tests scheduled for the end of fiscal 1997. Only existing missiles will be the launch vehicles, O'Neill said.

O'Neill's priorities include the kill vehicle; command, control and communications technology; test and simulation; ground-based radar; and supporting technology. "I believe these priorities support the research program outlined by the secretary in the bottom-up review," he said.

O'Neill said \$210 million per year will be allocated for other long-term missile defense technology, including boost-phase kinetic kill weapons designed to hit enemy missiles shortly after launch, unmanned aerial vehicles, high-speed missiles and projectiles and space-based lasers.

They would "provide a vital hedge against possible future development of chemical or biological sub-munitions which could be released early in an attacking missile's flight," said O'Neill.

O'Neill also wants to pursue advanced theater infrared and active sensors. The third area is "limited international technology cooperation programs in primarily boost-phase and sensor technology categories."

Missile defense programs to be eliminated or transferred include the single stage rocket technology project and some directed energy efforts. Programs to be "significantly reduced" include system engineering and acquisition planning. The changes will be reflected in the fiscal 1995 budget submission, he said.

On the issue of missile defense system survivability, O'Neill said he earmarked about \$4 million for Army funding.

Army Is Looking For Better 'Peace Enforcement' Eyes

BY ANDREW WEINSCHENK

An Army which once focused its weapons purchases exclusively on winning wars is now looking to a grab-bag of high-tech systems to help preserve the peace.

During a first-ever "peace enforcement" training exercise last month, the service tested three major systems and several night vision devices that could help hone its peacekeeping prowess.

The systems included an electronic, "filmless" camera that can transmit on-the-spot pictures to commanders overseeing an operation or running a checkpoint.

Other equipment included a remote weapon dubbed "Crossbow" that can kill enemy soldiers, destroy armored vehicles, protect U.S. encampments and remotely "patrol" demilitarized zones.

Also fielded during the Joint Readiness and Training Center (JRTC) exercise were Pointer unmanned aerial vehicles which may be well-suited to preventing ambushes in dense urban areas.

All told, the Army Infantry School's "battle laboratory" has identified 17 systems which may be useful in peace enforcement operations. They include such mundane items as heat pads and high-tech gadgets like infra-red pointers for commanders.

The equipment should help the Army handle the post-Cold War peace missions increasingly consuming its budget and manpower.

An equipment list and brief description of each candidate item was included in a peace enforcement package distributed to 82nd Airborne Division commanders prior to the Nov. 8 through Nov. 22 exercise at Ft. Polk, La.

Commanders were trained to use the systems on the JANUS simulator on Oct. 28 and in subsequent field training, according to Col. Arnold Canada, a battle lab official. When they arrived for their "peace enforcement" exercise at the JRTC,

(Continued on page 12)

Lawmakers Line Up Behind Swedish Tank Sale *(From front)*

rest of your administration to do all that they can," wrote the senators. "We urge you to become personally involved in this matter at the earliest possible opportunity," wrote their House colleagues.

The senators noted that the U.S. does not currently have an ambassador in Sweden. They added that Defense Secretary Les Aspin has not met his Swedish counterpart—though he lobbied him in a Nov. 17 letter. "This is in sharp contrast to the active and personal involvement" of both German Chancellor Helmut Kohl and French Prime Minister Edouard Balladur, said the lawmakers.

The M1A2 is competing against France's Le Clerc and Germany's Leopard tank. The Swedish military procurement agency, known as FMV, is scheduled to recommend a winner on Dec. 12. An announcement will be made in late January or February.

The lawmakers' commitment to seeing General Dynamics clinch a win is obvious. What's not so obvious is that many of the same congressmen may benefit indirectly through future corporate campaign contributions.

In fact, many congressmen voicing their support for the tank sale have received General Dynamics' donations. An informal *Defense Week* review of Federal Election Commission records from the 1991-1992 election cycle shows that at least 43 signatories received General Dynamics contributions.

Some of those contributions were made through the company's Voluntary Political Contribution Plan. Others were made by individual General Dynamics employees. The contributions went to representatives from more than 19 different states in amounts ranging from \$200 to \$10,000.

Among the top beneficiaries: Representatives Randy "Duke" Cunningham (R-Calif.), \$7,450; Duncan Hunter (R-Calif.), \$5,000; Joseph McDade (R-Pa.), \$6,000; John Murtha (D-Pa.), \$10,000; and Senators John Glenn (D-Ohio), \$6,278; Robert Dole (R-Kan.), \$5,000; Dan Coats (R-Ind.), \$6,000; and Christopher Dodd (D-Conn.), \$8,000.

There is little unusual about it. Large defense corporations are traditionally big donors. But the Swedish sale illuminates more than Washington's campaign finance folkways. It shows how supporters of major arms sales often obscure their true economic impact.

In their letters, both chambers said the sale's potential economic benefits warranted the president's support. Citing "a recent study," the representatives said the 210 tanks and 18 armored recovery vehicles in question would "conservatively" yield \$2.7 billion in income.

"More importantly, the American work content from the sale represents over 56,000 man-years of employment, with the possibility of even more work if the Swedish government elects to modernize its reserve force of over 300 additional tanks," they said.

In a political calculus common to Washington, they noted that the sale's "benefits" would be "spread over 35 states and 205 congressional districts." But they didn't mention the sale's side agreements, also dubbed "offsets," or what effect they might have on the final financial tally.

Like many arms buyers today the Swedes are requiring 100 percent offsets on their tank purchase. That means for every dollar they spend on U.S. products, the U.S. will have to spend an equal sum on Swedish goods.

Speaking last week from Sweden, Michael Dupree, General Dynamics Land Systems top offsets negotiator, said the Swedes are basing their tank decision on three key

factors: the competing tanks' quality, their price and the accompanying offsets package. All three factors are "inextricably entwined," he said.

In a competitive world defense market, contractors have to play by the buyer's rules. General Dynamics has no choice. But legislators claim about the sale's economic benefits may be a little one-sided.

Exactly how one-sided will be hard to tell. Offset agreement terms are usually classified as "confidential business information." Neither the public nor Congress is entitled to review them and, thus, neither can gauge a sale's true economic impact, according to arms control advocates like Lora Lumpe from the Arms Sales Monitoring Project.

But that may change. Sen. Russ Feingold (D-Wisc.) has introduced an amendment requiring U.S. companies to disclose the offset agreements. The intent is to ensure U.S. companies aren't giving more to other countries in offsets than they're bringing home to the U.S.

The possibilities for that happening are real, according to the Office of Management and Budget. It has previously reported that the \$2.3 billion sale in 1982 of F/A-18 fighter-attack aircraft to Canada included offsets which could eventually total 150 percent of the contract value.

But pure economics is only part of the equation. With the Cold War over, many arms control advocates have turned to conventional weapons proliferation issues with new vigor. Some 46 different groups recently banded together under the umbrella of the Arms Transfer Working Group to fight against U.S. arms transfers, according to Caleb Rossiter of the Project on Demilitarization and Democracy.

They helped spur a July 30 letter written by Rep. Howard Berman. Signed by 111 congressmen it called on the Clinton Administration to "undertake a fundamental reevaluation of U.S. arms transfer policy."

The lawmakers noted that arms agreements with developing countries alone had doubled to "an average of nearly \$17 billion per year since the end of the Cold War." With the Soviet Union's demise and its equipment "flooding global markets, we believe that it is urgently in the national interest to find a way to stop this spiral of militarization."

While the Berman letter focused on Third World sales, it underscored increasing congressional unease with the U.S.'s newfound role as the world's top arms supplier.

Unintentionally, it also underscores the fine discriminations made when a particular arms sale means jobs in a members' district. At least 13 legislators who signed the letter supporting the Swedish tank sale also signed Berman's non-proliferation missive.

Among them were Rep. Sam Gejdensen a Connecticut Democrat and Rep. Christopher Shays, a Connecticut Republican. Textron Lycoming, supplier of the M1A2's engine, also hails from Connecticut. In fiscal 1992, the company brought \$70 million in Pentagon prime contracts to the state, according to a fiscal 1992 Pentagon statistical atlas.

Ohio, home to General Dynamics' Lima tank plant produced double signatories in Democratic Reps. Thomas Sawyer, Eric Fingerhut and Tony Hall. Michigan, home to General Dynamics Warren tank plant, had double signatories in Reps. James Barcia and Sander Levin. General Dynamics brought \$82 million in prime contracts to Ohio and some \$700 million to Michigan in fiscal 1992.

Gulf War Hero Admonished For Unacceptable Behavior... (From page one)

Air Force IG, Glosson is alleged to have said the major general candidate lied to McPeak on occasion and that the chief didn't want him promoted.

The complaining generals were Lt. Gen. Michael Ryan, assistant to the Joint Chiefs of Staff Chairman, Lt. Gen. John Novak, Air Force Deputy chief of staff of logistics and then-Maj. Gen. Richards Myers, the former director of fighter and command and control acquisition. Myers last month took over as commander of U.S. Air Forces Japan and the 5th Air Force, Yokota Air Force Base, Japan.

The three were excused from the 13-man board after reporting the alleged improper contact.

Portions of the Air Force IG report, as well as a detailed rebuttal prepared by Glosson's attorney, former Pentagon General Counsel Terrence O'Donnell, were made available to *Defense Week*. They make clear that Glosson's version of events is completely at odds with the versions of Ryan, Myers and Novak as to who initiated conversations, what was discussed and their interpretations.

The Air Force plans this week to release a sanitized version of the IG report.

The allusions to McPeak were illustrated in a conversation the IG report said Novak had with Glosson. As recounted under oath by the logistics chief: "He [Glosson] said to me, 'I want to tell you something but you cannot check with the chief to verify this. I need you to know that this guy lied to the chief. The chief caught him and knows he lied and he does not need to be promoted.'"

As recounted in the report, Glosson told Novak, "If in the course of your activities over the next few days his name and record should pop up on your screen, you need to make sure that you do what's necessary." Novak said he interpreted it to mean Glosson wanted some action in connection with the promotion board.

A top Pentagon official reviewing the conflicting versions was at a loss to explain the allegations against Glosson, a maverick in Air Force circles known for his blunt, candid approach.

"I think there were some inappropriate communications," said the official. "Whether they were deliberate or merely unfortunate is open to

doubt...This is a guy who's integrity and veracity is not open to doubt," he said of Glosson. "He's a square shooter who tells it like it is." The official dealt with Glosson for years on Capitol Hill.

Glosson cancelled an interview Thursday with *Defense Week* to discuss the allegations.

McPeak in remarks Friday to a breakfast meeting of defense reporters declined comment on the case but noted a sacred trust was at issue.

"The process by which we select senior officers in the Air Force must be absolutely pollution free. The public has every right to expect and require, complete and total integrity. Not 75 percent integrity but absolute integrity. So the actions the secretary and I have taken to date are designed to take make sure the integrity is protected."

As required by Air Force regulations, the generals reported what they felt were Glosson's improper communications. This triggered a joint, three-week Air Force/Pentagon Inspector General probe.

Air Force Secretary Sheila Widnall late Friday issued a letter of admonishment to Glosson, an administrative action that in effect put the official on notice his conduct was unacceptable. Glosson remains the operations chief, albeit under a cloud.

The sad episode might effectively end the career of the 51-year-old charismatic, politically savvy, often blustery general who has received due credit for planning the Gulf War air campaign. Glosson also worked closely with the Aspin team in crafting the "bottom-up" review of future defense needs.

"Here the system worked because these guys reported it the right way, in the right time and it was handled properly by the Air Force," said a Pentagon official familiar with case.

The Air Force promotion system was heavily criticized last year by the Senate Armed Services Committee in a staff report, which included instances of improper contacts between the Air Force leadership and promotion boards. The report led the service to revise Regulation 36-9 to include guidelines for reporting attempts to influence promotion board activities.

O'Donnell's 40-page rebuttal

notes that "despite questioning virtually every officer responsible for the promotion board selection, the investigators adduced no evidence whatsoever that Glosson was aware of the membership of the 1993 MG promotion board. Nonetheless, the investigators concluded that Glosson did have access to the information."

The IG report concluded that based on the timing of Glosson's conversations and their alleged content, he knew the generals were board members.

The investigators felt it was too much of a coincidence that Glosson talked to the three about the candidate one week before the board convened.

In one case, according to the report, Glosson asked to meet with Myers the morning after he was informed he was on the promotion board.

Myers in his sworn statement told Air Force investigators about a meeting in Glosson's office. "Just the two of us sat down in his office and he said, 'Have you been notified you're on a board?' And I said, 'Yes sir...I talked to general [deleted] yesterday and he told me I was on a board...' That seemed to concern him a little bit. Then he said, 'I'm going to tell you this anyway...,'" Myers testified.

Glosson testified, for example, that Myers showed up at his office uninvited. Myers said he was called by Glosson. A phone log maintained by one of Myers' assistants backed up his claim, said the IG report. This constitutes the only documentary evidence in the case.

Myers testified he asked Glosson "So what do you want me to do about this?" As recounted by Myers, Glosson said: "Well, there may not be much you can do. Maybe you ought to rate the record fairly low and hope it comes up in discussion, comes up in the grey area and then you can take it from there...Maybe in discussion, talk about how many non-[pilot] rated individuals did we need to be general officers."

The candidate in question was not a pilot.

Likewise, Ryan reported that Glosson made similar comments to him in a phone conversation, said the report. But that damaging account was refuted by Glosson and another three-star general in the room with Glosson when the call came in.

"The investigators who drafted the
(Continued on page 15)

A Private Sector Tonic For The Defense Conversion Ailment

BY DAVID J. LYNCH

The following is part of a monthly series examining the health of California's defense and aerospace industry.

LOS ANGELES—A small merchant banking firm here has staked out a decidedly contrarian position in the ongoing debate over defense conversion. And although the firm is still gearing up, its arguments are likely to attract additional adherents as a cash-strapped federal government searches for creative ways to convert military suppliers to peacetime production.

Jon Kutler, president of the fledgling Quarterdeck Investment Partners Inc., says it is private sector financiers rather than congressmen or Pentagon bureaucrats who ought to be calling the shots as weapons makers struggle to find new markets.

Quarterdeck, still a mere five financial professionals spread between offices in L.A. and Washington, D.C., advises small companies on how to translate their military technology into new civilian markets.

But its real interest lies in finding investment opportunities amid the unforgiving consolidation that continues across much of the aerospace and defense industry. Drawing on unnamed investment partners, the firm provides cash to launch commercial spin-offs from existing defense companies or to buy and restructure ailing weapons makers.

In June, Quarterdeck took its first small step by acquiring A&H International, an Hawaiian company that makes child monitors. The company had encountered technical problems with its BeeperKid product before incorporating technology originally developed for the military, Kutler said. He said A&H, which has relocated to the L.A. area, now is "close to a deal with a major toy maker which will validate the concept."

Kutler, 37, spent more than five years in the Navy before getting an MBA at Harvard Business School and joining Wasserstein, Perella & Co., a top Wall Street mergers-and-acquisitions firm. He said there is a cultural gap bedeviling much of the conversion debate. "The defense industry and Wall Street, with a few exceptions, really don't talk to each other or work with each other," he said in an interview.

The Street sees the defense industry as an inefficient, uncompetitive sector with an impressive appetite for capital and little prospect of generating healthy returns. For their part, weapons makers have had less inclination to woo capital markets because of the steady supply of funding from their chief customer, Uncle Sam, Kutler said.

Where does Quarterdeck come in? It—and similar firms—should act as "translators" between the high-tech priests of the defense industry and the money men on Wall Street, Kutler said.

"There is a lot of interesting technology in the defense community," he added. "It's just that the capital markets don't know how to access it and the

defense industry doesn't know how to commercialize it."

The Clinton administration's main defense conversion program—the Technology Reinvestment Program—will only make matters worse in Kutler's view.

Rather than force the industry to kick its government-funded habit, TRP itself acts like another Pentagon program: first came the request for proposals, then the industry proposals followed by a period of nail-biting while the government picked the winners and finally, the anointing of private sector achievement by public sector officials.

Kutler wants to do things differently. He argues that the government should provide venture capital firms like Quarterdeck with a nominal working capital stake of say \$10 million. Then Quarterdeck's tiny roster of professionals—and those of 100 yet to be established clones—would leverage that sum into a far larger investment pool of \$80 million. Ultimately, the government would get a tangible return on its investment and Quarterdeck and other private bankers would invest in job-creating conversion enterprises.

Earlier this month, Kutler aired his views during a videoconference hearing of the House Committee on Science, Space and Technology. But Quarterdeck already has waded into the defense conversion market with its own cash.

Along with A&H, the company provided cash for a start-up venture called SeeScan, which uses anti-submarine warfare technology to create three-dimensional maps of the ocean floor. Among those interested in its products are treasure hunters and the Navy, which is intrigued by the possibilities of using SeeScan's device to locate mines, according to Kutler.

Quarterdeck's origins lie in pro bono work Kutler did on defense conversion for the Los Angeles Economic Development Corp.'s Aerospace Task Force last year. "The [popular] solutions all revolved around large amounts of government spending either in Washington, Sacramento or Los Angeles," Kutler recalled. "I suggested a different tack."

At the same time, a number of executives were leaving Wasserstein, Perella & Co. Kutler was one of them. As he surveyed his options, he found strong interest in the idea of investing in defense conversion, but little evidence that anyone else was doing it. So he arranged an unspecified number of backers—he won't say how many or how much capital is involved—and plowed ahead.

He also compiled an impressive "board of advisors," which includes retired Air Force Gen. John Chain, a former Strategic Air Command boss; Dick Cook, the head of Lockheed Corp.'s Washington office; and retired Lt. Gen. Lawrence Skibbie, the head of the American Defense Preparedness Association.

Still, Quarterdeck is not alone in its enthusiasm for a private sector tonic for conversion ailments. Spectra Enterprise Associates, Westlake Village, Calif., has launched or funded 17 defense companies since opening in 1987, according to *Upside* magazine.

And others are liable to wade in as the financial opportunities inherent in this rapidly evolving market become more apparent.

A former editor with *Defense Week*, Lynch covers aerospace for the *Orange County Register*.



INDUSTRY ALERT

Northrop Names New Veep

Northrop Corp. has named Arthur Grady vice president and deputy program manager for the AGM-127 Tri-Service Standoff Attack Missile, the company announced.

In addition to his current responsibilities as a senior manager, Grady will manage the firm's Perry, Ga., production facility which will produce the new cruise missile for the Air Force beginning in mid-1995.

Grady was named site manager in 1988. Wallace Solberg, corporate vice president and general manager of Northrop's aircraft division, in Hawthorne, Calif., said, "This appointment is designed to insure the smooth transition of the AGM-137 missile from Hawthorne to Perry."

Comanche Chopper Assembly Begins

Assembly began last month on the YRAH-66 No. 1—the first Comanche helicopter flying prototype. According to a release from the Boeing Co.-Sikorsky Aircraft production team, workers have already fitted major sections of the chopper.

The current schedule calls for work to continue at Sikorsky's Bridgeport, Conn., facility over the next year. The forward fuselage will then move to Sikorsky's Stratford, Conn., facility. There the tail cone of the aircraft, produced by Boeing, will be joined to the fuselage.

USAF Scientists Receive Honors

Three scientists from the Air Force's Aeronautical Systems Center's Wright Laboratory were recently honored for outstanding contributions to Air Force research.

Named as 1993 Wright Laboratory Fellows were: Drs. Joseph Foster Jr., Richard Rivir, and S. Lee Semiatin. Each will receive a \$200,000 grant over two years for continued research in his specialty area.

The three individuals join 19 other Wright Lab scientists who have received the award in past years, the service said in a statement.

Smart Bomb Scores Big

Terminally guided submunitions (TGSMs), developed for the Multiple Launch Rocket System, performed a complex series of maneuvers in recent tests using so-called "radar-in-the-loop" airframe guidance and control, according to contractor Martin Marietta Corp.

Once the bomb reached its search altitude in tests held Oct. 27 and Nov. 1, its radar seeker searched for armored targets. The weapon then scored direct hits against the tank targets, the company said. The TGSMs were released from high-speed aircraft three miles away from the target area.

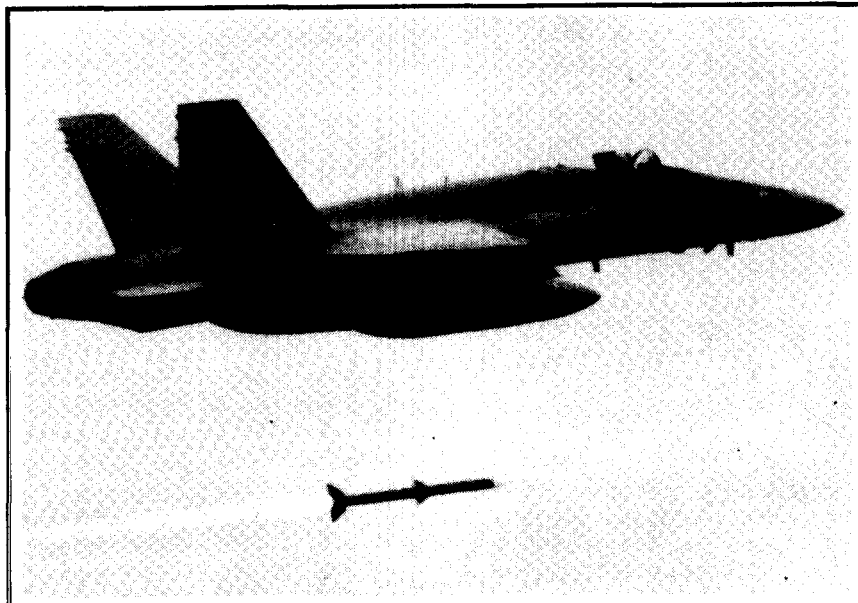
TGSM is being developed by a consortium including Martin Marietta, Germany's Diehl GmbH, France's Thomson CSF and Britain's Thorn EMI.

Lockheed To Fix Data Systems

Lockheed Missiles and Space Co. has been awarded a \$400 million, 10-year Air Force contract to streamline the process of developing and maintaining Defense Department information systems, the company announced.

The program, Integrated Computer-Aided Software Engineering, or I-CASE, is being designed to improve software quality and productivity and reduce cost and risk associated with developing complex data system applications, Lockheed said in a release.

Much of the work will be done in a new Lockheed facility in Montgomery, Ala., near the Air Force's Standard System Center at Maxwell AFB. Lockheed is teamed with Loral Space Information Systems Co., Robbins-Gioia, Hewlett-Packard Co., IBM Corp., Ogden Government Services, FasTrak Training and CTA Inc.



Hornets Will Get New Missiles

The AMRAAM missile, once an embattled system targeted by congressional and Pentagon investigators alike, was recently cleared for use on Navy F/A-18s.

Pictured here, a Hornet from VFA-136, Naval Air Station Cecil Field, Fla., fires an Advanced Medium-Range Air-to-Air Missile during a recent test exercise.

The AMRAAM eventually will give Navy and Air Force pilots the capability to fire at multiple enemy aircraft located beyond the horizon.

More Woes For The V-22 Osprey... (From page one)

Accounting Office report, entitled "Navy Aviation: V-22 Development—Schedule Extended, Performance Reduced and Costs Increased," was obtained by *Defense Week*. It is not scheduled for public release for several weeks.

In its most serious finding, the GAO concluded that the tiltrotor could require \$5 billion and 12 years to develop, roughly twice as much time and money as previously planned.

The conclusions were attacked in Pentagon comments included in the report. Pentagon Director of Tactical Systems Frank Kendall countered that some of the key findings did not fully take into account major changes incorporated last year.

Kendall didn't dispute the figures. But explaining the cost and schedule growth, he said: "The program scope increased from full-scale development to include four additional production representative aircraft and modification of two existing full scale development aircraft."

He was referring to the extension of the original contract. Last year, after the Osprey became an election year political football, the Pentagon contracted with Bell Helicopter Textron Inc. and Boeing Helicopters Inc. for four new aircraft and the upgrade of two earlier model V-22s.

The contract extension will bring the total full scale-development and engineering and manufacturing development (EMD) bill to almost \$5 billion.

The GAO auditors listed persistent technical problems with the aircraft, including weight problems, excessive vibration and aircraft drag, problems with the landing gear and insufficient airspeed.

Kendall conceded that the problems existed. But he claimed GAO was stating the obvious. "The GAO cites the design deficiencies in the full-scale development aircraft but does not mention that the engineering and manufacturing development effort is designed to address most of those shortfalls."

Another finding was that the V-22 contractors would need to slash 3,500 pounds in excess weight from the Osprey test model design.

Kendall said this was not so. "The Navy will reduce 2,000 pounds on each of the four engineering and manufacturing development aircraft, not 3,500 pounds on the two full-scale development aircraft," he wrote.

"Only 2,000 pounds of weight reduction is required for the EMD aircraft, since engine/drive train improvements are equivalent to 1,500 pounds of weight reduction," he wrote.

A spokesman for Boeing declined comment, steering queries to the Pentagon. A spokesman for Bell didn't respond by press time to questions.

The GAO findings come as the Pentagon's most senior level program board is scheduled to review the V-22's EMD phase Thursday with an eye toward future production. The Defense Acquisition Board (DAB) will assess the V-22 procurement plan and possible helicopter alternatives.

Some of the most pressing issues the DAB will examine include the Osprey's weight, reliability and maintainability, cockpit integration, avionics and coolant systems,

said Pentagon officials familiar with the program.

Although not a blistering attack on the program, the GAO report may stoke arguments to cancel the aircraft. It is another in a series of studies over the last several years from GAO and the Pentagon's Defense Contract Audit Agency that have cast a long shadow over the V-22.

But for supporters of the program the GAO study "doesn't say anything that wasn't already known," claimed a Navy official. It cited many of the same problems in 1990. The GAO concluded the program is structured with a high level of concurrent development and production. "Concurrency," as it is known in Pentagon parlance, can lead to major design flaws and costly overruns. The GAO report concluded that concurrency was so excessive the aircraft would not be ready for Marine Corps use by fiscal 1999.

Kendall said the GAO's bleak assessment failed to consider major program changes. "While concurrency was included in prior V-22 program plans, the GAO draft report does not reflect the latest plan for the V-22 included in the president's fiscal 1994 budget. The V-22 no longer includes a fiscal 1999 initial operational capability. In addition, no concurrent development and production is planned," he wrote.

The GAO also faulted the cost estimating approach and assumptions used in an earlier Pentagon-sponsored study to justify the Osprey. Kendall said the auditors were wrong. "The GAO interpretation of the Institute for Defense Analyses assumptions and results, however, is not accurate," he wrote.

Meanwhile, as officials last week prepared for the high-powered DAB gathering, reports circulated in the Pentagon regarding the V-22's prospects.

One Navy document, citing a September estimate, said the contractors have made significant progress cutting weight. The Osprey need shed only 1,042 pounds, said the document. "An aggressive weight reduction effort is underway," it said.

"At the projected overweight condition, all Marine Corps tactical mission requirements specified in the joint operational service requirements can be met," it said.

Beyond development issues, a major question the DAB will consider is how many V-22s will be bought and whether commandos will cough up money.

While the Navy has budgeted about \$5 billion for full production in its long-range budget, the Special Operations Command has not set aside cash. "They want a free ride," said one Pentagon source. The quantity of aircraft is an important issue because it affects the unit cost. One internal Pentagon assessment said each production representative V-22 could cost as much as \$60 million to \$80 million. The figure doesn't include operations and support costs. This is the so-called acquisition procurement unit cost.

The least complete measure of cost, the so-called flyaway, is between \$30 million and \$40 million apiece depending whether operations and support costs are included. The independent Cost Analysis Improvement Group is to present to the DAB its own assessment of V-22 costs.

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Better 'Peace Enforcement Eyes' (From page 6)

they were already familiar with the system's capabilities.

The infantry school foresees numerous uses for the filmless camera, which can transmit single-frame color video images from one part of the battlefield to another, "to include any higher headquarters."

Using the camera, desk-bound commanders could direct the movements of friendly troops and watch as confrontations develop. The camera could also help finger fugitives at roadblocks by transmitting pictures to command posts where intelligence officers could review them.

Planners could use it to prepare obstacle-breaching operations and intelligence officers to gather battle damage assessments. The Army has been frank about another potential mission: "To record real events to ward off later media distortions."

After taking a picture, the camera converts the information into a digital format, said Canada. It can then be sent over UHF or SINCGARS radios to any commander in less than a minute. "Now the commander has immediate feedback from a situation," he said, and can guide young and inexperienced leaders.

An Army "employment concept" envisions providing as many as three cameras to battalions, one per front-line company and two to battalion scout units. During operational planning a battalion's intelligence officer would control the cameras for collection purposes. During the operation itself the cameras could monitor likely routes of enemy approach.

The Crossbow reconnaissance, anti-personnel and anti-armor system would undertake many similar missions. According to Canada, platoon leaders have always painted verbal pictures of their situation to more senior commanders. Now a lieutenant will be able to show them his predicament.

Crossbow consists of a suitcase control panel, fiber optic cable and six pods. Each pod contains a television camera and an anti-personnel and anti-tank mine, said Canada. The pods are connected to the panel with the Kevlar-coated cable, allowing a single operator to monitor six remote locations at one time.

The pods can be placed as far as three miles away and are manipulated from the suitcase control panel using a joy-stick.

With its "lowlight capable" cameras, Crossbow will "greatly increase" a commander's situational awareness, especially if "issued at the minimum rate of one per company," said the infantry school paper. The system offers "near real-time" information provided that the operators have the right communications or are stationed with the commander.

In offensive situations Crossbow could provide security through early warning and "an attack

option on likely enemy avenues of approach." It would also provide surveillance and battle damage assessment in some circumstances.

The system would be employed in peace enforcement operations in an "area-denial role to restrict freedom of movement of irregular, paramilitary or guerrilla forces." According to Canada, that could include policing buffer zones between two warring factions like Somalia's "green line."

The system also "extends a commander's security envelope significantly beyond his manned perimeter," said the Army. Troops in Somalia, for example, have dug in to their bases more than ever. So avoiding a repeat of the Marines barracks car bombing in Lebanon has become paramount.

Employed along probable enemy lines of communication, Crossbow pods could serve simultaneously "as remote surveillance capabilities and unmanned, command-executed ambushes," said the Army.

Pointer unmanned aerial vehicles (UAVs) were another system to get field tested during the recent peace enforcement exercise.

According to Canada, they could have been used during the ill-fated Oct. 3 Ranger raid in Somalia. U.S. soldiers who took heavy fire when they attempted to rescue crewmen from a downed Black Hawk helicopter could have been forewarned. So too the first detachment of 10th Mountain Division troops, which tried to reach the Rangers.

In peace enforcement operations, a UAV would perform all its typical reconnaissance and surveillance missions. The infantry school sees it as particularly useful in checking out planned maneuver routes to prevent ambushes.

It also sees it having "great utility in updating maps, particularly for locating clandestine trails used by belligerents to fade into the landscape."

A bevy of night vision devices have also been identified as having promising peace enforcement uses. Canada said that some devices used at an October night fighting exercise at Ft. Campbell, Ky., were also used at the JRTC.

Among the devices was a "codeable Budd light" which has been used in Somalia. The infra-red (IR) device, which serves to mark friendly forces, can be programmed to flash in a particular pattern, making it harder for enemy troops to mimic.

The system has proved its mettle already. In Somalia, a Cobra helicopter gunship was preparing to open fire on what it believed to be 10 enemy soldiers; they turned on their light and successfully waved off the attack, said Canada.

Also tested at the JRTC were several illumination rounds, including a 40mm IR parachute signal, an 81mm covert IR cartridge, a 60mm illuminating cartridge and a hand-held, rocket-fired parachute signal. All the systems enhance the picture seen through night vision devices, including goggles, but remain invisible to the naked eye.

Resistance To Using Commercial Standards In The Pentagon?

A chief tenet of the Clinton administration's defense conversion blueprint involves casting off military-unique specifications and using more commercial products and processes in purchases.

But actions speak louder than words.

Nearly nine months after a directive from the three military services sought a foothold in the commercial standards arena, some program officials are left complaining about evaporating support from senior Pentagon civilians. What's more, there is much confusion about whether the new policy is in force.

The problem can be traced to a March 8 "action memorandum" from senior Army, Navy and Air Force representatives who authorized program managers "prudent" use of commercial industrial standards in military quality assurance programs.

"If you elect to use these non-government, commercial standards, supplement their application with other standards and contract requirements as needed, and tailor them where it makes sense," the memo said. The memo was signed by Army director of program evaluation Stephen Burdt, Navy product integrity director Willis Willoughby and then-deputy assistant secretary for management policy, Maj. Gen. Stephen Condon.

It was to have been a significant but small step toward breaking down the barriers that separate the commercial and military industries, something administration rhetoric has touted as paramount to streamlining Pentagon operations and reducing costs.

In the case of quality assurance projects—diagnostic systems that ensure weapons work as advertised—allowing the military access to commercial products was an imperative.

The idea was to improve Pentagon diagnostic products by building quality into manufacturing processes up front as opposed to later during product inspections. The benefit for defense companies was to bolster their competitiveness overseas where commercial standards are widely accepted.

"Global competition with a focus on quality is revolutionizing the commercial marketplace," said the March memo. Allowing military contractors use of the International Organization

BY ERIC ROSENBERG

for Standardization, ISO-9000 series and the equivalent standard set by the American National Standards Institute, was to be the doorway to attain that commercial know-how.

"Organizations that match an accelerated pace of advancing technology with efficient industrial processes and innovations in program management, engineering and manufacturing are showing the way to new concepts that challenge our present assumptions," the March directive said in its lofty preamble.

Yet high-level Pentagon civilians appeared to withdraw support almost immediately after the directive was released. An April 2 memorandum from David Berteau, the principal deputy assistant secretary for production and logistics, was decidedly lukewarm to the commercial standard.

Berteau complained that the March memo "lacks detailed guidance" and "leaves open the potential for misapplication and non-uniform application of the standards."

His two-page letter to the services' top civilian acquisition executives included additional guidance but it appeared markedly qualified to many involved with Pentagon procurement.

"The new [undersecretary for acquisition John Deutch] must be afforded the opportunity to review and approve the DoD position," Berteau wrote. "We want to move ahead with plans to upgrade our quality standards, however, we want this to be done in a coordinated and well-planned out manner."

Berteau's wavering caught the attention of a primary congressional champion of commercial standards on Capitol Hill, Sen. Jeff Bingaman (D-N.M.).

The chairman of the defense technology, acquisition and industrial base subcommittee, Bingaman was worried the Pentagon's initial flourish over commercial standards would fade. He fired off a letter May 24 to William Perry, the deputy defense secretary outlining his concerns.

While praising the March directive as a "remarkable...early effort to turn the milspec system on its head," Bingaman wasn't satisfied. He wanted

the Pentagon to issue "a permanent Office of the Secretary for Defense directive that locks in the preference for use of the commercial quality standards in DoD procurements."

But he lamented that Berteau's mis-sive "sounds bureaucratic to my ear and reads as less than a ringing endorsement for the services' action."

The Pentagon's reluctance exists despite strong support from senior military acquisition officials such as Air Force Maj Gen. James Fain, the director of requirements at the Materiel Command, and Rear Adm. M.S. Firebaugh, the deputy commander for ship design.

Both officials sought to influence their respective services to accept the commercial quality standards. Fain wrote his superiors that the service was preparing accordingly. "Our contracting community has accepted proposals that have indicated cost savings using existing ISO-9000 established quality systems," he wrote Feb. 8.

"We understand there are issues such as contract administration and third party accreditation to the ISO standards. We believe they are worth resolving so that we can equip our acquisition work force with the tools they need in today's defense environment," he wrote.

Firebaugh wrote his superiors April 21 seeking "your support and leadership for the application of the ISO-9000 series quality standards, where appropriate, in Navy and defense acquisitions."

While some officials said Perry has since endorsed commercial standards for quality programs, a senior Pentagon official said a definitive policy has yet to reach the procurement trenches. "There's still quite a lot of confusion over this."

The wavering and resulting confusion has struck some as odd especially because senior officials such as Perry and Deutch say "milspec-busting" is a top priority. In fact, the Pentagon this summer convened a special action team headed by Deputy Undersecretary for Acquisition Reform Colleen Preston. Its overarching goal is to whittle away at military specifications and standards. According to its August charter, the group will develop a comprehensive plan to "permit maximum reliance on existing commercial items, practices, processes and capabilities while protecting the government's interests."

Texas Delegates Are Rallying Around F-16 Jet In Hunt For Israeli Market

Twenty-five members of the Texas congressional delegation wrote Prime Minister Yitzhak Rabin Nov. 18, asking that he reconsider an apparent decision by the Israeli government to buy the F-15 fighter.

The McDonnell Douglas Corp. F-15 is in competition with Lockheed Corp.'s Fort Worth-based F-16 fighter division to sell Israel fighters. The early competition had centered between the F-16 and McDonnell Douglas's F/A-18 fighter, before Israeli interest shifted this fall to the highly touted F-15 fighter/bomber.

According to *Defense News*, a trade newspaper, it is unlikely that Israel would opt to combine purchases of the two planes.

Israel has earmarked about \$1.8 billion to buy fighters through 2003, with the choice focusing on either 55 of the twin-seat, Block 50 F-16s, or a 20-fleet inventory of F-15 "I" models.

They contain some of the same sophisticated equipment as the U.S. Air Force's top-line F-15E and will be substantially better than the 72 F-15s sold last year to Saudi Arabia in terms of radar resolution and external weapons carriages.

This is consistent with a promise made by the Bush administration to sell Israel F-15Es on par with the U.S. Air Force version if that nation didn't oppose the Saudi sale.

Israel is looking for a long-range, all-weather strike aircraft. The F-15 has a ferry range of 2,878 miles without drop tanks and 3,570 miles with them. F-16s have a range of about 2,000 miles. The combat mission load would depend on what types of ordnance a plane is carrying. The Texas delegation, led by Sen. Kay Bailey-Hutchison (R) and Fort Worth's Rep. Pete Geren (D), asked the prime minister to reconsider an apparent decision by his Ministry of Defense to buy the F-15.

The signatories included Charles Stenholm (D), Chet Edwards (D), Sam Johnson (R), Charlie Wilson (D), Dick Armey (R), Lamar Smith (R), Ralph Hall (R), Jack Fields (R), Joe Barton (R) and Solomon Ortiz (D).

The letter was to coincide with Rabin's visit to Washington last month, where he had been expected to announce the aircraft winner. That decision has been put off until January.

"Mr. Prime Minister, we urge you carefully review the F-16's enhanced strategic configuration to meet Israel's defense requirements."

"We are keenly aware of the fair and professional competitive evaluation conducted over the last year and a half... We have been proud to hear reports that the F-16 was leading the competition but are concerned about the sudden, highly irregular and uncontested shift in emphasis to the F-15," the delegation wrote.

The delegation reminded Rabin that over 200 F-16s are in the Israeli Air Force. "Additionally, the F-16 contains significant Israeli-produced hardware and advanced avionics. It is our most sincere hope that this partnership will not only continue but be enhanced by a follow-on F-16 sale." And, "the approximate three-to-one cost ratio in favor of the F-16 for essentially the same strategic capability is quite significant." The lawmakers reminded Rabin that "the Texas delegation have been very strong supporters of Israel and we urge you to give your personal attention to the matter to ensure that the most cost effective and capable aircraft will be a critical component of the Israeli Air Force."

Israeli Ambassador Itamar Rabinovich hinted early last month during an interview with defense reporters that the F-15's enhanced range is one plus over the F-16. Although the F-16 is "now the backbone of the Air Force, the major advantage that the F-15 has when a country like Israel considers it is enhanced range."

—TONY CAPACCIO

Defense Dollars... (From page one)

will develop the Patriot Advanced Capability (PAC) 3 missile, the Theater High Altitude Area Defense (THAAD) system and so-called "sea-based lower-tier" and "upper-tier" weapons.

George Schneider, director of strategic and space systems and head of the review's missile defense portion, said at a September conference that the Corps Surface-to-Air Missile (SAM) was the lowest theater defense priority in the review.

But the charts show that although Corps SAM appeared the big loser in the reorganized missile defense program, by 2006 it could become the most costly theater defense system.

In the short run, Corps SAM is indeed the smallest program, according to the documents. From fiscal 1994 to 1999 BMDO wants \$519 million. In the long run, fiscal 1994 to 2006, however, the total figure soars to \$7.5 billion. BMDO wants \$1.7 billion in fiscal 2006 alone to buy the missile.

Alan Sherer, acting Army program executive officer for missile defense, at an Association of the U.S. Army conference last week said that Corps SAM is becoming a key program. He said Gen. J.H. Binford Peay, Army vice chief of staff, has made the weapon one of his top five priority projects.

Col. Stan Green, a special assistant to the Army assistant deputy chief of staff for operations, plans and force development, at the conference said that after 2000, Corps SAM and THAAD could cover the entire theater ballistic missile defense threat spectrum.

The budget for THAAD, designed to protect an entire small country, is close to Corps SAM at \$7.4 billion from fiscal 1994 to fiscal 2006. The sea-based lower-tier is pegged for \$3.7 billion in the time frame. Its procurement begins in fiscal 1995 at \$16 million.

Patriot figures show that \$3 billion is slated from fiscal 1994 to fiscal 2000. The sea-based upper-tier system figures were unavailable.

The documents also illuminate specific funding lines for this fiscal year, which had not yet been publicly released. The budgets for fiscal 1994 include \$470 million for THAAD, \$122 million for sea-based lower-tier, \$103 million for Patriot and \$20 million for Corps SAM.

As part of the forementioned figures, the charts reveal for the first time the portion of funds to be devoted to procurement. Corps SAM will cost \$3.1 billion to buy from fiscal 2003 to fiscal 2006. The sea-based lower tier will cost \$2.7 billion to buy from fiscal 1995 to fiscal 2006. PAC 3 procurement from fiscal 1996 to fiscal 2000 is \$1.7 billion. THAAD procurement will cost \$4.5 billion from fiscal 1999 to fiscal 2006.

The post-2000 figures BMDO wants to spend to develop and buy THAAD, Corps SAM and sea-based lower tier include, \$1.9 billion in 2001; \$1.8 billion in 2002; \$2.2 billion in 2003; \$2.3 billion in 2004; and \$2.4 billion in 2006.

Pryor Goes Once More Into The Breach On Navy Jammer

BY TONY CAPACCIO

Demonstrating a "once more into the breach" mentality, Sen. David Pryor (D-Ark.), has requested the General Accounting Office review Navy plans to retest the Airborne Self-Protection Jammer, or ASPJ.

The request came in a Nov. 8 letter to Comptroller General Charles Bowsher.

Terminated by Congress and Pentagon officials last year at Pryor's insistence because of a failed operational test, the jammer is enjoying a resurrection because the Navy plans to retest it on F-14D aircraft in about six months.

If the tests demonstrate the jammer provides improved protection over current models, the Pentagon might install the 100 ASPJs already delivered on the Tomcats. The retest marks yet another twist in the jammer's controversial 17-year, full-scale-development during which time \$1.6 billion has been spent.

The retest is being conducted largely because of pressure from the Maryland congressional delegation, led by Sen. Barbara Mikulski (D). Rep. Roscoe Bartlett, (R) a freshmen member of the House Armed Services Committee, was successful in getting \$7 million approved in this fiscal year's budget to conduct the retest. Westinghouse Electric Corp., near Baltimore, co-produces the jammer.

Pryor and his staff have held extensive discussions about the issue with Acquisition Undersecretary John

Deutch. The lawmaker passed him a memo listing the circumstances under which such a test would be conducted.

It was agreed the tests won't include an assessment of the jammer itself but rather its integration and compatibility with other F-14D avionics and weapons.

"Please understand that I have thus far not openly opposed the retesting of this controversial radar jammer mainly due to my curiosity over how the Navy will address and account for the many inherent problems associated with the ASPJ during the testing process," Pryor wrote the GAO.

Pryor directed the congressional watchdog agency examine how test plans will reflect ASPJ jammer reliability, supportability and suitability on the F-14D.

Pryor in a memo to Deutch listed eight prerequisites the retest must meet. "The plan must provide for discrete measurement of ASPJ's contribution to aircraft survivability," stressed the document.

One of the strongest prerequisites was that the Pentagon's Director of Operational Test and Evaluation "must have immediate and open access on demand to any and all persons, data, analyses and other information associated with F-14D operational testing."

Another prerequisite stated the Navy "may not use any data collected in the F-14D operational testing to extrapolate about how ASPJ may or may not perform on other aircraft types or models, or justify an ASPJ program restart for other aircraft types or models."

A third condition was that the Navy must produce an integrated logistics support analysis addressing the ability to support deployed jammers on aircraft carriers with no intermediate depot support capabilities. "The analysis may not assume that ASPJ's mission critical failure rate, both hardware and software, is better than that demonstrated during the 1992 operational testing."

F-22 Wing Design...

(From page 2)

Armed Services Committee in charge of test issues, said opinions on his panel about the F-22 waiver are not yet well formulated. "We'll be watching to see how that goes. For now, this is not a big issue in the Senate," he told a seminar luncheon.

The Air Force in its waiver package to Congress said it planned "extensive analysis" of the hydrodynamic ram-induced problem. The testing "comprises a significant portion of the F-22 ballistic testing because of its importance in aircraft survivability and because of model inadequacies."

The tests will consist of a building block approach, starting with a wingbox of three spars to a larger section containing eight titanium spars.

Said the Air Force request: "The final test will be used to verify that the design finally selected can survive the specified threat. A 30mm round will be used in this test. It will demonstrate the survivability of the wing design to both hydrodynamic ram effects and fire/explosion in the air space in the fuel tank above the fuel."

Promotion Board Scandal... (From page 8)

IG report, faced with the conflicting testimony, concluded in a strikingly illogical and obviously strained and improper fashion that Ryan's account of the phone conversation is accurate," wrote O'Donnell. "Only briefly do the investigators question why Ryan and Myers stories are so consistent," O'Donnell wrote. "The report ultimately depends upon the credibility of the complainants: Lt. Gen. Ryan, whose testimony about the substance of the conversation is simply not accurate...Myers, a close friend of Ryan, who had numerous conversations about this matter before he reported it and whose concerns and conduct bear a curious and remarkable resemblance to those expressed by Ryan."

The IG report makes clear that because of the corroborating witness for Glosson, Ryan's assertion of events, standing alone, remained uncorroborated. O'Donnell wrote: "As the [IG] investigators conceded, if the conversation occurred the way that Glosson and LTG [deleted] have indicated in their sworn testimony, the conversation was not improper and violated no regulation, standard of conduct or custom of the service."

The IG report conceded as much. But it said "having accepted the Novak and Myers testimony, we are unable to dismiss the Ryan testimony as a gross error, intentional misrepresentation or a misunderstanding in communication. After considering all the evidence in this case and for reasons of witness credibility...we believe Ryan's testimony."

Joint Staff To Recommend That Marines Give Up Air Defenses

BY ANDREW WEINSCHENK

A forthcoming Joint Staff theater air defense study will recommend the Marine Corps consider letting the Army and Navy provide its air defenses, according to Army documents.

Under the proposal, Army Patriot missiles and Navy Aegis cruisers would plug the gap left by retiring Marine Hawk missile batteries.

The issue had been left unresolved by Gen. Colin Powell's February 1993 "roles and missions" report. So, the Joint Chiefs chairman asked his staff to "comprehensively review theater air defense requirements, capabilities and deficiencies" in a separate study.

That report is due in January or February. But the Army Air Defense School at Ft. Bliss, Texas, has already concluded in its own Oct. 4 report that Marine air defense assets should remain where they are.

Neither the Air Defense School nor the Joint Staff would answer questions related to either study. That may be due to the enormous sensitivity surrounding roles and mission issues. The Army and Air Force, for example, are still waging a bruising battle over control of Army air defense assets.

The Marines use their Hawk air defense batteries and shoulder-carried Stingers to protect Marine Air-Ground Task Forces from enemy aircraft and surveillance as they establish a beachhead.

The Army found its air defense forces, doctrine, training and equipment similar to that of the Marines but not similar enough. The Army declined to take over the mission partly because of differences in how the sister services deploy.

The Marines hit the beaches with assault forces. But Army air defenders typically fly into secure airports or debark in captured ports. As a result, the service believes some of its equipment and unit structures are ill-suited for the Marine mission.

Despite improvements in mobility, the Patriot missile system, for example, is still far too cumbersome for quick deployments to contested beachheads. As for the Aegis: "Unless you drive the cruiser up on the beach, the system can't provide us all the protection that we need," said a Marine official last week.

Low flying aircraft are a particular problem. And as a Marine force moves inland, more of its airspace would fall outside Aegis' range. The Marine official said adequate protection remains "a very large concern."

The Army study concurred, concluding that Marine Corps air defense "capabilities meet unique mission requirements." Stripped of its missiles, the amphibious force would be "at risk," it said.

The Army also questioned whether it has enough Patriot battalions to make up the shortfall left by decommissioning the Marine's three Hawk battalions. To provide effective coverage, the service would also require the Corps SAM missile. That program's fate, however, is still uncertain.

But the Marines haven't closed the door on a future transfer. They would like to see what improvements are made to the Patriot and Aegis and how the Corps SAM program develops. Then, sometime after the turn of the century, they would reevaluate Hawk's usefulness, said the Marine official.

For now, budget issues also make a transfer unlikely. "We know that there will be costs associated with the U.S. Army assuming the mission but without further study we don't know what the cost will be," said the Army.

The service has used similar arguments about transfer costs to beat back an Air Force air defense grab. Last month the Army said transferring its air defense assets to the Air Force would cost as much as \$6 billion over 10 years. A previous Army study had concluded the transfer would cost \$2 billion over five years.

Another Marine official conceded that the Army may, in this case, be a reluctant warrior. "There is no real push from the Army to gather in this mission." While it is willing to take on new tasks, it won't do it without more money. And that is not in the offing.

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From the Editors of The Energy Daily and Defense Week

Monday, December 6, 1993

NTW Volume 7, Number 49

U.S. Companies' R&D Commitment Plummeting

BY MARK CRAWFORD

The slide in investment in research and development by American companies is intensifying, according to the latest survey conducted by the Industrial Research Institute. Of 158 companies participating in IRI's tenth annual R&D Trends Forecast, some 33 percent say they expect to decrease spending on R&D in 1994.

This is viewed as a significant difference from 1992, when 28 percent of those surveyed said they would cut back R&D outlays for 1993. It marks a near doubling of the companies planning to reduce R&D expenditures since 1991, when 19 percent eyed reductions. "The trend is in the wrong direction and it does not seem to have bottomed," declares Gary McGraw, vice president of development for Eastman Chemical Co. and the chairman of IRI's Research-On-Research Committee.

McGraw says that there is no single explanation for the corporate reductions in R&D, nor is there any certainty about whether the trend will reverse itself in
(Continued on page 5)

Clean Car Master Pact Seen As Setting Pattern For Industry-DOE Efforts

BY MARK CRAWFORD

The Department of Energy has implemented a new master contract under which American automotive companies are to work with the country's national research laboratories. The pact is being heralded as a "landmark agreement" that will greatly accelerate the approval of cooperative R&D projects—and it is seen as a model for other industries to replicate.

The development of the so-called "master CRADA" (cooperative research & development agreement) was mandated by President Clinton when he announced his New Generation of Vehicles (NGV) initiative. Commonly referred to as the "clean car program," the NGV program is aimed at producing advanced automotive technologies that will triple average fuel economy, lower manufacturing costs, and reduce pollution from automobiles.

U.S. auto companies say that, if they are to achieve these goals, it is essential that they have easy access to
(Continued on page 12)

With the December 15 deadline for the conclusion of the GATT's Uruguay Round less than two weeks away, the U.S. stance still had not been set regarding a series of draft provisions that could clip the wings of the Clinton administration's fledgling technology promotion strategy (NTW, Nov. 29, p. 1).

Intense discussions of the matter were taking place late last week, with Washington's trade and technology communities coming down on opposite sides of a divide. "The process is under way here," a senior White House official told *New*

U.S. Stance On GATT R&D Subsidies Still Up In Air

BY KEN JACOBSON

Technology Week, adding: "It's not a process whose outcome I'd like to predict."

The rift was attributed by some observers in the technology camp to a lack of interagency communication or coordination, but others saw it as the result of a fundamental clash of ideologies. Resistance in the trade community to

opposing the draft provisions is characterized as a "de facto flank attack on the Clinton technology policies" by Charles Wessner, a former director for international policy in the Commerce Department's Technology Administration.

Pointing to the Office of the U.S. Trade Representative, which is

negotiating the Uruguay Round revision of the General Agreement on Tariffs and Trade, the Office of Management and Budget, and the Treasury Department, Wessner claims that "many in the trade community would not be displeased if the Clinton technology policy were constrained by international agreement. They genuinely do not understand the scope of past and present government efforts to develop technologies—in pharmaceuticals as well as aerospace and semiconductors—and if you told them [the draft
(Continued on page 2)

GATT R&D Subsidies Up In The Air... (From page one)

provisions] would tend to impede such efforts, some would probably think that was a good thing."

At issue are limits on government funding of public-private industrial research partnerships that appear in the subsidies code of the GATT's current working draft, known as the "Dunkel Text." These stipulations would have the effect of capping government contributions to such partnerships at 50 percent of total budget for basic industrial research and 25 percent for applied industrial research—the latter designation being the one that would likely fit many current U.S. technology promotion efforts that have been benefiting from 50 percent government participation.

Additionally, advance notification of government assistance to research would have to be given to the GATT's Subsidies Committee "in sufficient detail," according to an analysis of the provisions by the Industrial Research Institute (IRI), "to evaluate the program's consistency" with GATT criteria. Having to provide information in such a way, technology sources argue, would discourage private companies from entering into government-aided partnerships.

The provisions were discussed at an IRI roundtable in the summer of 1992 at which reservations regarding them were brought to the attention of then White House Science Adviser Allan Bromley and officials of USTR. "We then took the position, which we understood to be the position of the [Bush] administration, of exempting research but not development from countervailing tariffs" that would be imposed on products receiving unallowable government aid, recalls IRI Executive Director Charles Larson. "That is where we understood the matter to stand until very recently."

But the senior White House official states that Bromley "was not able to get changes" made in the subsidies provisions and observes that, with the Uruguay Round overrunning supposed deadlines on an annual basis, "for the past three years the trade community has said it's too late to change" the draft.

How the matter could again come down to the wire, and this time in an administration that has staked out a far more activist role in technology policy than its predecessors did, is a question that elicits a variety of answers. "Everybody has been very busy and not focused on the Dunkel Text," said the White House source, with the result that "the text still stands." Echoing this statement is a Senate aide: "We didn't hold hearings and we probably should have. Everyone was busy—the trade guys with NAFTA—but it's fair to say we dropped the ball."

Offering a different interpretation, a Capitol Hill colleague states that "one of the standard things with trade negotiations, as with any negotiation, is that the sticky things get left till the end. You don't make the tough decisions until you have to." He acknowledges, however, that what makes this issue sticky is not the difficulty of working it out with other GATT countries

but a difference within the administration itself, what he calls a "split between the so-called trade and so-called tech people."

On this, the first congressional source, who is squarely on the technology side, is more explicit: Technology concerns, he charges, are "not being taken seriously." The limits on government funding of R&D partnerships are being allowed to stand "without a thought to how that affects existing programs," he declares. The fact, he adds, that "people in Geneva would decide whether U.S. programs are legal or not" could discourage further action by Congress on technology promotion, since "nobody wants to back losers."

This source sees two factors behind the trade community's lack of sensitivity to technology concerns. First, USTR "doesn't consult with anyone," he claims, describing the agency as "institutionally a very arrogant group" with an attitude that "'we're going to control the game'"—something he admits "they've been able to do through fast-track" negotiating authority.

The second factor he cites is "ideology." He points to the presence at USTR of "Bush holdovers" who oppose government activism on technology, adding that the economists and

lawyers leading the negotiations are more concerned with eliminating such perceived barriers to perfectly free trade as subsidies and with improving intellectual property provisions than they are with safeguarding technology promotion programs. Moreover, he characterizes the trade community as "playing on the fact that many in Congress are fed up with the big subsidies" the Europeans have been providing to ventures like Airbus.

But pointing to a footnote that appears to exempt civil aircraft from the subsidy provisions—declaring as it does that the sector is expected to be "subject to specific multilateral rules"—Wessner says the Dunkel Text is "perceived to be Airbus-driven, but it doesn't capture Airbus." And the former Technology Administration official claims the draft has other flaws:

- It would come down harder on U.S. government support for R&D, which tends to take the "transparent" form of direct grants to research, than on the tax breaks and other, less straightforward aid measures employed in Europe and Japan.

- Its notification provision would be a stronger deterrent to industry-government R&D collaboration in the U.S., with its "strongly risk-averse legal culture," than in other GATT signatory countries.

- The distinction between "basic" and "applied" industrial research "is hopelessly out of date considering what is now understood about the innovation process." Adhering to these categories, Wessner stresses, would "be a source of unending dispute in the GATT." It would also tend to push partnerships into the applied category with its 25 percent cap on government funding, "whereas the policy standard in Clinton programs is 50 percent" public participation.

Tech concerns... "not being taken seriously."

(Continued on next page)

Information Industry GATT Lobbying Skips R&D Issue

BY JIM SCHUBINER

Computer and semiconductor companies are staging a full-blown lobbying effort aimed at revising GATT provisions related to intellectual property protection, anti-dumping, and tariffs as the curtain threatens to come down on the Uruguay Round. But the industry has lobbied little to alter language that would limit R&D subsidies (see story on page 1).

The question of R&D subsidies "just hasn't been raised to my attention by our members," said Meghan Rainey, director of government relations for international trade at the Computer and Business Equipment Manufacturers Association (CBEMA).

"While they are concerned about the R&D subsidies issue, they felt that they couldn't add that to the list, because there would be just too many things that they would be asking the administration to do," said an observer about members of the Semiconductor Industry Association (SIA).

Industry is working hard to change other parts of the GATT. "CBEMA continues to seek the elimination of the European Community's duties on computer parts, semiconductors, copier parts, accessories, and toners," wrote John Pickitt, president of the association, in a November 30 letter to U.S. Trade Representative Mickey Kantor. "It is critical for this industry's future that tariffs on key components around the world be substantially reduced if not eliminated."

The European Community has offered to cut tariffs on computer parts from 4.9 percent to 2.5 percent, but U.S. companies are looking for no tariffs at all. "We've been working with the administration and sending them a lot of information on why it is so important to bring this number down to zero," said Rainey. "We understand that the administration in the last week has put this on its target list of things to reduce."

The EC says it would agree to reduce semiconductor tariffs from 14 percent to 9 percent, but the U.S. semiconductor industry rejects the offer. In a letter to Kantor early in November, Pickitt called the proposal "not just

deficient [but] disingenuous."

In addition to concerns about tariffs, high-technology companies fear that the existing GATT draft will make it extremely difficult to prevent foreign competitors from dumping products. "Rather than facilitating action against companies that engage in repeated dumping or evade legitimate antidumping orders, the draft weakens already inadequate remedial actions permitted by the GATT," says an SIA statement.

The semiconductor industry estimates that it lost 40,000 jobs last year because of dumping. "The Japanese sold DRAMS and EPROMs 50 to 100 percent below the cost of production," explains Michael Maibach, director of government affairs at Intel. "Intel invented the DRAM, and we lost the product."

Companies also are pressing for a GATT that provides intellectual property protection they regard to be adequate. "Tariffs cost us money, but the intellectual property law could cost us our company," comments Maibach. "One is important, the other is critical."

Semiconductor companies say the existing draft would strip the United States of its authority to impose sanctions on countries that violate intellectual property laws. Instead, American companies would have to rely on a panel of GATT members to resolve intellectual property disputes. "Kantor has said that he will help us on the tariffs and help us on the antidumping, and he's been doing that," said Maibach. "He's yet to agree to take up the intellectual property issues."

Software companies are much less concerned about the existing intellectual property language. "The current text that is before the 116 members of the GATT with respect to protection of computer programs and data bases is pretty good," said Eric Smith, executive director and general counsel of the International Intellectual Property Alliance, which represents the movie, software, music, and book publishing industries. "Whether we're going to get a GATT agreement depends less on what's happening in the negotiations on intellectual property than what's happening in all these other areas, like agriculture, antidumping, etc."

GATT R&D Subsidies Up In The Air... (From page 2)

• "If you have the definitions tilting toward applied," Wessner states, "then the limit of 25 percent is too low." Adds Richard Bradshaw of North Atlantic Research, the science and technology issues coordinator for the Clinton presidential campaign, "if the government contributes only 25 percent, then a lot of companies, especially the smaller and more innovative ones, won't be able to come up with the cost" of participation.

Bradshaw sees a fifth flaw: "With defense emerging into a new world where subsidies are no longer protected under national security," he points out, "money provided for dual-use purposes is going to be subject to GATT rules."

At week's end, there were indications that a plan to drop the limits on government contributions altogether in exchange for a universal reporting requirement was at least one alternative to the Dunkel provisions that was being considered. There were also indications that the administration had clammed up on the issue, as sources across the government seemed to go mute.

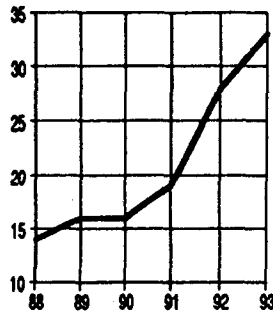
"It's possible that the news of such internal dissension now will make it more difficult to emerge with concessions" from the bargaining table in Geneva, comments Bradshaw. "But if you take the position that I take—that there should be no agreement by December 15 because R&D should be revisited—you're glad to see it come out."

"There are many good things about the GATT treaty," states Wessner. "But the trade community has severely underestimated the potential net welfare loss of reduced government assistance to research in the high-tech companies that hold the economic future of the U.S."

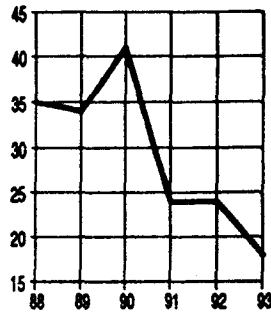
What Respondents To R&D Trends Forecast Predicted: 1988-1993

In % of respondents

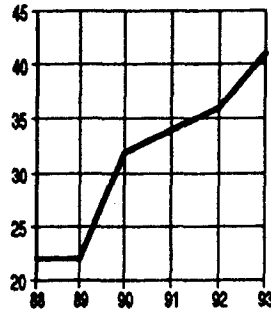
Decrease In Company R&D Spending



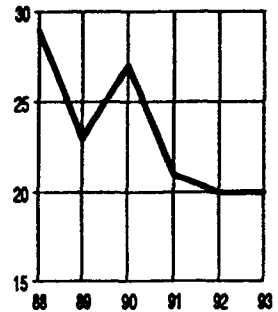
Increase In Company R&D Spending



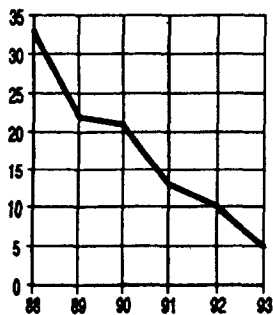
Decrease In R&D Capital Spending



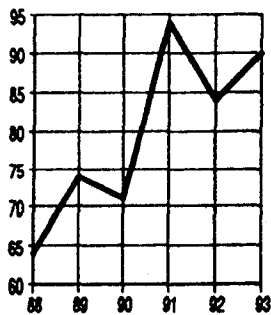
Increase In R&D Capital Spending



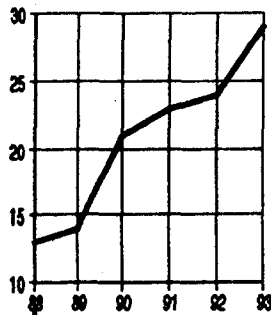
Increase In Hiring New Grads



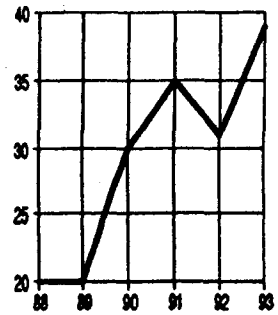
R&D Professional Staff Unchanged or Decreased



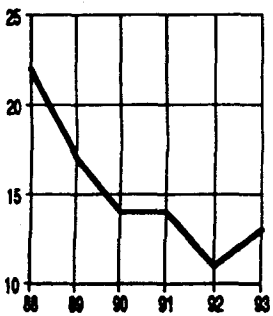
Decrease In Grants For University R & D



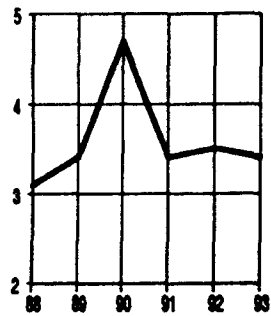
Decrease In Directed Basic Research



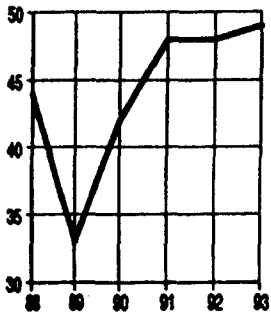
Increase In Directed Basic Research



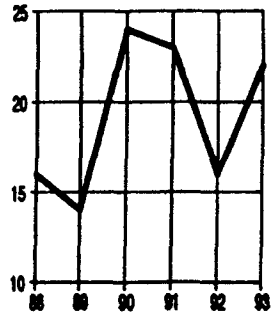
R&D As % Of Sales



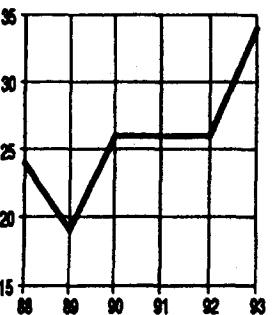
Increase In Alliances and Joint Ventures



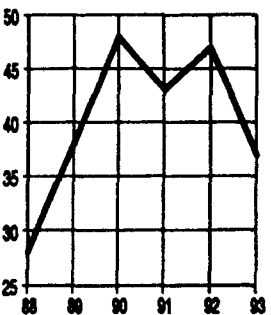
Increase In Licensing From Others



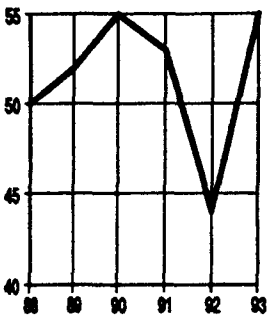
Increase In Licensing To Others



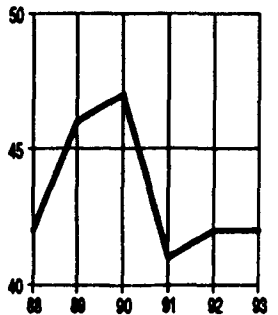
Increase Response To Legislation



Top Management Attention To Development



Top Management Attention To Research



Note: Chart dates show the year in which the survey data were collected, but the plotted data actually represent projections of participating companies' actions for the following year.

Slide Continues For R&D...

(Continued from page one)

the near future. "It's not clear that there has been a significant structural shift or that you can attribute this just to poor economic times," he states.

The trend in American corporations' shrinking commitment to R&D is reflected in other indicators, such as the number of firms planning to hike R&D spending in 1994. Just 18 percent of firms surveyed say they will increase funding for R&D next year as compared to 24 percent in each of the past two years.

The continuing erosion in corporate support for R&D also can be seen in capital spending plans: Some 41 percent of respondents said they planned to curtail outlays in 1994. For the survey covering 1993, 36 percent of companies said they would cut capital spending, and for 1992 the figure was about the same—34 percent. The percentage of companies planning to increase capital expenditures remains level relative to recent years at 20 percent, the same as the forecast for 1993.

One prominent area for cutbacks in corporate R&D is basic research. Some 39 percent of the surveyed firms plan to reduce their level of effort in basic research in 1994, whereas a year ago 31 percent said they planned cutbacks for 1993. The number of companies planning increases in basic R&D for 1994 is 13 percent—up from 1993's 11 percent but below 14 percent the year before.

The effect of the falling commitment by corporations to conducting research is seen in their outlook for maintaining R&D staffs: 90 percent expect staff size to remain level or to fall in 1994 relative to 1993. A year earlier, 84 percent of companies made this same prediction.

As for the outlook for companies' increasing their hiring of new college graduates, just 5 percent plan to do so in 1994 compared to 10 percent of the firms participating in last year's survey. Some 40 percent of survey participants said they would reduce hiring of new graduates.

The impact of weakening research and development work in corporate America will extend well outside the research parks. Twenty-nine percent of the surveyed firms plan to reduce funding for research grants and university research contracts. In the two previous IRI surveys, 24 percent and 23 percent of the firms, respectively, indicated they would be reducing funding for such activities.

Despite the continuing cutbacks in R&D, top management appears not to have lost sight of its importance. Of the companies surveyed, 55 percent said they expected top management to pay more attention to product development issues—an increase over the past three years, when 51 percent of firms said the issue was getting higher priority. The percentage of firms saying that R&D would get less attention declined slightly, to 42 percent from 43 percent the three previous years.

To compensate for reductions in R&D spending, many companies may be trying to leverage their investments by entering into research alliances and joint ventures. Indeed, 48 percent of survey respondents said they would be pursuing such approaches while only 4 percent said they would be decreasing their involvement in research alliances.

The 158 companies responding to IRI's survey represent more than 11 industry groups, including aerospace, pharmaceuticals, electronics, materials, chemicals, energy, forest products, and transportation. Some of the biggest reductions in R&D spending are projected to occur in primary materials (-3.39 percent); petroleum and energy sectors (-4.57 percent); and aerospace and transportation (-2.35 percent).

Noteworthy increases in R&D spending for 1994 over 1993 are projected for the following industrial groups: personal care products (+5.64 percent); building and forest products (+3.97 percent); fabricated materials (+2.08 percent); and pharmaceuticals (+2.05 percent).

Interactive TV Flying High On Northwest Jets

In an attempt to distinguish itself from its competitors, and eventually to boost its revenues a little in the process, Northwest Airlines is teaming up with in-flight audio and video purveyor Hughes-Avicom on a world premier: interactive TV in the skies.

Called WorldLink, the service offers passengers on Northwest's international flights video games, syndicated TV, movies, flight information, pre-processing of passport data, and even duty-free shopping. So far, six Northwest planes have been fitted out with the equipment, which is going onto each seatback in the airline's fleet of 747s; it is being installed on a seventh plane next week.

Passengers can view up to two movies at no charge from a variety of options. There is a fee of a few dollars to play video games, shop, or peruse the other interactive services. "A 17-hour flight from JFK to Tokyo can be boring," observes a Northwest spokeswoman. "This technology allows passengers to do what they want during that time, as opposed to what we want them to do."

Northwest sought out Hughes-Avicom in 1989, and the two companies have worked closely on the technology, which conveys information to viewers through a satellite network. While the WorldLink brand is owned by Northwest, it and Hughes-Avicom shared development costs and will share profits. Northwest officials say they expect the service to yield returns in the years to come.

No other airline yet has an interactive service, but others may be following Northwest's lead. Richard Bertagna, president of Hughes-Avicom, indicates that this project reflects a Hughes corporate strategy to "expand its presence in the commercial airline market."

—GENE KOPROWSKI

MARKET WATCH

EPRI-Led Team Crowds About New PV System

The Electric Power Research Institute reports that new photovoltaics technology relying on light-concentrating fresnel lenses has achieved a stabilized performance of 15.5 percent. The performance of the technology has been demonstrated in a one-kilowatt system at Georgia Power. The results have been verified for PVUSA, a joint government-utility industry photovoltaics demonstration project.

EPRI developed the technology along with AMONIX, Inc., of Torrance, Calif.; Cummings Engineering; Scientific Analysis, Inc.; and Fresnel Optics. EPRI believes that the technology is very close to being commercially competitive. Individual cell efficiencies of 25 percent have been achieved. "With progress in high-concentration cell development, we expect to increase the system efficiency by 20 percent by the end of 1994," says Frank Dostalek, manager of EPRI's high-concentration photovoltaics program. System cost effectiveness is further enhanced by the integrated array architecture that ties structural, thermal, electrical, and optical components together in modular building blocks that eliminate unnecessary components. For more information, call Lori Telson at EPRI on 415-855-2272.

Corning Fabricates Largest Mirror Blank

The first fabrication phase of the world's largest mirror blank has been completed at Corning, Inc.'s Canton, N.Y., facility. Measuring 27 feet in diameter and weighing 35 tons, the mirror blank is being built for the National Astronomical Observatory in Japan for use in the Subaru Telescope. Corning will deliver the completed blank to the polisher in 1994. For more information, call Lezli White on 607-974-8797.

IMG Starts Marketing HTS Product Services

Intermagnetics General Corp. (IMG) of Guilderland, N.Y., says it is now actively marketing superconducting magnets based on high-temperature superconductors (HTS), along with supporting refrigeration systems. IMG President Carl Rosner, in making the announcement, said that he expects initial sales of HTS equipment to be based on orders for custom configurations and devices. The company says it believes it can offer integrated packages at competitive prices that will open up new markets. Some potential applications could not be pursued in the past because of the costs associated with operating devices that rely on conventional low-temperature superconductors, which must be cooled with liquid helium. For more information, call William Dunk at IMG on 214-960-9611.

STI Expands HTS Manufacturing Plant

Superconductor Technologies, Inc., of Santa Barbara, Calif., is doubling its capability to manufacture high-temperature superconducting (HTS) materials and devices. The company has purchased an Organo Metallic Chemical Vapor Deposition system that will be used in conjunction with existing laser ablation systems to manufacture thin film for computer applications, magnetic resonance imaging, and telecommunications. "The demand for HTS has been steady," says Daniel Hu, the chief executive officer of STI. "This purchase will provide relief for our existing manufacturing system, which we have been operating at close to full capacity, and at the same time enable STI to continue to meet future scheduled demands." For more information, call Joe Madden at STI on 805-683-7646

Push On To Slash Interconnect Costs

AT&T, Computing Devices International, Hughes Aircraft Co., and other firms working collaboratively through the Microelectronics & Computer Technology Corp. (MCC) are pursuing new technologies to slash costs associated with fiberoptic interconnection for short-distance data communications. The goal is to have in place manufacturing capacity to supply optical links based on parallel ribbon fiber that can transmit at a rate of 50,000 to one million bits per second.

MCC will be working with technology companies and suppliers involved in the effort to establish a consensus of system requirements and to provide expertise on electronic packaging technology. The challenge is to build optical fiber links that are as cheap as electrical connection technologies used for distances shorter than 30 meters. For more information, call Bill Stotesbery at MCC on 512-338-3785.

U.S. Robot Industry Sees Big Sales Gains

American manufacturers of robotic equipment are seeing their sales surge, according to the Robotic Industries Assn. For the first nine months of 1993, companies have received orders for 5,555 units and have shipped 4,183 units. A year earlier new orders stood at 3,962 and shipments totaled 3,183. "The results are especially impressive in light of slow economic growth in the U.S. and continued economic problems in Japan and Europe," says Donald Vincent, executive vice president of RIA. He expects to see continued growth in the U.S. market through 1994.

Sumitomo Epoxy Plant Comes Back On Stream

The Semiconductor Industry Assn. says there is no longer any concern about a shortage of high-grade epoxy resins for use in packaging computer chips and other semiconductor devices. Sumitomo Chemical Corp., which suffered a fire earlier this year at its epoxy plant, has resumed production, according to an SIA statement.

Latest Roadmap: Circuit Makers Fighting Back

A new cooperative R&D initiative for the U.S. electronics industry is being launched by the Institute for Interconnecting and Packaging Electronics Circuits (IPC), which is in the process of setting up a new technology research institute.

By stressing manufacturing and technology issues, the IPC hopes to achieve some kind of united front enabling U.S. firms to compete with Japanese and Asian companies, which control 56 percent of the global market and more than 90 percent of the U.S. domestic market in key electronics defense and commercial sectors.

The inability of the U.S. electronics industry, particularly among its smaller producers, to form a cohesive platform on the issue of Japanese imports penetration was graphically illustrated this summer, when an initiative to seek import remedies for the ceramic semiconductor packaging sector failed to gain the support of major players like IBM and the Semiconductor Industry Association (SIA).

Despite the fact that Japanese import penetration for U.S. Department of Defense requirements is more than 90 percent and makes up 100 percent of some weapons systems requirements, the White House in August refused to implement Section 232 of the 1962 Trade Expansion Act, which authorizes presidential action to "adjust" imports in cases where national security is at risk.

Gilbert Kaplan, the attorney who represented the manufacturers involved in the Section 232 petition, told an Economic Strategy Institute seminar in Washington, D.C., last week that the White House's handling of the petition showed that "small companies remaining in this field have a hard time bringing their problems to the government."

And Brad Botwin, a Commerce Department specialist on technology dependency, commented: "The capacity utilization rate for all eight U.S. producers is 52 percent. This is not a long-term survival figure. The indications are that in three to five years this industry may no longer go on."

The establishment of the Interconnection Technology Research Institute (ITRI), which aims to provide a collaborative vehicle for the industry, was approved by the board of the Lincolnwood, Ill.-based IPC in June. "The next major stepping stone will be getting a new CEO to put things into play and team up with other organizations which are already active in the field or have similar goals," said David Bergman, IPC's director of technical programs. ITRI will support the establishment of collaborative technical research consortia to be funded by a combination of industry and government resources, Bergman said.

ITRI has as its foundation document a new "roadmap" published by the IPC, a survey of the manufacturing elements of the electronic interconnection industry and of its customer and supplier bases. The document is meant to complement existing reports from such sources as the Semiconductor Research Corp., SEMATECH, and the Microtech 2000 Workshop.

ITRI's roadmap aims in part to address the dispersed nature of the U.S. printed wiring board manufacturing sector, which has evolved into a series of mainly small, independent firms. Individually, such firms lack the resources to conduct R&D projects on the scale needed to compete with overseas manufacturers that are linked with large equipment companies and supported by foreign governments.

"The U.S. invests billions of dollars in research that is often not applicable or not disseminated to the general manufacturing and technology base," the report states. "The government supports much of the long-range, high-risk research that produces new basic knowledge and technology. To help coordinate this R&D, this roadmap helps establish priorities to meet the goals of everyone in the electronic interconnection industry and the entire electronics supply chain."

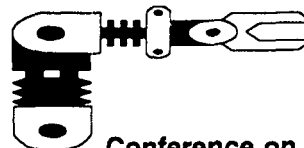
The IPC represents more than 1,850 companies, with a core membership of producers of bare printed circuit boards (PCBs), producers of printed wiring boards (PWBs), and assembly manufacturers.

The U.S. share of the \$40-billion global electronic interconnection industry has slipped to 29 percent from 40 percent in 1980. Japan now has 31 percent of the market, the rest of Asia 25 percent, and Europe 15 percent.

—LEIGH STONER

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INTERNATIONAL NEWS



Gasoline-Saving Engine Heading For Production

Orbital Engine Corp. of Perth, Australia, is claiming widespread success with a new low-polluting, fuel-efficient engine which it says could be powering cars, boats, and motorcycles by 1995. Orbital claims its engine is 40 percent lighter, 60 percent smaller, 20 percent cheaper, and 35 percent more fuel efficient than conventional engines. The engine is the brainchild of Orbital founder Ralph Sarich, who built the company into Australia's 79th largest, with a market capitalization of \$500 million, before resigning as its chairman last year. Orbital is now controlled by Australia's biggest company, Broken Hill Pty, and the Los Angeles-based Capital Group.

Sarich's two-stroke engine uses a fine-spray, computer-controlled fuel injection system with chambers placed above and below the piston to burn fuel more efficiently. As the piston moves up, air is sucked into the lower chamber and trapped while the air above is compressed and mixed with the fuel spray, which is then fired by a spark plug. On the piston's downstroke, the burning gases in the top chamber deliver a power pulse to the crankshaft, while fresh air in the bottom chamber is compressed to start the process again.

According to Orbital's chief executive, Kim Schlunke, the company has licensing deals with U.S. and European vehicle makers, including General Motors, Ford, and Fiat; the world's two biggest marine engine producers, Outboard Marine and Brunswick; and motorcycle manufacturers Piaggio Vespa and Bajaj Auto in Italy and India. It expects to sign up its first Japanese automotive licensee within 12 months. A U.S. subsidiary, Orbital Engine, is setting up a manufacturing plant in Tecumseh, Mich., and will start low-volume production before the end of this year, according to *Reuters*.

MITI Sees Corporate R&D Budgets Shrinking

The Ministry of International Trade and Industry (MITI) reports that Japan's corporate R&D budgets are likely to drop 19.9 percent in the current fiscal year, 1993, from fiscal 1992, and that investment in new ventures will fall 15.6 percent. On the basis of a survey of 1,835 large and small companies, MITI is also predicting that overall corporate investment in Japan will register a 3.5 percent decline, to \$175 billion, in the fiscal year ending next March 30 and be off by a further 0.1 percent in the next fiscal year.

Worst hit have been steel, chemicals and autos, which together have contributed to a 15.1 percent slide in manufacturers' spending plans from the time of the last survey, taken in March. Most respondents, MITI said, do not believe that the economy will pick up until the second half of fiscal 1994—a full year into the future—and most corporate efforts are directed at reassigning or cutting personnel and saving energy, according to *Japan Digest*.

New Ericsson Venture Raises China Profile

Swedish telecommunications group Telefon AB L.M. Ericsson has opened a factory to make mobile telephones and digital exchange switches in Nanjing, China. The plant is a joint venture between Ericsson, which controls slightly more than 50 percent, and Panda, a Chinese electronics firm. The venture, Nanjing Ericsson Communications, has about 70 employees but will employ 500 when in full production, doubling Ericsson's total existing workforce in China. Ericsson has three other joint ventures in China; it is due to open another plant soon in Guangzhou. The Swedish group has reported that its sales in China doubled in the past year, making the country its fifth-largest market, according to *Reuters*.

Hong Kong Opening Local Phone Market

The Hong Kong government has announced plans to award domestic telecommunications licenses to three new international consortia next year, in line with plans to deregulate the market. The consortia are: Hutchison Communications, which is 80 percent owned by Hutchison Whampoa and 20 percent by the Australian government's Telstra; T&T Hong Kong (formerly Wharf Telecom), which is 100 percent owned by Wharf Holdings and has a technology partnership with America's NYNEX; and New World Telephone, which is 66.5 percent owned by New World Development, with US West, China's Shanghai Long Distance, and Infa Telecom Asia as minority shareholders. The existing franchise holder, Hong Kong Telecommunications, is due to lose its monopoly on domestic services in 1995 but will remain Hong Kong's sole international carrier until 2006. Approval of the new licenses must also be gained from China, which is due to take over the British colony in 1997. Analysts see the licenses as a foot in the door to a share in China's massive telecommunications market.

Daimler, Mitsubishi Form Joint Projects

Daimler Benz of Germany and Japan's Mitsubishi group are working toward possible collaboration on 35 projects following the signing in Berlin last week of an initial series of six cooperative agreements. The spending volume for the first six projects—termed “modest” by both companies—will total between \$30 and \$50 million, but this is expected to multiply rapidly if the two groups can join forces on aerospace agreements. Three of the six cooperative projects are a technology transfer and licensing deal on 0.5-micron CMOS wafer processing technology for use in making semiconductors for cars; a licensing agreement for a metallurgical car recycling process; and a joint pact to explore the feasibility of recycling plastics. The other projects feature joint vehicle production; environmental promotion; and possible participation by Mitsubishi in a joint construction project planned in Berlin by Daimler and Sony, *Reuters* reports.

Continued government restrictions on technology transfer abroad are handicapping the U.S. aerospace industry's fight for survival in an increasingly competitive and shrinking global marketplace, a report from the Aerospace Industries Association says.

The report, *After the Cold War: The U.S. Aerospace Industry in the International Marketplace*, says the U.S. industry will have a more difficult time sustaining export growth—which doubled from \$22.5 billion in 1987 to peak at \$45 billion in 1992—in the future owing to increasing market competition.

The Asian Pacific Rim remains one region where defense arsenals are growing. However, non-U.S. companies are becoming more aggressive about sales and several countries—including South Korea and Malaysia—have shown an inclination to become less dependent on U.S. defense systems because of U.S. government limitations on technology transfer.

"The former Soviet Union, in particular, has shifted its attention from its traditional non-paying customers (e.g., Afghanistan, Angola, Cuba, Ethiopia, Vietnam) towards richer clients," the report states. "Many of the markets being targeted are markets that U.S. companies have served, such as South Korea."

In 1985, U.S. companies had 90 percent of the South Korean market. In 1990 their share was approximately 75 percent, and by 1992 it had fallen to 55 percent. U.S. companies held a virtual monopoly on defense aircraft sales to Japan until 1989, when British Aerospace began selling the BA125 search-and-rescue aircraft there.

"There is also a surplus of military inventory on the market, primarily that of the former Soviet bloc countries, but there is also inventory from the United States," the report observes. "While possibly not state-of-the-art, these items are being offered at extremely low prices."

The current overcapacity and associated high costs of defense production are placing companies under extreme financial pressure, and "it is clear that a weeding-out process in the global defense industry is under way," the report says.

Participation in international joint ventures and other forms of collaboration—strategies commonly adopted by companies seeking to expand overseas markets—are increasing, despite the problems presented by U.S. policy restrictions on technology transfer.

"Not only are the number of these partnerships on the rise, but more companies are being represented in international alliances and many more segments of the industry are involved," notes the report. "For example, international teaming is increasingly noticeable among

Tech Transfer Restrictions Hurting U.S. Aerospace Industry In Growing Asia

BY LEIGH STONER

of U.S. export controls to products with U.S. content adds to the difficulties of partnership."

U.S. law requires the government to exercise its controls even on foreign-made aircraft if 10 percent or more of their content is of U.S. origin, and "these restrictions provide foreign manufacturers with reasons to exclude U.S. content," the report says.

Preliminary half-year 1993 results for the U.S. aerospace industry were worse than expected, with aerospace sales down 10 percent from the same period last year, total new orders through June down \$13 billion, and backlog reduced \$15 billion. The preliminary results will probably cause AIA to revise downward its earlier estimate that this year's U.S. aerospace sales would total \$126 billion, a 6 percent decline from 1992.

As Department of Defense spending on procurement and research, development, test, and evaluation programs (RDT&E) has declined 45 percent between 1985 and 1993, from \$168 billion to \$93 billion, defense product sales have fallen from 62 percent of total aerospace industry sales to 45 percent.

The shrinking of the defense procurement sector has coincided with a slump in civil purchases. Global recession in the airline industry has led the International Air Transport Association (IATA) to estimate world airline losses at \$13.5 billion between 1990 and 1993; the losses have resulted in aircraft orders being reduced or canceled. Transport orders from IATA members fell from 1,281 in 1990 to 380 in 1992, and manufacturers will have trimmed production by 40 percent in the period 1992-1994. First-half 1993 sales were 9 percent lower than during the first six months of 1992.

"While U.S. aerospace manufacturers are becoming more dependent upon exports, emerging trends suggest that U.S. industry's ability to maintain future export growth at previous double-digit rates will be difficult," the report's authors, Virginia Lopez and David Vadas, comment.

"In fact, between 1991 and 1992, export growth slipped to 2.8 percent; in the first half of 1993 exports actually declined relative to the first six months of 1992. The reason: world markets for aerospace products are becoming more competitive, while demand is slumping."

major avionics system subcontractors."

The report notes, however, that "foreign companies are reluctant to become involved in partnerships with U.S. firms if the technology involved is not the latest" and that "extraterritorial application

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New Electromagnetic Shielding Developed

Oak Ridge National Laboratory researchers have come up with a more cost-effective way to make lightweight shielding used to block electromagnetic fields generated by electronic devices. A team led by Oak Ridge scientist David Stinton has found that it is possible to deposit iron onto carbon-fiber cloth using chemical vapor deposition techniques. This process yields a product that has the potential to perform as well as more costly and heavier material made of sandwiched iron foil and carbon-fiber cloth bound with epoxy. The technology, which is still being refined for manufacturability, has been licensed on a non-exclusive basis to Sigma Electromagnetic Shielding Technologies. For more information, call Darryl Armstrong at Oak Ridge on 615-574-4160.

Perkin-Elmer Taps LLNL For Help In Sequencing Project

Applied Biosystems, a division of Perkin-Elmer Corp., is working with researchers at Lawrence Livermore National Laboratory (LLNL) under a new \$6.8-million cooperative research and development agreement to advance DNA sequencing technology. The aim is to increase sequencing rates tenfold within two years and to achieve a hundredfold jump in performance in subsequent years.

The technological advances are expected to come from improvements in electrophoresis systems used for sequencing rather than from an entirely new process. With existing technology it is possible to process about 1,250 base pairs of DNA an hour; improvements in processing systems, researchers at LLNL and Applied Biosystems hope, will raise this throughput to 100,000 bases an hour. A breakthrough of this magnitude would enable scientists to complete a genetic map of humans within ten years. For more information, call Nancy Garcia at LLNL on 510-422-6796.

LAB Watch

Seven Researchers Snag DOE Lawrence Awards

The Department of Energy has given the E.O. Lawrence Award to seven researchers, each of whom will receive a gold medal and \$10,000 for innovative work. Established in 1959 to honor the inventor of the cyclotron, Ernest Orlando Lawrence, the awards go in 1993 to James Anderson, a physical chemist at Harvard University; chemist Robert Bergman of the University of California at Berkeley and Lawrence Berkeley Laboratory; physicists Alan Bishop and John Shaner, and molecular biologist Robert Moyzis, all of Los Alamos National Laboratory; Yoon Chang, a nuclear engineer at Argonne National Laboratory; and Carl Wieman, a particle physicist at the University of Colorado at Boulder. For more information, call Jeff Sherwood at DOE on 202-586-5806.

Nanofabrication Net Gets NSF Green Light

The National Science Board of the National Science Foundation is recommending that NSF set up a National Nanofabrication Users Network. The NSB's November 19 action calls for the agency to spend \$3.5 million in fiscal year 1994 to establish a network of nanofabrication facilities that will serve scientists throughout the U.S. The NSB said that \$20 million should be spent over a five-year period to support the network.

Linton Salmon, program director for solid state and microstructures in NSF's Engineering Directorate, is to head the effort to set up the network, which is expected to include facilities at Cornell, Howard, Penn State, and Stanford universities, as well as at the University of California at Santa Barbara. For more information, call Lynn Simarski on 202-357-9498.

Microsurgery Advance Seen With New Tools

Software technology initially developed by researchers at Sandia National Laboratories to assist in the cleanup of nuclear wastes is being adapted to enhance the reach of microsurgeons. Sandia scientists are using Sequential Modular Architecture for Robotics and Teleoperations (SMART) software, developed to guide robots deployed in cleaning up underground storage tanks, in conjunction with other systems to help a Raleigh, N.C., company develop telerobotic systems for use in eye surgery and other forms of microsurgery.

The challenge is to develop a forgiving system that will make it easier for physicians to carry out delicate surgeries. MicroDexterity Systems and Sandia researchers are working jointly on a system that uses mechanisms similar to video "joy sticks" to control remote tools. The aim is to make a movement of, say, one centimeter at the joy stick translate to an actual movement of perhaps 900 micrometers.

The system being developed would be a teaching device as well as a surgical system, in that it would be able to record the techniques of senior surgeons for playback later. These movements could also be integrated with virtual reality systems to be used as an instructional aide. For more information, call Julie Clausen on 505-844-0948.

Tracer Technology Eyed For Disease Containment

Brookhaven National Laboratory is working with Perfect Sense, Inc., of Islandia, N.Y., to demonstrate the efficacy of using perfluorocarbon tracer technology to detect air leaks from hospital isolation rooms. Containment of leaks is critical in institutions where patients with highly infectious diseases such as tuberculosis are being treated. Brookhaven already has developed analyzers that can detect concentrations of PFT at a level of 0.1 parts per quadrillion. For more information, call Diane Greenberg on 516-282-2345.

House Measure Would Up Heat For NASA Contractors

BY LEIGH STONER

Regulatory change aimed specifically at increasing NASA contractors' financial liability for defective work may result from a congressional initiative to amend federal acquisition regulations included in the agency's fiscal year 1993 authorization bill. NASA's procurement administration is already in the process of implementing new guidelines for dealing with outside contractors in the wake of the agency's investigation into the Hubble Space Telescope (HST) project (NTW, Nov. 22, p. 1).

An amendment to NASA's 1993 authorization bill, H.R. 2200, proposed by Rep. Anna Eshoo (D-Calif.), calls for all cost-type R&D contracts entered into by NASA to hold the contractor liable for 10 percent of the contract value or 50 percent of the cost of rectifying failure in the event of contract noncompliance. The amendment also proposes that the cost of insurance to cover potential liabilities not be an allowable cost of NASA R&D projects.

The Eshoo amendment has raised concern in the scientific community that planned innovative R&D projects may be aborted, since sponsors may prefer not to risk punitive damage settlements in the event of failure. "We are concerned that if every contract contains [this language] as a standard clause, it would have an inhibiting effect on scientific judgement," said LeRoy Haugh, vice president for procurement and finance with the Aerospace Industries Association.

"This would drive people to take the safe course, not to push the envelope and reach out for new technology. Research, by definition, means there will be failures," Haugh said.

The guidelines recently put in place at NASA include requirements that both contractors and government retain and archive essential documentation created during contract performance; that NASA increase oversight of special test equipment; and that the agency's procurement office "maintain an effective quality assurance presence on key projects that is severable from and not delegated to NASA or contractor project engineers."

NASA Inspector General Bill Colvin told *New Technology Week* that, in addition to proposing specific changes to procurement requirements relating to the

Department of Justice case over HST, his office had made a number of recommendations on general contractor procedures.

"[This] series of recommendations has been made over an extended period of time," Colvin said, as part of a procurement reform initiative at the agency to revise contract management and administration. "Most of these [recommendations] are being, or have already been implemented," by NASA's assistant administrator for procurement, he noted.

NASA published a notice of a proposed rulemaking in the *Federal Register* on March 30, outlining one option being considered for increasing contractor liability. "In all cost type contracts, even R&D," it states, "there are routine tasks for which the contractor could be held to a higher level of responsibility."

However, the agency's assistant administrator for procurement has decided to defer action on one of the inspector general's recommendations: that the Federal Acquisition Regulation (FAR) be changed to shift more responsibility onto the contractor for latent defects discovered through on-orbit performance and found to result from "gross negligence or recklessness" on the part of the contractor.

The procurement administration's hesitation to take action on the latter recommendation stems from an expectation that the agency may, as part of its authorization act for fiscal year 1993, be required to conduct a more intensive study of the inspection and correction of defects clause contained in FAR.

"The Congressional language appears to indicate a desire to have a much higher standard (i.e. more risk to the contractor) than you have recommended," Assistant Administrator for Procurement Don Bush commented in a September 22 letter to Colvin.

NASA's difficulty in obtaining its \$25-million damage settlement over the HST has been attributed in large part to the fact that the original contract contained the standard, government-wide clause concerning defects in cost-reimbursable R&D contracts.

This clause permits the government to require correction of any contract noncompliance at contractor expense only if the noncompliance resulted from fraud, lack of good faith, or willful misconduct by high-level managers.

COCOM To Go, More Flexible Restraints Seen

Western nations have set an April 1 deadline for replacing COCOM, the Cold War body that acted to stop nations from the old communist bloc from getting military technology. Top civil servants from 17 countries agreed last month to invite Russia, China, and other former enemies to join a new group that would draw a more flexible map of banned destinations for sensitive technology.

Members of the current pact—all NATO countries except Iceland, plus Australia and Japan—also planned to invite into the new organization non-members that have fully cooperated with COCOM: Finland, Switzerland,

Austria, Sweden, Ireland, New Zealand, and Hong Kong. Its aim will be to control exports both of military technology and of industrial high technology that may have military use.

The new list of banned exports will be much shorter than the current range and the new group will not draw up a permanent roster of "forbidden countries" to which the exports are banned, according to a COCOM official. "Countries can come on the list and be scratched again. The idea is that the new arrangement is an open organization

[with] as many member states as possible."

Member countries will have to conform to "threshold" conditions, such as demonstrating that they have an export control system and adequate legislation to enforce it. They must also support multilateral non-proliferation policies. Because of this, the official said, some East European countries may not yet qualify for membership. And the U.S. delegation pointed to Iran, Iraq, North Korea, and Libya—all four of which have been accused of buying sensitive technology for military purposes—as nations that might be excluded.

Alliance Pushing Rejected R&D Cuts May Be Back

The Penny-Kasich amendment to the recently passed House rescission package failed 219-213 when it came to a floor vote several weeks ago (NTW, Nov. 15, p. 1)—and the prospect for Senate action is not particularly encouraging. So one might think that is the end of the Penny-Kasich coalition, right?

Wrong. Those sectors of the research and development community that were targeted by Penny-Kasich this year may have cause to worry next year, too. Even though Rep. Timothy Penny (D-Minn.) has announced that he will not seek reelection, he and Rep. John Kasich (R-Ohio), the ranking Republican on the House Budget Committee, are expected to keep their coalition of budget cutters together.

They targeted a number of R&D programs at the Departments of Energy and Interior, and at the National Aeronautics & Space Administration. And they put forth a plan for creating a Department of Science by consolidating DOE, the National Science Foundation, NASA, and EPA into one super-agency. While some of their proposals may have been poorly conceived, they enjoyed significant support from a number of public interest groups.

"I think they formed a pretty strong bond through this process. There are lots of freshman in it and [veteran members] that share a common view," observes Penny's spokeswoman, Teresa McFarland. "I think we will see a lot more of them."

Indeed, although the coalition of Democrats and Republicans could not make their proposal for \$103 billion in added cuts to the fiscal year 1994 budget stick, they have proved themselves a force to be reckoned with. Not only was the vote on the House floor close, but the coalition played a role earlier this year in shaping the budget reconciliation bill, notes an aide to Rep. Martin Sabo (DFL-Minn.), the chairman of the House Budget Committee. As a result, President Clinton was denied some of the discretionary spending authority he wanted for his reinvestment package.

The budget climate is such, says the Sabo aide, that he would not be surprised to see Penny-Kasich coalition offer up a bipartisan substitute to the fiscal year 1995 budget resolution. This, in fact, could seem mild compared other budget proposals that may lie ahead—like a balanced budget amendment. Senate Majority Leader George Mitchell (D-Maine) has reportedly consented to a vote on that issue.

—MARK CRAWFORD

Clean Car... (From page one)

research groups and facilities at the Department of Energy's national labs and to other research facilities. The master CRADA at this point applies just to DOE labs and is seen greatly reducing the time it will take to set up formal collaborations between the federally funded labs and private companies.

"What our industry partners have always told us is that sometimes it's very difficult to work with government," said Energy Secretary Hazel O'Leary in explaining the purpose of the master CRADA. "...As good as these national labs might be, what we hear constantly from the private sector is: 'Give us one-stop shopping.' ...And we are attempting to do that."

O'Leary said she "is laying down the gauntlet" and making it clear that the department is clearing away obstacles to cooperative relationships between itself and industry. "So often the attempts of industry to get in and deal with what is the intellectual muscle and prowess of the national laboratories" have been thwarted, she said. This climate "is gone," asserted O'Leary, noting that steps taken by the department and the labs over the past year and the creation of the master agreement should make that clear. Moreover, she said, she expects that the master CRADA concept can be used by other industrial groups.

John McTague, vice president of technical affairs at Ford Motor Co., says there is clear evidence of change within DOE, as the department is enhancing its working relationships with industry. Of the production of the master CRADA in two months, he said: "This is a real sea change in the speed in getting things done." As for the agreement itself, McTague predicted it "will dramatically accelerate the process for cooperative research that will make the clean car....This pattern agreement will spark future research agreements."

That view is shared by James Johnston, vice president of

industry-government relations at General Motors. Said Johnston of the impact of the master CRADA, "It will enable all of us to devote less time to paperwork, negotiations, and bureaucracy, and get on with the real work of developing safer, cleaner, cost-effective vehicles."

The master CRADA covers research agreements negotiated among Chrysler, Ford, and General Motors under four principal missions in which the companies have agreed to collaborate through the United States Council for Automotive Research (USCAR). The Low Emissions Partnership, Environmental Research Consortium, Automotive Materials Partnership, and Automotive Supercomputer Applications Partnership are principal thrust areas that will benefit first from the master CRADA.

Terms and conditions for conducting research collaboratively with DOE labs are standardized under the new master agreement. It also obligates DOE, USCAR, and the labs to do long-range planning on cooperative R&D ventures. O'Leary said the funding for these agreements will largely come from existing resources within the department. McTague estimated that the value of industry support for the cooperative ventures will exceed \$100 million annually.

The agreement provides that auto companies or their contractors with first rights to intellectual property developed in the course of cooperative research and development work. In cases where neither lays claim to such knowledge, the rights go to the Department of Energy.

Furthermore, the agreement will require DOE and industry to develop benchmarks to measure the progress being made in research programs. The measures could be based on patent application filings, licensing agreements, and other factors.

DOE's Office of Transportation Technologies is to coordinate the administration of the master CRADA program; it will be supported by the department's Oak Ridge (Tennessee) Operations Office.



THE UNITED STATES CONFERENCE OF MAYORS

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OVERVIEW OF THE U.S. CONFERENCE OF MAYORS

HISTORY AND PURPOSE

The United States Conference of Mayors was founded in 1932 to take the lead in calling national attention to the problems and potential of America's cities. In the organization's 61 years of service, it has carried the message of cities to every President and Congress. This is the heritage of the Conference of Mayors. It is the heritage of every Mayor who serves today.

The U.S. Conference of Mayors speaks to all needs of all people in all cities. Active membership in the Conference is essential in order for cities and the needs of their citizens to be a part of the nation's agenda.

Through year-round ongoing activities, highlighted by its Annual Meeting, the Conference has a long tradition of public service in every aspect of municipal governance.

The Conference's leadership is composed exclusively of Mayors. Any Mayor of a city over 30,000 in population is eligible to become a member of the organization. In addition, associate membership is offered to Mayors in cities under 30,000 in population. Associate members can participate in all Conference activities, attend all official meetings, but are limited from being voting members, or members of Standing Committees.

Each year at its Annual Meeting, a new Conference President is elected to serve a one-year term. At the 1993 Annual Meeting in New York, Louisville Mayor Jerry Abramson was nominated to replace outgoing President of York, Pennsylvania, Mayor William Althaus. The new President of the Conference will preside over all official functions until the next year's annual meeting, to be held in Portland, Oregon.

THE STAFF AND DAILY OPERATIONS

The Conference of Mayors is a non-partisan, non-profit organization that is based in Washington, DC. Executive Director, J. Thomas Cochran, heads a full-time staff of 50 persons. Five of these persons are Associate Executive Directors responsible for monitoring all policy developments in specific issue areas.

The organization has an active presence in Washington to ensure that Congress, the White House, and other federal government agencies understand the needs of cities. The Conference also has many technical assistance projects, training programs, and meetings to help Mayors stay on top of issues confronting their communities.

Document Separator



Environmental Clean-Up at Military Bases Slated for Closure: Community Opportunities and Obstacles

By Keith Cunningham
Defense Management Policy Associate

BENS is a national, non-partisan organization of business leaders working to strengthen national security by promoting better management of defense dollars, advocating measures to make the economy stronger and more competitive, and finding practical ways to prevent the spread or use of weapons of mass destruction.

BENS has been engaged in the environmental issues involved in base closure and redevelopment since the process began in the late 1980's, but most recently, in April 1993, BENS completed a unique, year-long study of twenty-four communities that had neighboring bases tagged for closure in 1991. The study, entitled Base Closure and Reuse: 24 Case Studies, provides details on both the tremendous potential and the substantial obstacles to redeveloping a closed military facility. For each of the 24 communities, I analyzed the impact environmental contamination would have on redevelopment.

COMMUNITY PERCEPTION OF THE PROBLEM

The April 1993 survey of the neighboring communities of the 24 largest BRAC-91 bases revealed the following perception of environmental contamination's affect on private redevelopment:

Not Impact Redevelopment	12
Might Impact Redevelopment	4
Would Impact Redevelopment	8

Since environmental contamination is often cited by organizations, Congress, and the media a severe problem as on closed bases, I was not surprised to find many bases were having problems. However, I was surprised to find that half of the communities did not expect any problems at all. I decided to look into those 12 situations more closely.

COMMUNITIES NOT EXPECTING PROBLEMS

I discovered that many of the communities not expecting problems were actually already having them. BENS' research of those bases discovered the following:

- Only 6 clean-up projects had been completed with 85 additional projects either unfinished or not yet started (less than 7% completed).
- All of the 5 closed bases (the other 7 are still in the process of closing) are having severe problems securing leases on former base property due to fear of environmental contamination.
- Beeville, Texas, outside Chase Field Naval Air Station, did not anticipate problems despite the fact that when the base closed in February, none of the six clean-up projects on base had even been started.
- Mesa, Arizona, outside Williams Air Force Base, did not expect problems even though Williams was a Superfund site.

Conclusion: Communities rarely understand how contamination could affect redevelopment. Such ignorance can lead to failure, lawsuits, or injury.

OPPORTUNITIES

BRAC 93 communities are now falling into the same trap as the bases BENS studied. The confusion and mistrust created by the complicated nature of base clean-up also creates opportunities for people and businesses who can help. Three levels of opportunities and involvement exist:

1. **Conduct the clean-up.** The most obvious and expensive option.
2. **Monitor the clean-up for states and communities.** Communities must understand the nature of the contamination and its affect on development. Communities that do not perceive a problem, like the twelve in the BENS study, need this information the most. Monitoring clean-up will enhance communities' ability to attract tenants and help ensure that the clean-up matches reuse.
3. **Evaluate the clean-up for potential tenant firms.** Congress and the executive agencies have struggled for more than two years to create a system that protects firms from potential liability from DoD contamination. They may have succeeded, but until the new laws are tested, firms should seek an independent evaluation of the site.

As the list of closures continues to increase, more and more communities will need help determining how contamination will affect them, and it is never too late for

communities to start caring about clean-up. However, future opportunities are not limited to U.S. communities.

FOREIGN BASE CLEAN-UP OPPORTUNITIES

BENS is currently conducting a study of international base closure for the United Nations. Although it does not receive as much exposure as domestic base closure, America is closing an even greater share of its foreign bases. By 1997, America will have reduced its overseas infrastructure by 35%, while domestic base structure has only come down 15%.

Currently, America's responsibility for contamination in other countries is unclear, but it is clear that two different policies will eventually emerge — a policy for developing nations and a different policy for industrialized nations. To illustrate the difference, I will explain two examples.

The Philippines (Developing Nation)

In the 1990's America has closed two major bases in the Philippines — Clark Air Base (1991) and Subic Bay Naval Facility (1992). By the Pentagon's own estimation both of these bases would be Superfund sites in the United States, but since neither country has conducted soil or water tests, the full extent of the problem is unknown.

Since the withdrawal from these bases was hasty and unplanned, the U.S. initially claimed no responsibility for cleaning the contamination, but relations with the Philippines have since improved. America will never pay to fully clean both bases, but a technology transfer agreement to allow the Philippines to clean the bases is feasible.

This type of arrangement would bring opportunities for American firms. Under such an agreement, U.S. environmental firms would train Philippine firms to evaluate the contamination and return the sites to a safe condition. Such a multi-million dollar contract could run five to ten years.

German Bases (Industrialized Nation)

America is closing more than 150 facilities in Germany by 1997. Although many of those sites are quite small, they can be highly contaminated. America's responsibility is to meet the enforced environmental standards of the host country. That means that some clean-up will occur, but how that clean-up will occur and who will conduct the actual clean-up is unclear.

In the worst case, the U.S. will pay for clean-up in the form of aid through the State Department. In that case, the U.S. government, in essence, would subsidize German environmental clean-up firms.

A better solution, if the U.S. is going to pay for clean-up, is to contract U.S. firms to manage or even conduct the clean-up. This policy would help ensure America remains competitive in environmental technologies.

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EPA'S MODEL ACCELERATED CLEANUP PROGRAM (MAC)

In support of the Department of Defense and its Fast Track Cleanup for closing and realigning bases, the Environmental Protection Agency (EPA) is implementing the Model Accelerated Cleanup (MAC) Program for selected bases. The MAC will be carried out by Regional teams with a small EPA headquarters contingent for coordination and oversight responsibilities.

MAC teams will be managed by the EPA Regional offices and will be accountable to appropriate Regional Division Directors and, ultimately, to the Assistant Administrator for the Office of Solid Waste and Emergency Response.

A key participant in the MAC team is the Remedial (or Site) Project Manager (RPM). For major closing or realigning bases that are on the National Priorities List (NPL), EPA Regions will assign a RPM full time to work with DoD, the State and local communities to expedite the clean up process. For non-NPL and non-HSWA closing bases or minor realigning installations, the Region may assign an RPM to more than one base. The RPM assigned to a base will be EPA's representative on the Base Cleanup Team (BCT). The RPM will be supported by a team of experts that will work across installations, depending upon the needs at a site at a given time.

The support team will include experts in such areas as hydrogeology, health risk assessment and toxicology, ecological risk assessment, engineering, community relations, field work support (sampling and site assessment), and clean parcel identification. Administrative, management, and legal support will also be provided to address regulatory complexities and policy issues.

Areas in which the MAC will work with DoD include but are not limited to:

- o Accelerating the identification of clean parcels under CERFA;
- o Promoting community involvement in restoration and reuse decision making;
- o Completing site assessment and characterization processes;
- o Supporting up-front planning and scoping;
- o Preparing and reviewing documents;
- o Reviewing the Remedial Investigation/Feasibility Study (RI/FS), Remedial Design (RD), and Remedial Action (RA) study and sampling data; and
- o Expediting review of environmental documentation relating to deeds and leases to accelerate economic revitalization through reuse.

MAC team resources and expertise will also be available to the states at non-NPL sites. The amount of technical support required at non-NPL sites will vary, depending on the development of a state's environmental program, and the potential of the site for listing on the NPL.

James Woolford

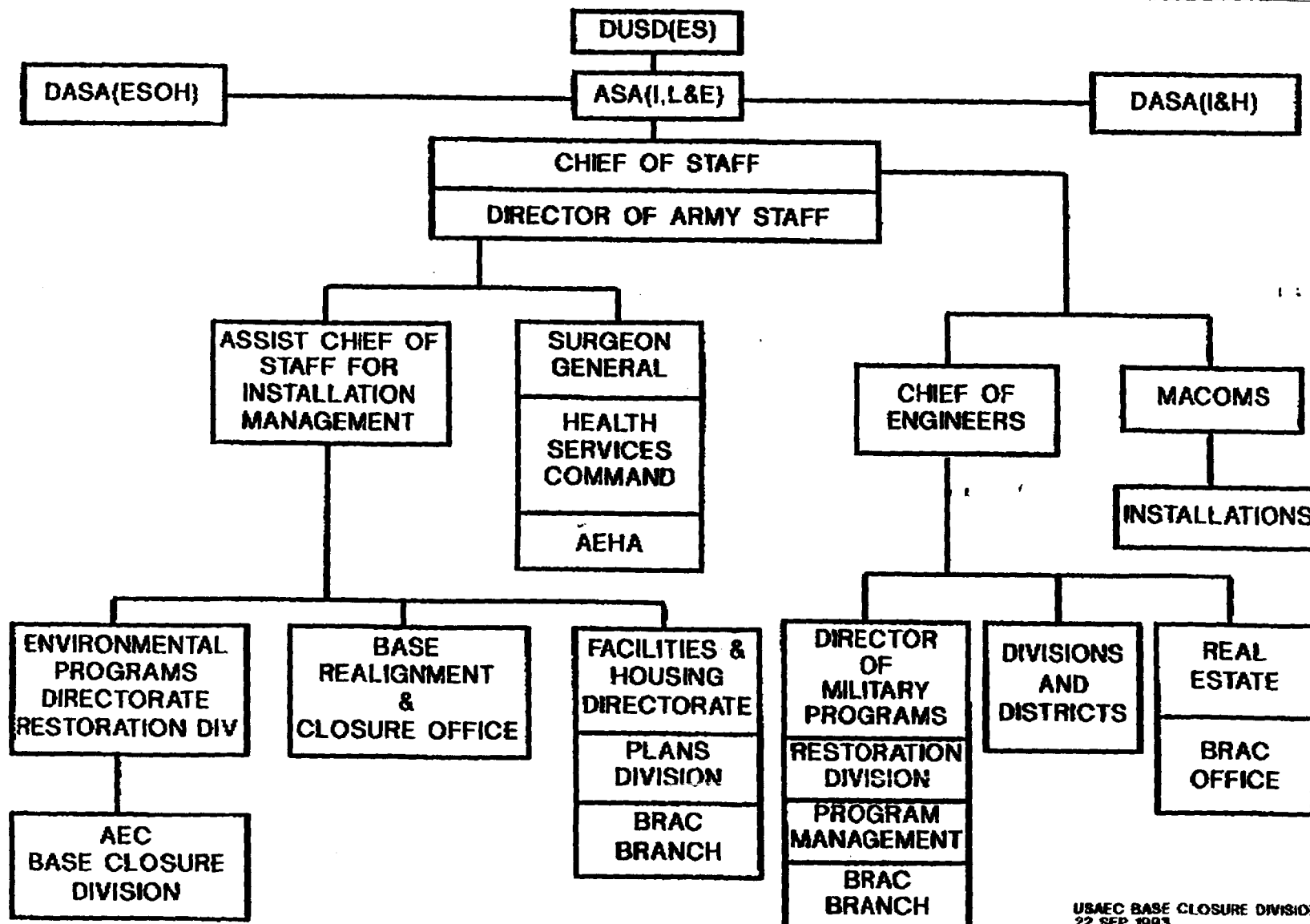
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ARMY
BASE REALIGNMENT AND CLOSURE
(BRAC)
ENVIRONMENTAL RESTORATION
PROGRAM

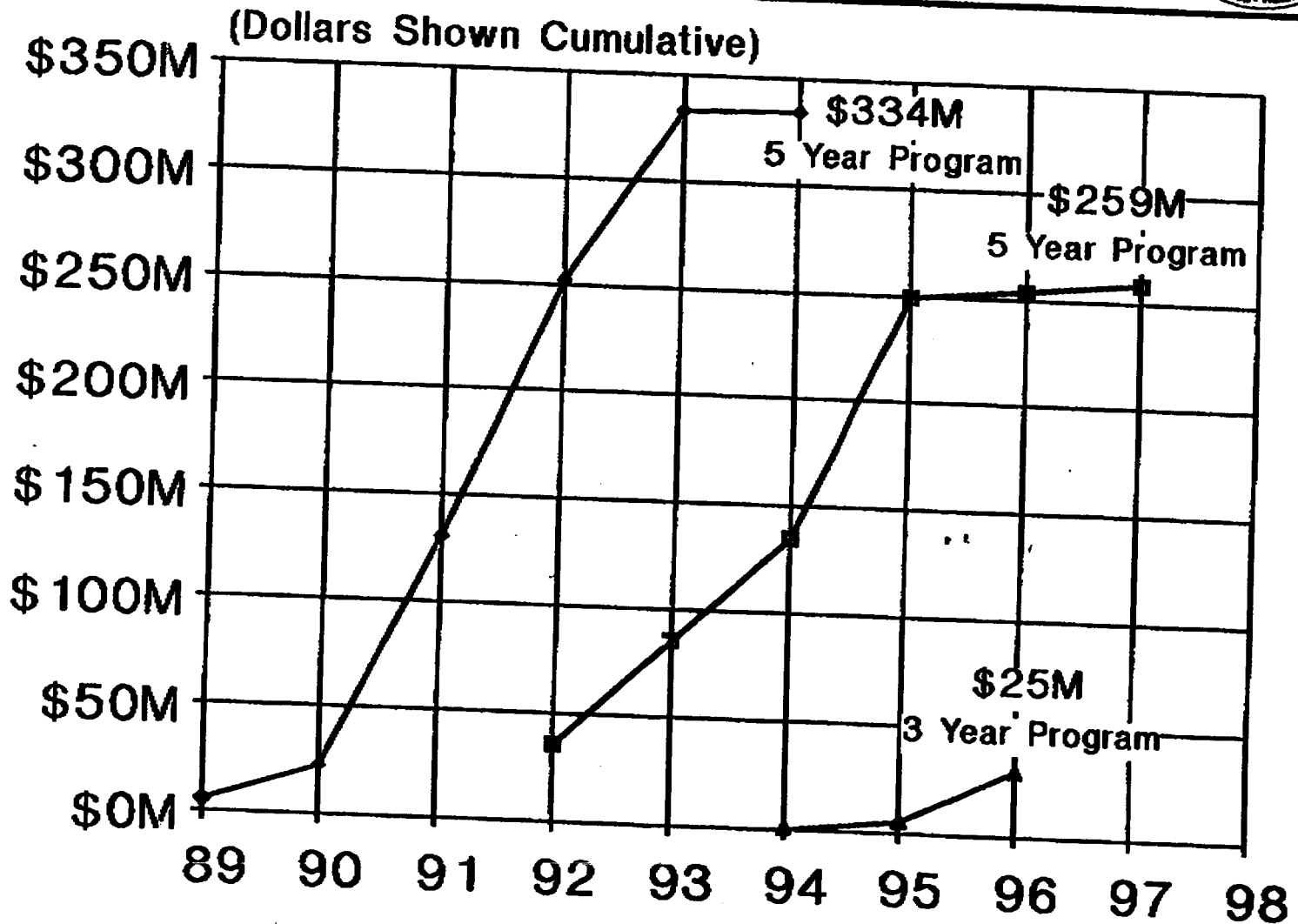


ARMY BRAC ENVIRONMENTAL EXECUTION



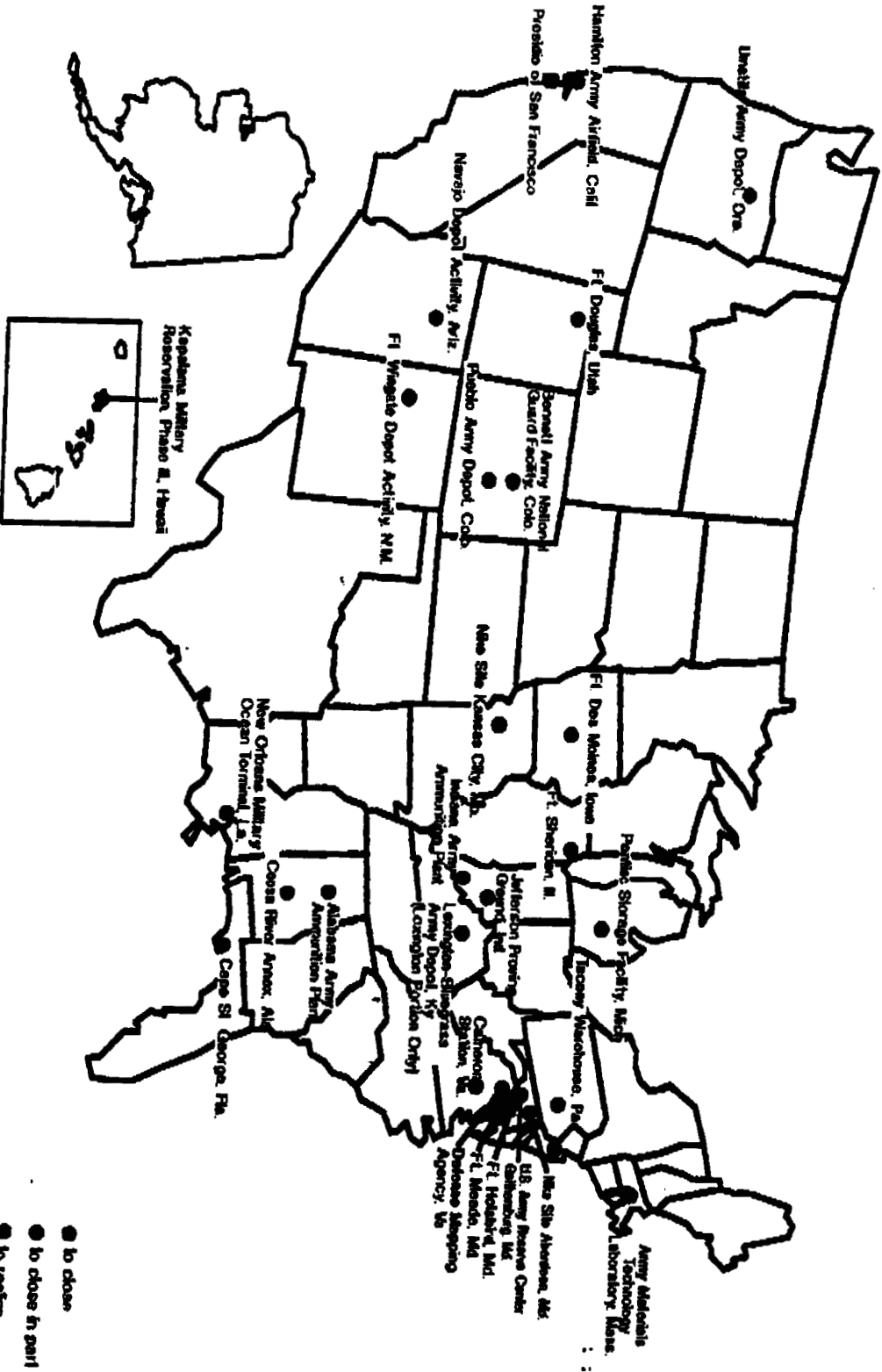


ARMY BRAC ENVIRONMENTAL PROGRAM





BRAC I ENVIRONMENTAL RESTORATION PROJECTS

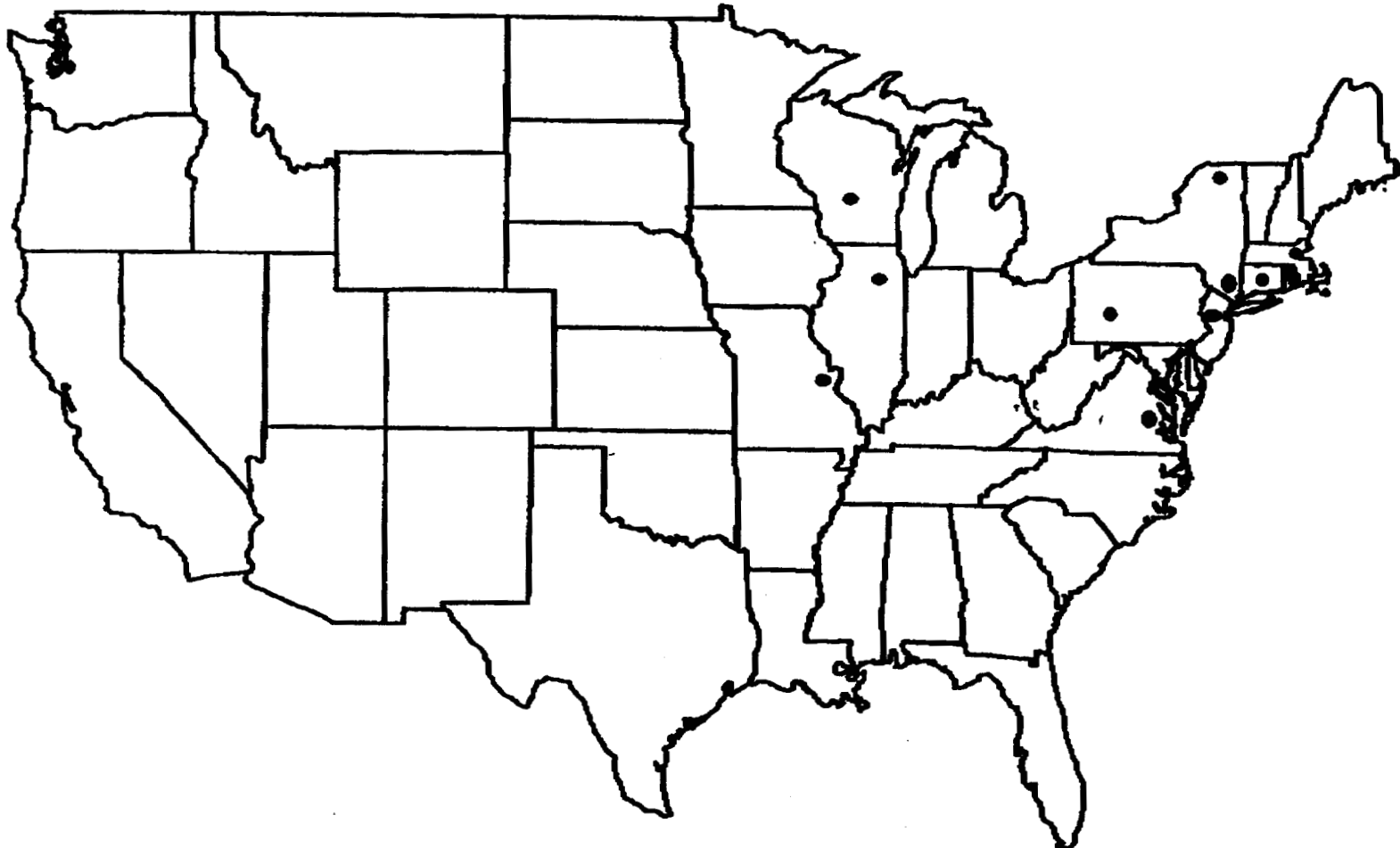




USAEC BASE CLOSURE ENVIRONMENTAL RESTORATION PROGRAM



STAND ALONE HOUSING AREA LOCATIONS





BRAC 91 ENVIRONMENTAL RESTORATION PROJECTS





BRAC 93 ENVIRONMENTAL RESTORATION PROJECTS





OBJECTIVES OF ARMY BRAC PROGRAM



- **REALIGN AND CLOSE BASES BY CONGRESSIONALLY MANDATED DATES**
- **ACCELERATE DISPOSAL OF PROPERTIES IN ORDER TO GENERATE REVENUES**
- **FACILITATE REUSE OF PROPERTIES IN ORDER TO REVITALIZE IMPACTED COMMUNITIES**
- **PROTECT HUMAN HEALTH AND THE ENVIRONMENT**



**BRAC ENVIRONMENTAL
RESTORATION
ACCOMPLISHMENTS**



PROGRAM RELATED

- Adapted Cone Penetrometer to Reduce Costs and Expedite Process
- Provide CERFA Information Letters to Affected States (8) and EPA Regions (7)
- Contracted for CERFA Clean Parcel Reports (24 by Jan 94, Remaining 5 by Mar 94)
- Implementing On-Site BECs as Required by DUSD(ES) and Fast Track Cleanup Initiative



ENVIRONMENTAL RESTORATION ACCOMPLISHMENTS



BRAC I

- **AMTL, MA**
Decommissioned Nuclear Reactor and 4 Research Buildings
- **COMPLETED:**
78 Enhanced Preliminary Assessments
57 Statements of Condition
6 Remedial Actions (5 w/ SOC's)
- **TRANSFERRED 4 PARCELS HAMILTON ARMY AIR FIELD**
- **TRANSFERRED 51 ACRES FROM FT. DOUGLAS TO UNIVERSITY OF UTAH**
- **TRANSFERRED 863 ACRES OF INDIANA ARMY AMMUNITION PLANT TO THE STATE OF INDIANA**



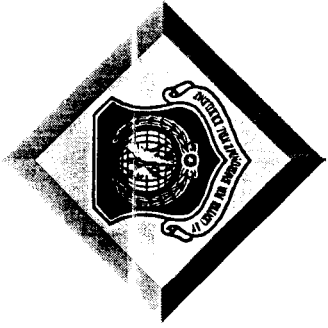
ENVIRONMENTAL
RESTORATION
ACCOMPLISHMENTS



BRAC 91

- **THROUGH PARTNERING:**
 - Eliminated 6 Sites from RI / FS at Ft. Devens; 11 Pending.
 - Eliminated 6 Sites from RI / FS at Ft. Ord; 18 Pending. ..
- **COMPLETED:**
 - 6 Enhanced Preliminary Assessments
 - 3 Records of Decision (2 Umatilla, 1 SAAD)
- **LEASED 14 ACRES AT FT. DEVENS**
- **COMPLETED ENVIRONMENTAL DOCUMENTS FOR 5 LEASES AND 1 DEED TRANSFER AT FT. DIX**

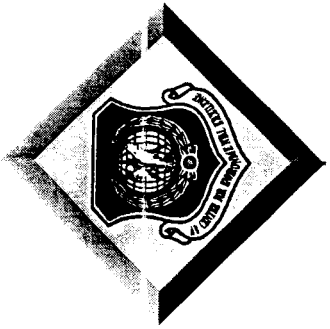
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Air Force Center for Environmental Excellence

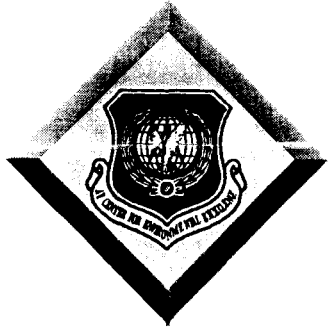


*Presented by
Mr Anthony Zugay
Base Closure Restoration Div*



Air Force Center for Environmental Excellence

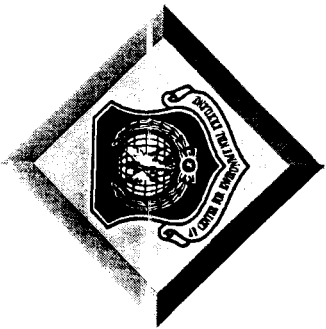




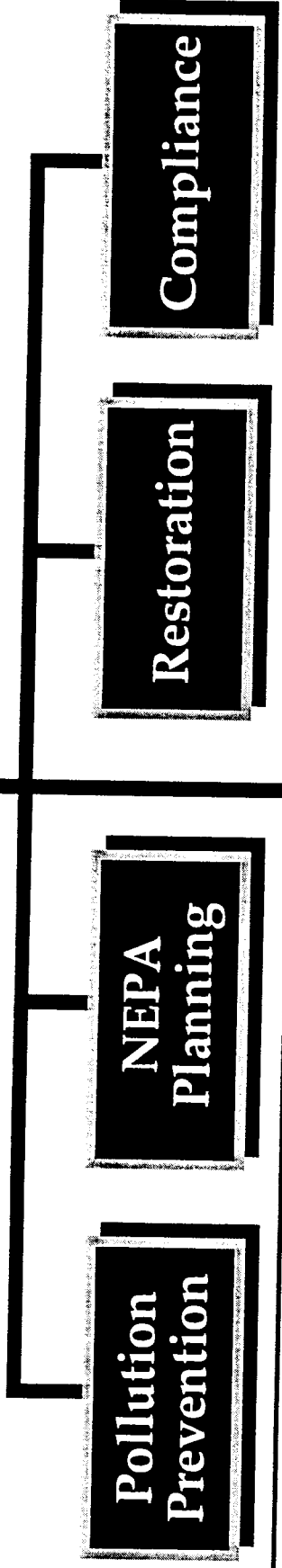
Mission Statement

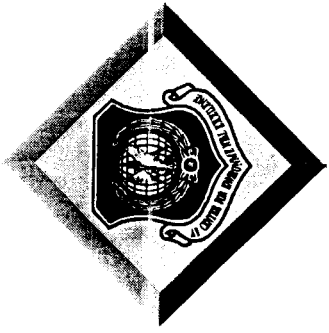
The Air Force Center for Environmental Excellence aggregates in a single organization at Brooks AFB a capability to provide a full range of technical services to Air Force commanders in areas related to Environmental Compliance, Pollution Prevention, Hazardous Waste Cleanup (IRP), Environmental Planning and Impact Assessments, and Design and Construction Management.

Authority: AF PAD 91-22



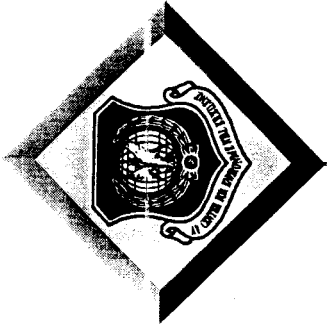
**Air Force Center for
Environmental Excellence**
Director, Mr J.B. Cole





Environmental Services

- Pollution Prevention
- NEPA Planning
- Restoration
- Technology Transfer



NEPA Planning

- **Accomplishments and Process Improvements**
 - 19 Base disposal/reuse EISs and SIASs
 - ◆ Model documents (EIS, SIAS, EA) & Reuse Planning Guide
 - Environmental baseline surveys
 - Wetlands, historical/cultural, threatened & endangered species studies
 - Major program EISs (Ballistic Missile Defense System, Space Nuclear Thermal Propulsion,)

- **Looking to the Future**
 - BRAC III EISs and SIASs
 - Natural and Cultural Resources Program execution



Restoration

■ Accomplishments and Process Improvements

- \$875M contracting capability in place
- \$2.1B in acquisition process
- Over \$400M in cleanup work underway (BRAC & DERA)
- New technologies being fielded

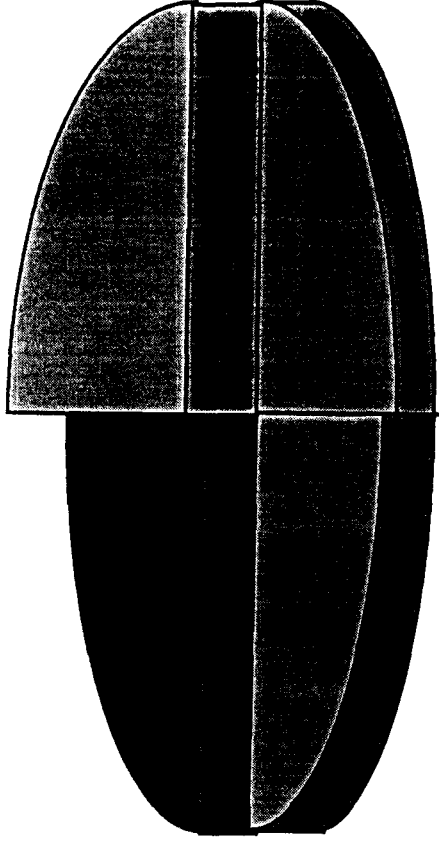
■ Looking to the Future

- Continued innovation: New technology/delivery strategies



How to get a piece of the pie?

- Commerce Business Daily (CBD)
- Team up and compete
- Quality performance



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BASE CLOSURE CLEANUP CONTRACTING

December 7 - 8, 1993

**PUBLIC/PRIVATE SECTOR PARTNERING AGREEMENTS
TO ACCELERATE AND IMPROVE QUALITY OF CLEANUPS**

**By Frank Waller
President, HWAC
Chairman, Woodward Clyde Group, Inc.**

WHAT IS PARTNERING?

It is my pleasure today to discuss with you the many benefits of Partnering - a project management tactic now in force at numerous public and private sector organizations. This process is designed to eliminate some of the obstacles that have plagued construction, cleanup and other projects in the past.

Partnering is a semi-formal arrangement on the part of owners, contractors, sub-contractors and other "stakeholders" designed to bring about maximum cooperation, efficiency and understanding during the course of a project. The basic idea is to create an atmosphere of cooperation rather than confrontation in the solving of problems that inevitably arise during large projects. Too often in the past, the response to disagreements has been to waste valuable time finding fault and consulting lawyers. Partnering creates new attitudes and fuels a sincere concern for the other person's point of view so that disputes can be settled quickly, without rancor and in the interest of moving the project along toward an on-time, under-budget conclusion.

Let me discuss some of **the elements of Partnering**.

First of all, in many ways Partnering is not new. In fact, it is as old as the Golden Rule: treat other people as we would wish to be treated. Some people - the best people - have always done business this way. For these people, their word is their bond; they accept responsibility; they seek cooperation over confrontation, understanding over fault-finding, compromise over litigation. They LISTEN, and they seek to understand the views and feelings of others. They develop an aptitude for looking out for others.

These people genuinely CARE about the well being of their customers, suppliers, business partners and others they work with. They seek solutions to problems in nonadversarial ways - always keeping uppermost in their minds the impacts upon others.

Partnering seeks to develop - or re-establish - these traits in the rest of us at a time when economics, politics, legalities and other modern-day complications pull us in other directions. It seeks to remove acrimony and finger-pointing when things go wrong and replace them with constructive avenues for solving problems and getting the job done - on time, under budget, with no litigation and to everyone's satisfaction.

Partnering is not a contract - indeed, it has no legal standing whatsoever - but rather a recognition that every contract includes an implied covenant of good faith. While the project contract establishes the legal relationships, the partnering process attempts to establish working relationships among the parties (stakeholders) through a mutually developed, formal strategy of commitment and communication.

Today I would like to discuss with you how these tactics have been successful in other contexts and how we can go about implementing them in base-closure work.

HOW IT WORKS

Partnering was developed by construction buyers in the private sector on design/build projects. Implementation generally begins before construction begins, although it has been used to rescue projects running behind schedule or over budget.

The process starts with an orientation, or Partnering conference, attended by representatives of the owner, major contractors, design consultants and, importantly, all others who have a stake in the outcome of the project. These "stakeholders" traditionally have felt left out of the process and as a result have been quick to criticize the outcome of projects - often through costly lawsuits.

This meeting is normally run by an outside facilitator and often involves the administration of behavioral and personality trait tests to let participants glimpse into their communications styles and those of others involved in the project.

Participants are drilled in the basics of the Partnering concept, and at the end of the conference they draw up a document, or Charter, which embodies the essence of their agreements and mutual goals for the project.

Let's take a closer look at how such a Partnering conference might unfold.

THE PARTNERING WORKSHOP

The Partnering Workshop should be held at a mutually acceptable time for all stakeholders and at a neutral location away from corporate environments. The duration of the Workshop and size of teams depends on complexity - it could last anywhere from one-half day to a week. The Workshop should focus first on establishing a mutual understanding of the concept of Partnering. Topics would include a discussion of how to change ways of thinking about relationships between owner and contractor; how to develop trust, and make and keep commitments; how to develop mutual respect and understanding of one another's expectations and objectives.

The Workshop should include a series of exercises, because exercises demonstrate synergy of team decision-making versus individual decision-making; because partnering skills are based on empathy for the other side's point of view and seeking to understand before being understood; and because exercises emphasize that Partnering skills and abilities must be understood, nurtured and practiced throughout the project.

Lessons in effective team functioning and conflict-resolution techniques are also important, as is the setting of mutual goals during a Workshop.

A win-win format discusses "Partnering Goals" - collective goals, objectives and expectations sets objectives for ALL stakeholders. The "Charter" allows for and provides for modifications in case of unexpected changes. It avoids an "or else" tone. The "Charter" is signed by parties, and copies are displayed in each party's office as a reminder of the moral commitment of cooperation and commonality of goals.

Key elements in the Partnering Goals are:

- Timely completion
- Meeting design intent
- Setting value goals
- Schedule
- Reasonable profit
- Safety
- Quality product
- Open communications
- Minimum cost growth
- Minimize paperwork
- Project-specific goals as necessary
- Favorable public relations

PARTNERING BENEFITS

CASE HISTORIES

In just the past few years, the benefits of Partnering have been shown to be so dramatic, so cost-effective and so time saving that Partnering principles have been adopted by many public and private sector entities, including the Army Corps of Engineers, which has blazed the trail for the rest of us, General Services administration, Federal Highway Administration, the Associated General Contractors of America, the American Consulting Engineers Council, and, of course, the Hazardous Waste Action Coalition.

Here are a few examples of the successes brought about by Partnering agreements on some recent projects.

First, there was a \$54 million contract for building hangars for the F-117A Stealth fighter jets at Holloman Air Force Base. This design/build contract was awarded in December 1991 and completed two weeks ahead of schedule last year. At the end of construction, no claims, disputes or modifications were outstanding. A total of 104 modifications were executed during the contract without any increase in the original completion date - not

one day. There were no lost time injuries - an amazing statistic for a project of this size. The quality of the work was judged as excellent by the Corps and the customer. And everyone agreed that these results would not have been achieved without a strong partnering agreement between the contractor and the government.

Another Partnering success was the new Bonneville Lock and Dam. On this \$331 million project, the drilling subcontractor installed some work that did not meet the tolerances required by the specs. Had the government greeted this news "by the book" and swung its punitive measures into force, this could have been a multi-million-dollar liability for the contractor and probably a year's time delay. Instead, with the Partnering principles in place and committed to by all parties, the sub came in and said, "I've made a mistake. There are no excuses. Can you help me?" All parties then sat down and in two hours worked out a solution that cost the sub only \$5,000 and kept the job on schedule. That's what partnering is all about!

The key to such successful Partnering is the promoting of a cooperative attitude based upon the pursuit of common goals. Without this, no Partnering agreement has a chance. Let us look at some "lessons learned" by the Corps of Engineers in its extensive use of Partnering:

- Partnering is not a substitute for a good contract.
- Partnering requires effort.
- Partnering must be tailored to the project.
- Leaders must be committed at the start and throughout. Partnering is not a bottom-up process, but rather the reverse.
- The Partnering agreement must be realistic.
- The parties must periodically reinforce, evaluate and compromise.
- Partnering will not work if you don't make it work.

The key features to any Partnering Agreement are:

- It establishes mutual goals.
- It establishes teamwork attitudes.
- It includes compromise.
- It does not mean one-sided giving away of services.

The goals of planning a Partnering Agreement are to:

- Develop a cooperative management team.
- Remove adversarial mindset.
- Establish and exploit common interests, goals.
- Provide continuing mechanism for contact, communications, evaluation, adjustment.
- Assign clear roles and responsibilities.

The factors that inhibit successful partnering include:

- A structure of traditional relationships between owners and contractors that promotes adversarial relationships
- Two distinct management teams that make independent decisions designed to further their separate goals for the project
- An inclination to find fault when mistakes happen
- Personality conflicts

APPLYING PARTNERING TO BASE CLOSURES

DOD, MONEY AND CLEANUPS

President Bill Clinton has promised that the DOD will be more forthcoming in its acceptance of responsibility for cleanup of hazardous waste at the 130 military bases now planned for closure as part of the "peace dividend." This could mean more of a willingness to include in agreements with contractors specific language accepting

financial responsibility. This would be a key first step in developing a partnering atmosphere for base closure cleanups.

Because so many federal agencies now have adopted Partnering, there is real hope to reverse the historical attitudes freezing out local "stakeholders" such as municipalities, neighborhood groups and other interest groups who want and need to know what is being done to clean up these bases.

In many cases, closure of military bases hits a community hard because of the number of jobs lost and the lengthy time it often takes to put the property back into productive use. Partnering can be a real help here, as it always incorporates means for getting projects completed on time or ahead of time with no need for rework and with a view toward being satisfactorily completed. Community groups need to be in on the front end of this Partnering process so that they have input into how the cleanup will be done, on what schedule and with what results. Cleanups will vary in their degree depending upon future uses, and everyone needs to know on the front end what the future uses will be and what level of cleanup is necessary, and then have a means to monitor progress.

Base closures, unlike many other types of jobs, may affect groups from all over an area. Creative means need to be taken to identify stakeholders who might not be so obvious. Anyone who is going to try to influence the closure and the cleanup and anyone who might be significantly affected should be offered a seat at the Partnering conference. By bringing them in and enlisting their ideas, we create a trusting relationship with groups who in the past felt they were being frozen out, lied to or ignored. Define objectives up front, not later, and get all groups to "buy in." Identify site complexities so everyone is aware of what it will take and what results to expect. Secret-keeping is not Partnering.

DOD must stay at the Partnering table. If harmed, citizens will sue contractors before they sue the DOD. It is essential to obtain adequate risk-protection in your contract with DOD and to keep DOD involved in the Partnering process.

CONCLUSION

I am convinced we are at a turning point in the way we do business with government agencies in this country. I am convinced the government knows this, too.

Out of an inglorious history of dispute resolution through regulatory decisions and appeals, courts, arbitrators and the rest, often leading to less-than-satisfactory results, I see a new day dawning.

I think it is not only possible but highly desirable and profitable to begin nurturing new attitudes about how we solve the inevitable problems that arise during the course of a project. I believe in keeping the focus on problem-solving, not blame-placing and on open communications, not stonewalling or resistance.

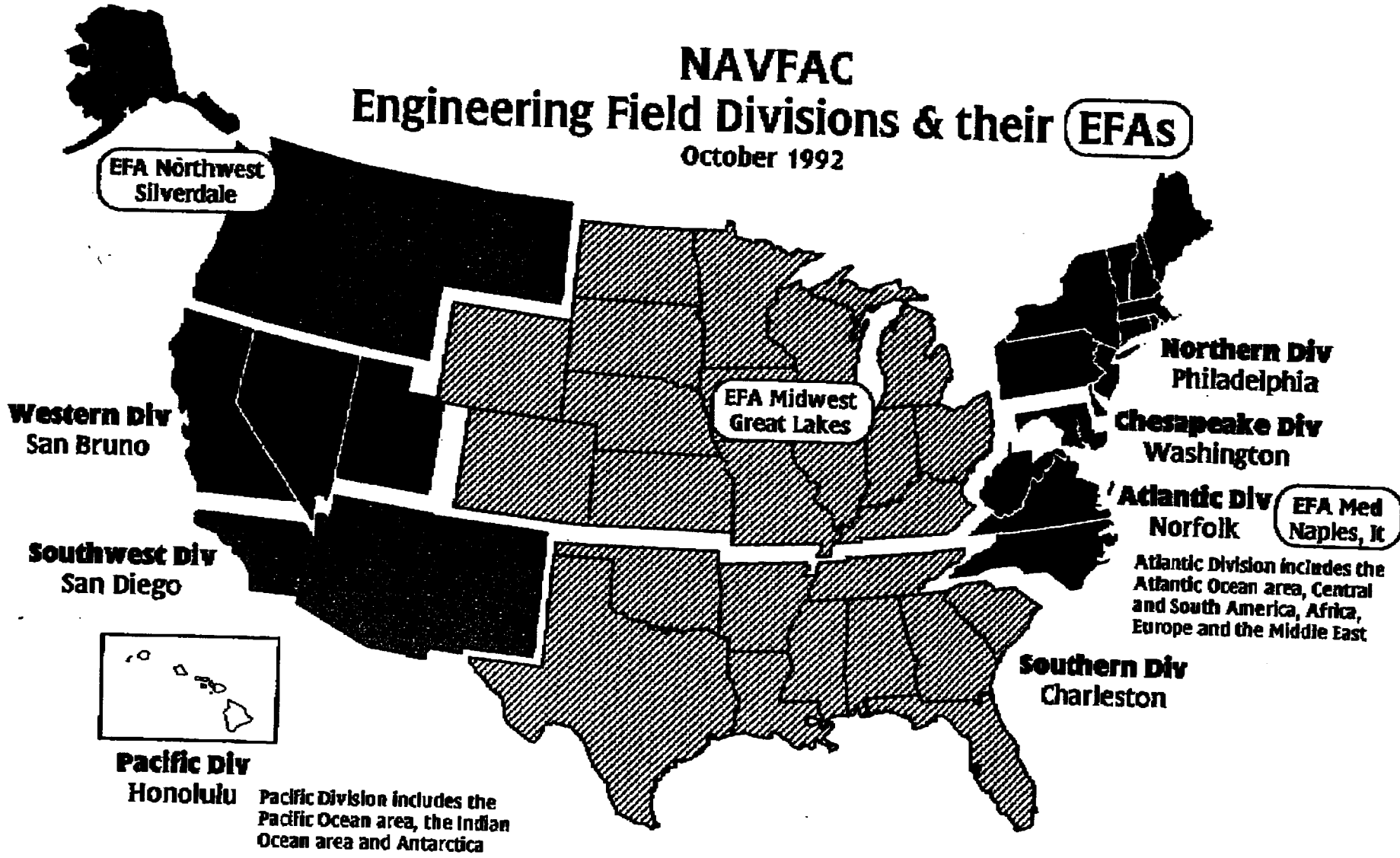
I believe in promoting a cooperative attitude and pursuing common goals in a non-adversarial forum. Partnering is nothing more than a willingness by owners, design professionals, contractors, and all stakeholders to work collectively to do the best job possible.

We have to anticipate that we will have disagreements; too many of our contracts are structured to feed an adversarial relationship. All we need to do now is agree to a more sensible and humane way of dealing with them.

Thank you very much and good afternoon.

NAVFAC Engineering Field Divisions & their EFAs

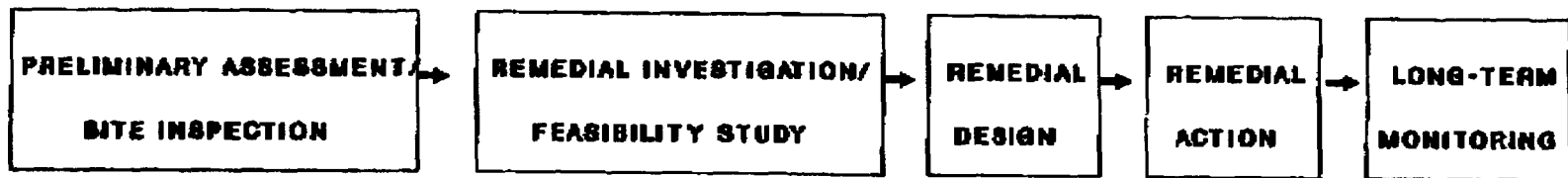
October 1992



R. J. Mueller

NAVAL FACILITIES ENGINEERING COMMAND

CONTRACTING METHODS - INSTALLATION RESTORATION PROGRAM



**FP/IQ
Engineering**

**FP/IQ
Engineering**

**FP/IQ
Engineering**

**FP/IQ
Construction**

**FP/IQ
Engineering**

CLEAN

CLEAN

CLEAN

**IQ/T&M
Construction**

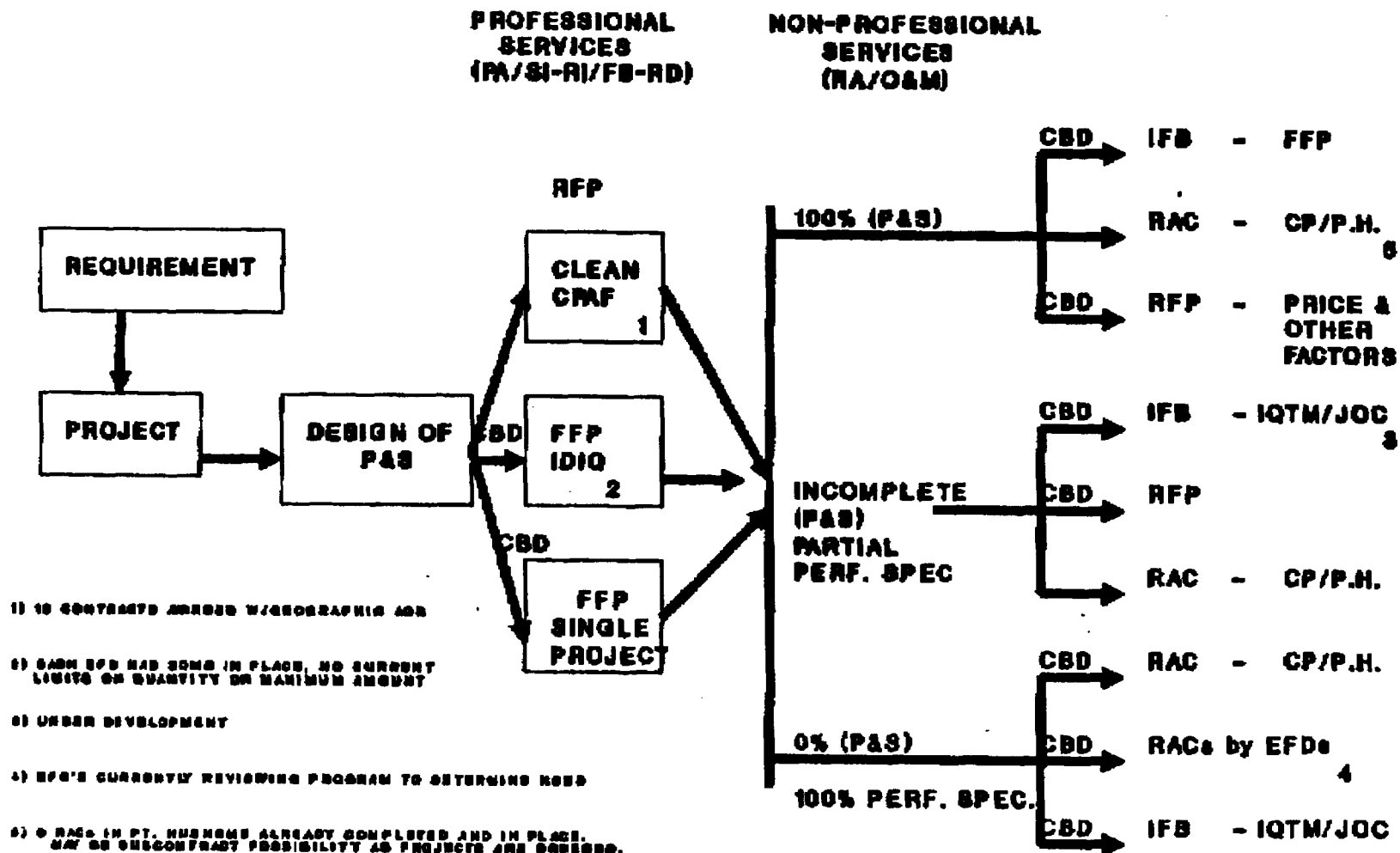
CLEAN

RAC

**CPFF/CPAF
Construction**

**CLEAN
(for QA)**

ANATOMY OF ENVIRONMENTAL CONTRACT EXECUTION



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REMARKS OF BUZZ BAILEY
Partner, Garvey, Schubert & Barer
Washington, D.C. Office

*DEFENSE WEEK/ENVIRONMENT WEEK CONFERENCE ON
BASE CLOSURE CLEANUP CONTRACTING*

CHANGING REMEDY SELECTION STANDARDS FOR BASE CLOSURE CLEANUPS:

WOULD TAILORING RIP THE FABRIC OF SUPERFUND?

Dated: December 8, 1993

When the Director of this Conference, John Morton, asked me earlier this year what I thought the key issues in base cleanups would be, I rather hastily answered "tailoring". Unfortunately, our friends at DOD and EPA don't seem to use this word much (they prefer "remedy selection"), so I think I'm using a term which may not be part of current usage, such as "strategic defense initiative" or "kinder and gentler". But this is the tailoring panel, and as I understand it, the concept refers to the process of factoring into CERCLA decisionmaking the relative efficacy of specific cleanup technologies, future land uses (residential v. industrial), and legal restrictions on property use (transfer deed covenants and other so-called institutional controls).

No matter what you call it, however, the question of whether there should be a change in the legal standards, assumptions and remedies used in cleanups is on the table for the foreseeable future. Although industry, cleanup contractors and municipalities would be expected to be active on this issue, the real sign of its importance is the seriousness with which tailoring concepts are being discussed at the highest levels of the Administration and the Congress.

I split my practice between government contracting matters and environmental legislation, so let me address this area first wearing my lawyer hat, and then switch to my lobbyist hat. Since many of you are cleanup contractors or local officials dealing with base closures, I have tried to direct my comments to the tailoring issues which could have the most impact on you.

I. CERCLA Standards and Tailoring: Legal Incompatibility?

Three key legal phrases lie at the heart of whether cleanup can be tailored; two of these familiar phrases come from CERCLA itself--the statutory requirements in CERCLA Section 121 for utilizing "permanent" remedies and "treatment" to the maximum extent practicable. A third phrase "assumption of residential use" comes from the preamble to the 1990 National Oil and Hazardous Substances Pollution Contingency Plan which states that:

The assumption of residential land use is not a requirement of the program but rather is an assumption that may be made, based on conservative but realistic exposures, to ensure that remedies that are ultimately selected for the site will be protective. An assumption of future residential land use may not be justifiable if the probability that the site will support residential land use in the future is small.

Combining these statutory and administrative preferences for cleanups with permanent treatment assuming residential use has resulted in some very conservative remedy selection proposals by EPA, some very unhappy landowners, businesses and municipalities, and a great deal of work for cleanup contractors. I imagine from the contractor's point of view that this situation is not all

that bad, but CERCLA is supposed to be more than just a full employment act for lawyers and contractors.

Basically stated, those favoring tailoring want to change the existing statutory and administrative preferences so that different assumptions can be used and different types of remedies can be selected, chiefly those which are less invasive and less costly. It is interesting to note, however, that the language I quoted from NCP would already seem to give EPA significant flexibility in making its assumptions of land use in remedy selection. I would also refer you to the June, 1993 testimony of EPA Deputy Administrator Sussman before Chairman Swift's Energy and Commerce Subcommittee, where he made the case that EPA has the necessary flexibility on remedy selection, and is developing additional policies to avoid costly cleanups from overly conservative assumptions.

Despite Mr. Sussman's testimony, however, it seems to me that EPA would have a very difficult time jettisoning the assumption of residential use, and diverging in a significant way from the permanent treatment regimen without explicit congressional direction. EPA admitted as much in a Senate hearing before Chairman Baucus. Also, in a very practical sense, future land use assumptions become legally irrelevant under CERCLA as it now reads if state ARARs are so specific and immutable as to dictate a particular remedy decision.

In my view, the whole controversy over tailoring stems from the fact that Congress gave no clear statutory direction in this

area (silence is golden when there is no political consensus), and EPA and the states have been left to interpret and/or implement remedy selection standards in a minefield of technological complexity and political crosscurrents. EPA's natural response as a federal agency has often to model conservatively and take actions which are more easily defensible in court, which does not exactly encourage federal bureaucrats to take a flexible, innovative approach to remedy selection. A frequently cited example of this involves Smuggler's Mountain in Colorado, where EPA's overly conservative modeling regarding lead exposure led to some draconian remedy proposals which were later reversed, much to the embarrassment of the agency.

Irrespective of whether EPA's assumptions are too conservative, however, there is little question that the battles over remedy selection create enormous delay and costly litigation. Although the actual numbers are closely-guarded, some U.S. companies have asserted that up to 60% of their cleanup costs are paid to lawyers, not contractors. I will discuss some of the legislative proposals to change this situation later, but I wanted to make the point that the current remedy selection process is driven by existing statutory and EPA rules to produce conservative remedies, slow cleanups and costly litigation.

So far I have not focused on military base cleanups, because the main difference between military and civilian cleanups is in the process, not legal assumptions and substantive standards. The federal facilities provisions of CERCLA and the '86 Superfund

amendments are intended to produce legally equivalent treatment of DOD base cleanups, and there is a powerful political constituency which opposes any special rules for DOD. An important part of that constituency would appear to be sitting on this panel, as neither Mr. Goodhope from the state perspective nor Mr. Gray from EESI are very fond of ideas which might be seen to be letting DOD off easy. Just to make sure we do not all sing from the same songbook, however, let me at least raise the argument that the national economic impact of base closure cleanups is so vast that special treatment may indeed be deserved. As a nation, we could declare that many permanent, conservative treatment remedies at base cleanups are simply too costly and too slow, that we should control and monitor contaminant migrations and then declare the environmental damage done as a national sacrifice zone. While I know this idea may sound extreme, let me point out that it is not so far afield of the some of the very serious proposals being advanced by industry and the Clean Sites group for Superfund reauthorization. These proposals basically seek to rid Superfund of the three legal phrases I noted at the outset, and focus more on three other concepts: site stabilization, monitoring and institutional (read legal) controls on future land use. It would seem to me that these proposals could have special relevancy to military bases which pose some of the most intractable and costly cleanup challenges. It is also clear that EPA and the Administration are taking a close look at this area, and are probably moving farther

than many of us thought (and farther than many environmentalists would wish).

For example, EPA is currently making changes to its approach to "DNAPLs" (dense nonaqueous phase liquids), whose tough-to-clean nature is causing EPA officials to "refine our expectations regarding what the practicable extent of ground water remediation may be." It is obvious to anyone in this room that certain DNAPLs are present in large quantities at DOD facilities, and EPA appears to be recognizing that source stabilization and control remedies may be more practicable than conventional pump and treat remedies for DNAPLs. To the extent that the Superfund reauthorization debate focuses on permitting different legal cleanup standards to be used for different types of contaminants, it is my feeling that there may be no need to write any special laws for base closure cleanups.

To those who are charged with cleaning up and redeveloping military bases at the state and local level, the issue of tailoring and special treatment for base closure cleanups could constitute both a blessing and a curse. On one hand, tailoring could speed cleanup, facilitate land transfers, and reassure lenders and developers. The prospect of avoiding delay and putting people back to work sooner is hard to ignore. Institutional controls such as permanent zoning classifications and covenants running with former base lands are relatively inexpensive and politically painless steps. Unfortunately, from a legal perspective, I have to say that I see a host of problems:

- o Tailoring has been criticized as cost-cutting masquerading as a substantive change to remedy selection; are we really talking about legal standards or merely budget-pairing?
- o Tailoring cleanups to future heavy industrial use probably means foregoing more aggressive remedies, thereby creating greater risk and liability for future health or environmental damages; what would be the public reaction the first time a tailored cleanup went wrong?
- o Tailoring could force redevelopment authorities into over-reliance on heavy industrial uses instead of seeking out other uses which might provide the area with a more competitive labor base. As Sam Goodhope pointed out to me, do we really need large numbers of new municipal airports just to make Air Force base conversion go quicker?
- o What happens when contaminants from a tailored cleanup migrate off-base? In the ensuing legal free-for-all would DOD be more easily able to evade liability leaving a redevelopment authority "on the hook"?
- o While tailoring is intended to provide flexibility and efficiency in remedy selection, would developers and banks be even more nervous about future cleanup costs when there are even fewer "bright lines"?
- o Focusing on site stabilization, monitoring and institutional controls does not create many financial incentives for cleanup contractors to develop innovative treatment processes; I agree that Don Gray is right to ask a key question about tailoring: do we risk "freezing" technology? While the potential competitive advantage afforded to base cleanup contractors with superior technology will always be significant given the dollars involved, it is foolish to think that the legal standards chosen will not have an influence on the technology developed.
- o States with more stringent and specific cleanup laws would clearly be alarmed at both the impact of tailoring on state laws and the potential confusion created between federal and state remedy selection; there is already much tension between the federal and state agencies regarding cleanup standards. Will we be exacerbating the problem?

- o Federal Facility Agreements between EPA, DOD and the states are intended to force negotiations and agreement on remedy selection; many of the FFAs have functioned fairly smoothly to produce equitable remedy selections--if it ain't broke, why fix it with tailoring?

With all these issues, is there any good option for factoring future land uses and institutional controls into base cleanups? Two ideas seem to have merit. First, the DOD Environmental Security office is reportedly crafting a special policy for "low-risk" cleanups which could proceed with less-strict regulatory scrutiny. Such cleanups would have a greater focus on future land use at an early stage of the cleanup. This seems to me a promising avenue provided that DOD and EPA are absolutely sure about their low-risk determination. The Army is apparently testing the future land use waters at Fort Ord, but I suspect that the services may not be able to go too far until they obtain some statutory cover from the Congress.

A second idea which is being considered by both EPA and DOD is the use of "presumptive" or "generic" remedies. Deputy Administrator Sussman has emphasized the need for presumptive remedies as a non-statutory administrative improvement to cleanups, noting that seven categories of sites lend themselves to standardized remedies: municipal landfills, wood treater sites, VOC sites, PCB sites, coal gasification sites, grain storage sites and ground water sites. I would be very interested whether this audience would agree with Mr. Sussman on the need for presumptive remedies and whether these seven categories are the appropriate candidates. While presumptive remedies would not

take future land uses directly into account, a standardized approach to the applicable sites could presumably take some of the hassle out of remedy selection. The Air Force is also reportedly interested in considering whether generic approaches to petroleum pollution could facilitate cleanup.

While I think that these ideas are interesting, they are basically playing around the edges of CERCLA, and may run into the same legal roadblocks that afflict tailoring. The real question is whether the Administration and Congress will agree on any substantive changes in Superfund remedy selection as it applies to military bases, and I want to turn to this question at this point.

II. Congressional and Administration Views on Tailoring

Now that I have my lobbying hat back on (and the audience's hissing has abated), let me try to sketch the political battlefield over tailoring. Most obviously, the debate over tailoring reflects the traditional battlelines between DOD and EPA, federal interests v. state interests, local v. state interests, and industry v. environmental groups. The congressional debate over the FY94 DOD authorization bill featured another meeting of these familiar foes, this time in the form of assistance to local communities dealing with base closures. Senator Pryor, whose amendment also incorporated much of the Clinton proposals on base closures, had originally sought some changes in the remedy selection standards for base closure

cleanups. However, the mere mention of the words "sequential referral to Chairman Dingell" torpedoed any hope the Senator had of using the FY94 authorization bill to change the CERCLA standards applicable to DOD. {Attached to these remarks are two articles on the Pryor legislation and related base closure cleanup issues.}

As a result, the focus of the tailoring debate has been folded back into the ongoing debate between the Administration and the Congress about Superfund reauthorization. Most of you know that there is a Superfund interagency workgroup trying to agree on an Administration proposal, and that the President will probably have to play arbiter between the OMB, EPA, DOD, DOE and Treasury proposals. The workgroup is obviously trying to pick its way between a multitude of powerful competing interests, but there are some indications of where the workgroup is initially headed on remedy selection. In addition to the proposals for national standards and presumptive remedies mentioned above, the workgroup is also apparently considering 1) limiting Superfund's preference for permanent remedies, 2) establishing two categories of future anticipated land uses, "residential" and "restricted", 3) allowing greater use of institutional controls, and 4) requiring states with stringent ARARs to pay for more rigorous cleanups at their own expense. As always, OMB is a major player in attempting to obtain a scale-back in the restoration goals of Superfund, and has apparently been arguing that some Superfund sites are not worth restoring to productive use. As you could

guess, the final Administration proposal on Superfund remedy selection is unlikely to please all concerned, and may take a while even to be announced.

Up on the Hill, a number of important bills have been introduced as "markers" for the coming debate on reauthorization, and the House and Senate committees are busily conferring with the Administration and preparing their own ideas. While some of this was covered in detail yesterday, let me point out the reauthorization issues most pertinent to tailoring:

- o Superfund is the only major non-delegable environmental protection plan, and the states are clamoring for delegation. Those states with very specific and aggressive cleanup standards may feel threatened by any attempt to give EPA and DOC more flexibility in cleanup remedies.
- o Much of the hue and cry for tailoring is viewed as a stalking horse for those who want to spend less on environmental restoration. It will be politically difficult for well-known industrial polluters to argue effectively for tailoring, and relatively easy for environmental groups to attack the Administration or the Congress for going "soft" on polluters.
- o The apparent desire in the Administration and the Congress to ease CERCLA burdens on small businesses while avoiding major tinkering with the statute may make it even more difficult to get special treatment for military base cleanups involving large public entities.
- o Environmental organizations such as Don Gray's have an important tactical advantage with respect to Superfund reauthorization and tailoring--it's always easier to play defense in Congress than offense. Environmentalists can make detailed criticisms of reforms knowing that the strong environmental protections of CERCLA will remain if congressional gridlock sets in.

- o EPA Administrator Browner and members of Congress have supported special relief from normal CERCAL remedy selection standards for non-CERCLA-liable entities who buy contaminated property and perform "voluntary" cleanups. This concept seems analogous to the actions of local redevelopment authorities "voluntarily" purchasing DOD bases, but it is unclear whether Administrator Browner intended to cover base cleanups.

The bottom legislative line on tailoring is that there will probably be no special rules for DOD unless key members such as Chairman John Dingell and Max Baucus can be convinced that a) special treatment for DOD is justified, and b) flexibility in remedy selection increases cleanup efficiency while protecting human health and the environment. That is a tall order, especially given the fact that the Administration does not appear to be making any loud noises about providing closure-only remedy flexibility. What seems more likely is that whatever changes are made to Superfund will not create special rules for military base cleanup remedy selection, and that it will be left to EPA, DOD, local authorities and contractors themselves to push the legal envelope of CERCLA to find creative solutions. If this is the case, then the Superfund reauthorization battle will leave remedy selection just about where it was originally--confusing, long and litigious.

III. Conclusion

With more than 250 major military bases in various stages of being closed, and with more than \$500 million dollars being appropriated for FY94 cleanups at those bases, the need for

prompt, effective and fiscally-responsible remedy selection is patently clear. Whether tailoring concepts such as early consideration of future land use and institutional controls will actually facilitate the remedy selection process is significantly less clear. While I have tried to point out some of the legal and legislative hurdles that remedy selection modifications may face, I sincerely hope that the current debate will bring much-needed brain-power and new ideas to the issue. If we're fortunate, technological advances and planning initiatives from people in this room will also make this issue somewhat easier.

In closing, I want to thank Conference Director John Morton for inviting me to speak on this topic, whether or not the word tailoring survives any longer.

Attachments

County News

Official Publication of the National Association of Counties

Vol. 25, No. 17 • September 13, 1993
Washington, D.C.

Back from summer recess, Congress begins hammering out base closure details

By Richard A. Wegman
and Harold G. Bailey, Jr.

(This is the first installment of a two-part series on efforts to expedite the transfer of closed military bases to civilian control.)

This week, as Congress returns from its summer recess, it will confront President Clinton's July 1993 decision to close 130 military bases and to realign 45 others, a decision that will affect hundreds of communities located in 33 states.

From the state and local perspective, the two issues that Congress needs to resolve most quickly are: 1) ensuring that the transition from federal to state or local control is handled expeditiously, with red tape and other administrative hurdles kept to an absolute minimum; and 2) addressing the widespread environmental contamination that exists at these facilities, while ensuring that they can be put to productive use by state and local governments as rapidly

as possible.

With estimates of contamination at these facilities now approaching \$1 billion (cost estimates that seem to climb almost weekly as more and more becomes known about the extent of toxic waste contamination at these facilities), the second issue may prove more difficult for Congress than the first.

Congress will have its first opportunity to deal with these matters this week when Senator David Pryor (D-Ark.) brings legislation to the Senate floor to provide transition assistance to the affected communities, and to impose time limits on steps that need to be taken by the Department of Defense (DoD) and other federal agencies.

Pryor, who heads the Senate Democratic Task Force on Defense Reinvestment, will offer an amendment to the FY94 DoD authorization bill that is designed to carry out parts of the program that President Clinton proposed when he announced the base closures nine weeks ago.

Pryor's amendment would:

- permit DoD to lease or sell base property to local communities at less than fair market value
- speed up the leasing process so that base properties can be put to use even if environmental cleanup has not been completed
- make clean properties available for reuse within nine months if local communities can identify a reuse, and
- complete DoD compliance with the National Environmental Policy Act within 12 months.

Pryor believes his legislation is needed to remove the federal government "as a barrier to redevelopment," and that enactment will help "tilt the scales in favor of base closure during this difficult transition period."

The urgency behind the Pryor initiative arises from the recent round of base closure announcements which, coupled with the closures ordered in 1988 and 1991, represent a major challenge to communities across the nation.

President Clinton's revitaliza-

tion initiative is designed to speed the recovery of affected communities by spending \$2.8 billion on transition assistance and \$2.2 billion for accelerating environmental cleanups.

To obtain fast-track cleanup, the Clinton plan proposes that a DoD transition coordinator and environmental manager be stationed full-time at each base to work with EPA and state officials to expedite identification and remediation of contamination.

Such steps will complement one of the most important features of Pryor's legislation, which is to permit transfers of DoD properties at less than fair market value. Senator Pryor's proposal would amend government property transfer statutes to authorize a less-than-fair-market value transfer if it is in furtherance of a reuse plan, will ensure replacement of lost jobs, or save DoD money by reducing maintenance costs. The Pryor approach on fair market value incorporates one

See **BASE CLOSURES**, next page

of the major recommendations of the NACo Base Closure Task Force.

The acknowledgement by the White House that communities require tangible help from the federal government on base closures matters has generally been greeted with a better-late-than-never attitude.

Sam Karas, Monterey County (Calif.) supervisor, welcomed the Administration's initiative: "It's a major step. The Administration is finally listening to local communi-

ties. I'm proud that NACo took the lead in developing recommendations which the Administration is now following."

Karas noted that Fort Ord was the first place nationwide where a fast-track approach had been attempted, and that the Fort Ord cleanup had benefited from a very positive relationship with DoD.

However, there remains some concern about the adequacy of funding in the Clinton program. Bob Clark, executive director of the

Northern Maine Regional Planning Commission, who heads the planning efforts related to the closure of Loring AFB, expressed concerns about the Administration's failure to address the financial realities confronting communities.

Clark says that "it would be nice if the Clinton plan is implemented, but most of the plan is old money."

Noting the continuing inability of communities to obtain needed bank loans and insurance for converting cleaned-up base properties

to local use, Clark said that "the interim leases proposed in the plan won't solve the problem because we still can't get banks and insurers to accept the leases."

(In the next installment, Wegman and Bailey discuss the impact of environmental contamination on efforts to free bases for civilian use. Wegman and Bailey are attorneys with Garvey, Schubert & Barer, with offices in Washington, D.C.; Portland, Ore.; and Seattle, Wash.)

County News

Official Publication of the National Association of Counties

Vol. 25, No. 18 • September 27, 1993
Washington, D.C.

Environmental cleanups key to base closure process

By Richard A. Wegman and
Harold G. Bailey, Jr.

(Last week's installment by the authors discussed legislation by Senator David Pryor (D-Ark.) to expedite the process of transferring military bases to local use. The Pryor legislation has now been adopted by the Senate, and will be taken up in a House-Senate conference later this month. This week's article focuses on cleanup of environmental contamination at these facilities.)

A major obstacle to rapid conversion of military bases to civilian use is the problem of environmental contamination, and the potential threat it poses to the health and welfare of adjoining communities.

There has been widespread discontent with the current pace of cleanups at bases affected by the 1988 and 1991 Closure and Realignment Commissions. Due to technical difficulties and bureaucratic delays associated with the cleanups, there has been only one transfer of a major base property pursuant to the 1988 and 1991 base closure process. By the end of 1992, the Department of Defense (DoD) had identified more than 18,000 sites (at both operating and

closed bases) that require remediation, but DoD had finished its remedial investigations for only 545 sites.

Remedial action by DoD has been completed in only 416 instances, leaving roughly 98 percent of the total sites with legal barriers to transfer of DoD bases.

Concerned about the slow pace, Congress has directed DoD to complete remedial investigations at all bases slated for closure by the 1988 and 1991 commission by January 1994.

In its most recent report, the 1993 Base Closure and Realignment Commission found that DoD has consistently underestimated the costs of environmental cleanup at closing bases, and it recommended for the 1995 process that DoD consider additional cleanup costs in making recommendations for closure. The commission pointed out that a "given base's cleanup may need to be more extensive if that base closes, given possible changes in land uses."

The issue of changes in land use and effects on the cleanup process is a particularly complex aspect of the current debate. Many local communities are anxious for base cleanup to proceed quickly and conform to the proposed future use of the base fa-

cilities (industrial, residential, etc.), but what if those uses change and the cleanup becomes inadequate? Moreover, what if state and local environmental standards become more stringent? These are some of the most worrisome questions facing the Administration and the Congress.

Over the past year, there has been extensive debate about the tension between accelerating base closure cleanups and environmental and legal liabilities. For example, it is unclear what flexibility DoD has under the Superfund law to "tailor" cleanups to a particular future use in an attempt to facilitate transfer. Under Superfund, title to a closed DoD base cannot pass unless a Superfund cleanup process has first been completed for all the contaminated sites at the base.

The problem this poses was raised by Senator Barbara Boxer (D-Calif.) in a May hearing on DoD cleanups: "We can't keep a standard based on kids in a daycare center eating sand," Boxer stated. "We want the land's use to be considered during cleanups." Moreover, because judicial review of a particular cleanup often occurs after most of the time-intensive cleanup work is over, DoD and local communities might find out too late that a particular cleanup does not

meet Superfund or more stringent state standards.

Another problem is the confusion between cleanup requirements under Superfund and the parallel provisions of the Resource Conservation and Recovery Act (RCRA). The Army cites an example where a Superfund cleanup was delayed until a RCRA study was completed, even though the site had been thoroughly studied under Superfund.

The Pryor legislation to expedite base transfer and local redevelopment—which the Senate just adopted as part of the 1994 DoD reauthorization bill—does not address many of these cleanup issues. Therefore, once Congress completes action on Senator Pryor's provisions, it needs to focus squarely on environmental aspects of base closures. Action that could greatly ease the burden for local communities includes the following:

1) **Tailoring**—Congress should statutorily affirm tailoring as acceptable action, thereby eliminating any doubts about the legality of tailoring cleanups to future uses.

2) **Superfund/RCRA overlap**—Congress should direct EPA to publish additional guidelines describing how Superfund and RCRA should be handled in the base closing con-

text, and clear up any confusion about which statute and which cleanup standards apply to a given situation.

3) **Financial responsibility**—Congress should consider steps to reassure lenders that contamination at bases will not become a financial albatross for local communities. One way to do so would be to provide that in the event contamination at a former military base is disclosed at a future date, the DoD should bear the burden of demonstrating that such contamination was not caused by the DoD.

4) **Funding**—The \$2.2 billion proposed by President Clinton for base cleanups almost certainly will fall far short of what is needed to restore these facilities to productive use. Notwithstanding budgetary constraints, sooner or later Congress will have to recognize this, and provide whatever amounts are necessary for remediation and cleanup.

These steps would ease the transition for affected communities considerably, and make it possible for former military property and facilities to be used productively much more rapidly than has been possible in the past.

(Wegman and Bailey are attorneys with Garvey, Schubert & Barer, with offices in Washington, D.C.; Portland, Ore.; and Seattle, Wash.)

Document Separator

from ventaglio Rea

New York Sues to Halt Closure Of Plattsburgh Air Force Base

ALBANY, Dec. 6 (AP) — New York State filed a lawsuit today seeking to overturn recommendations of the base-closing commission and keep Plattsburgh Air Force Base open.

The lawsuit, filed in Federal District Court in Albany, argues that the commission overstepped its powers when it recommended closing Plattsburgh.

The state also is asking the court to issue an injunction to prevent the Department of Defense from carrying out the closure plans.

"This is a unified effort to make sure that the law is upheld, and that no harm is done to the nation's defense or to the citizens who rely upon Plattsburgh Air Force Base for their livelihood," Gov. Mario M. Cuomo said.

After Air Force officials proposed that Plattsburgh's mission be expanded, the commission voted last June to recommend that Plattsburgh be closed and that operations at Griffiss Air Force Base in Rome be drastically reduced. The expanded mission went to McGuire Air Force Base in New Jersey.

In July, President Clinton accepted the commission's recommendations that 175 military installations worldwide be closed or realigned.

"Congress explicitly limited the powers of the commission to overturn the recommendations of the military experts, and those powers were clearly exceeded when the commission sought to close Plattsburgh," Mr. Cuomo said.

Plattsburgh stands to lose about 3,000 military and civilian jobs if the base is closed as planned in 1995. Griffiss will lose about 4,500 jobs when operations there are shut down the same year.

Several states have filed similar lawsuits to save their military bases.

In October, the United States Supreme Court agreed to decide whether states and communities could challenge the base closings in court. The decision is expected in July 1994.

The New York lawsuit was filed on behalf of the state by Mr. Cuomo and other New York officials, including United States Representative John McHugh and State Senator Ronald Stafford, whose districts include Plattsburgh. Those named in the lawsuit are the commission and its seven members, Secretary of Defense Les Aspin and Secretary of the Air Force Sheila Widnall.

WASHINGTON
TIMES

Dec. 7, 1993

Pg. 8

Book debunks Pearl Harbor myths

A new book based on a treasure of Japanese documents challenges widespread rumors that U.S. officials knew in advance about the attack on Pearl Harbor.

Historians Donald Goldstein and Katherine Dillon tell — from the Japanese point of view — how the Dec. 7, 1941, attack was accomplished.

Americans believe all sorts of myths to try to explain how the Japanese could have achieved such

ESCORT...from Pg. 1

"I would tell them [family members] that they were over there fighting ultimately for a peace to take place," Mr. Clinton said.

"I said back in August that they were in the business of trying to solve this thing politically," he said of the U.S. mission in Somalia.

"That action was fundamentally successful. They achieved their objective. We still have under custody the people who we think are the most likely to have been seriously involved in the murder of the Pakistani soldiers and to have caused difficulties for the Americans."

Gen. Aidid is apparently on the up side of a U.S. foreign policy cycle in which he was once an ally, then a criminal and now a key player in helping to end the turmoil in the Horn of Africa nation. But some members of his force face charges in connection with the ambush of a Pakistani element of the U.N. peace-keeping force, which killed 23.

Mr. Gonzalez spoke in defense of both the Oakley decision and the U.S. mission in Somalia.

"It's not stated as often in the media, but in honor of truth, let us say that it isn't a worthless sacrifice that has been made. Tens of thousands of people are reaping benefits from the sacrifice of those lives," he said.

"The U.S. presence and other presence in Somalia has its cost. It has its human cost. But it has saved tens of thousands of lives, of innocent lives," he said.

Economic policy was at the heart of Mr. Gonzalez's visit, less than 10

a feat, Mr. Goldstein said. One myth was that President Roosevelt, using American pilots, had secretly staged the attack to overcome opposition to the war and get America into the Asian conflict, he said.

days from a key deadline in the General Agreement on Tariffs and Trade negotiations.

He said he and Mr. Clinton "agree on certain specific and current policies, such as coordination for lowering interest rates in Europe in order to spur investment and thus contribute to restarting the European economy."

In an interdependent global economy, coordination is crucial, he said. Without it, the industrial nations "will encounter greater obstacles than it would with a good coordination," he said.

One potential area of disagreement between the two men is how to treat Cuban efforts to become part of the hemispheric and global economies.

Asked by a Spanish journalist if he sees enough change in the Castro-run government to justify a change in U.S. policy, Mr. Clinton was not optimistic.

"I see no indication that the nation or that the leadership... is willing to make the kind of changes that we would expect before we would change our policy," he said, characterizing changes in Cuba as "modest."

Mr. Gonzalez said that he and Mr. Clinton "want to see Cuba join in with the rest of the Latin American countries in moving towards greater democracy and [an] open economy."

He said that Cuba should not be excluded from international economic meetings just because it is not a democracy.

"I imagine Haiti would not be invited if all the democratically elected leaders were meeting," he said.

"Pearl Harbor Papers," the 11th book on World War II co-authored by Mr. Goldstein, a professor at the University of Pittsburgh, suggests it was Japanese brilliance and tenacity, not any quirks, that made the attack a success.

HAITIANS...from Pg. 1

congressional aide commented.

"The United States should never condemn the abuse of democracy and human rights and then turn around and train the abusers on our own soil," Rep. Joseph P. Kennedy, Democrat of Massachusetts, said, reacting to the latest report.

Eight officers mentioned on the list, which was obtained by the National Security News Service, started courses in early 1992. Most of the men, who were either first or second lieutenants, received four-month basic infantry officer training at Fort Benning, Ga. One studied at a military transport school, while another officer and a noncommissioned officer were assigned to signals school.

Late last week, however, Penta-

gon spokesmen repeated the line that Haitian military personnel who were here for training at the time of the coup were allowed to finish their courses and were then sent home.

One spokesman said that all personnel probably had left by the end of 1991, although he had could not provide dates.

Second Lieutenant Dioget Alexis, for example, started his course on Feb. 24, 1992, and completed it in mid-June. Before that, he had undergone an English language course which started three weeks before the coup and ended on Feb. 14. First Lieutenant Karl-Henry Bastien finished his English language course on Nov. 1, 1991. Then, two weeks later, he started a signals course at Fort Gordon, Ga.

Another list made available by

the Pentagon names 12 Haitian soldiers who remained here after the coup to complete their studies. It does not, however, say when they left. In addition to the 10 officers whose names are on the IMET list, the Pentagon document refers to a Maj. Jean Dumas who studied at the Air War College.

When Aristide was forced out in September 1991, the Bush administration's public response was swift and harsh. The White House dismissed the new leadership as a "junta," announced that it viewed Aristide as the legitimate president of his country, and cut off all aid. Some \$1.5 million in nonlethal military aid had been earmarked for assistance to the Haitian armed forces for fiscal year 1991, which ended on the day of

the coup.

For years, the Pentagon has described International Military Education and Training as "one of the least costly and most effective programs for maintaining US influence and assisting foreign countries with their self-defense capabilities." The

program is designed to expose "future leaders of foreign defense establishments" to "American values, regard for human rights and democratic institutions," the defense secretary's report to the president for 1993 declared.

One of the newer aspects of the training program, introduced after the collapse of the Soviet Union, was a series of courses on "civilian control of the military."



NEWS RELEASE

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IMMEDIATE RELEASE

December 1, 1993

Revitalizing Base Closure Communities

Congress, through the Pryor Amendment, has supported President Clinton's Five Part Program by speeding up base closure and conversion for bases on the 1988, 1991, 1993 and future closure lists. The Fiscal Year 1994 Defense Authorization Act will make it easier for communities with closing military bases to make the transition to a commercial economy. The legislation includes key provisions sponsored by Senator David Pryor (D-Ark.), and was developed with the assistance of the National Economic Council, DoD and affected communities. The DoD has made substantial progress in implementing the program announced by the President in July.

The primary result of the new legislation is to empower local communities. It will allow the military to convey property, buildings and equipment to the communities at less than fair market value and, when appropriate, for free to help create jobs. The legislation provides authority for the DoD to implement jobs-centered property disposal which is the first part of the President's Five Part Program. The goal is to reduce the time it takes to turn closing bases over to communities and foster job creation and economic development.

"This change in legislation is a new way of doing business for the government that should benefit local communities affected by base closures. It provides communities a primary role in determining what happens to an installation and its assets when it closes. Communities will now be allowed to play a larger role in the transfer of land, facilities and equipment at military installations. This should speed economic redevelopment and help create jobs in the closure communities," said Robert E. Bayer, Deputy Assistant Secretary of Defense for Economic Reinvestment and Base Realignment and Closure.

The Act protects the interests of local communities by requiring the military to maintain the condition of facilities and equipment at closing bases for community reuse. The military is also required to keep on site non-mission essential equipment that is vital to the reuse of the installation. This could include personal property such as office equipment, training aids, vehicles, and maintenance tools.

(more)

The legislation also allows the military to convey land, buildings and equipment to community reuse groups at less than fair market value or for free to enhance economic development. Service Secretaries may lease property to any individual or entity at a reduced rate if the public interest will be served or if obtaining the fair market value is not possible. Offering property at a reduced price for economic development was not possible under previous statutes. The Amendment also accelerates the government property screening process for reuse of facilities and equipment. This includes screening by homeless assistance providers under the McKinney Act. This change allows communities to begin their reuse planning without delay.

The President announced his Five Part Program for revitalizing base closure communities on July 2, 1993. Since then, the DoD in conjunction with other Federal agencies has also made significant progress in implementing the other four parts of the program:

Fast Track Cleanup: Base Realignment and Closure Cleanup Teams (BCTs) were established at all closing or realigning installations, where property will be available for transfer; Team members include representatives from DoD, the Environmental Protection Agency and the host state; DoD issued guidance to teams in areas such as public involvement and development of accelerated base cleanup plans; DoD worked with Congress to develop legislation to speed the reuse of environmentally contaminated sites.

Base Transition Coordinators: Transition Coordinators (BTCs) are working at 66 major closing installations nationwide; BTCs attended a four-day training conference and are working effectively with installation commanders and community reuse groups; the Base Transition Office was established in the Pentagon to support local Coordinators; and BTCs work with communities and installation commanders to provide the Deputy Secretary of Defense unfiltered bi-monthly status reports.

Easy Access to Transition and Redevelopment Help: DoD worked successfully with the National Economic Council to inform all Federal agencies of the President's Five Part Plan; the DoD, Department of Labor, and Department of Commerce (DoC) assistance teams will visit major installations nationwide in the 1993 closure package by the end of the year to address transition issues; a toll free economic conversion hotline for workers, communities and firms affected by base closures was jointly established by the DoD and DoC, 1-800-345-1222.

Larger Economic Adjustment and Planning Grants: DoD established contact with every community affected by major base closure and assigned a project manager for the affected community; DoD's Office of Economic Adjustment is helping each community reuse organization; OEA and the Services sponsored Closure Conferences to inform military and community reuse staffs on the new initiatives; since July 2, 1993 the DoD has approved 25 grants totaling \$7.3 million.

The DoD is currently developing procedures to implement the Act. The DoD plans to issue interim guidance in the first quarter of 1994 to the Military Services, which are responsible for closing individual bases.

-END-

FACT SHEET
ON
BASE CLOSURE COMMUNITY ASSISTANCE ACT
(Title XXIX, Subtitle A of the National Defense Authorization Act, FY 94)

The enactment of major provisions of the Pryor Amendment will assist local communities affected by base closures in the following manner:

Transfer of Property to Affected Communities and States

The Secretary of Defense has new authority to transfer real and personal property to local redevelopment authorities at less than fair market value or for free in order to enhance economic development. The Secretary of Defense may, at his discretion, accept consideration in kind for the property, including goods and services, real property and improvements. If the property is later sold or leased by the redevelopment authority, the Secretary of Defense may stipulate appropriate terms to permit the Federal government to share in the profits with the redevelopment authority.

Identification of Personal Property

Within six months, DoD will take inventory of the personal property located at closing installations and work with the local reuse group to identify the items that may be needed to support the redevelopment plan. If no local reuse group exists, DoD will consult with either the local government in whose jurisdiction the installation is wholly located or a government agency designated by the Governor. Personal property and equipment identified for potential use in a redevelopment plan will not be removed from the installation unless it is operationally required by a military unit, is uniquely military in character, is required to meet spare parts or stock requirements, or fulfills a priority need of another Federal department or agency.

Accelerated Screening Process

Real property screening will be accomplished within six months of the date of enactment. Property not needed by DoD or another Federal agency will then be reported to the Department of Housing and Urban Development (HUD) for possible use by homeless providers. HUD will publish available properties in the Federal Register and homeless providers will then have a two-month period to express interest in acquiring the property. If an expression of interest is received, the homeless provider will have three additional months to submit an application for its use. Following the completion of the McKinney Act screening process, the local redevelopment authority will have one year to express an interest in the available buildings and property. The property will not be available to homeless providers during this one year period or after expressions of interest are received by the DoD from the local reuse groups.

(more)

Leases

The Military Services will have new authority to lease property to an individual or entity at less than fair market value, if a public interest will be served.

Contracting for Certain Services

The Military Services will now be able to contract with local governments for police, fire protection, airfield operation or other community services if it is determined that the contract is in the best interest of the Department of Defense. These contracts may be entered into no earlier than 180 days before the date of closure.

Expedited Identification of Uncontaminated Property

Within 18 months of the approval date of the base closure, or within 9 months after the date the local redevelopment authority submits a specific proposal for all or a portion of the real property to the DoD Base Transition Coordinator, whichever is sooner, the Secretary of Defense shall identify uncontaminated real property available for transfer or lease.

Expedited Environmental Studies

To the practical extent possible, DoD will complete any environmental impact analyses required at an installation no later than 12 months after the local redevelopment plan is submitted to DoD.

Transition Coordinators to Assist Communities

DoD designated individuals for each major closing installation serve as the community's ombudsman to cut through red tape and expedite the rapid and productive reuse of the base. These well-informed coordinators are currently in place at 66 locations nationwide keeping reuse on a fast-track.

~~-END-~~



NEWS RELEASE

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IMMEDIATE RELEASE

November 5, 1993

MILITARY STRENGTH FIGURES FOR SEPTEMBER 30, 1993

SUMMARIZED BY THE DEPARTMENT OF DEFENSE

Total numerical strength of the Armed Forces on September 30, 1993, based on preliminary reports, was 1,705,422. This was a decrease of 4,137 from August 31, 1993, and a decrease of 101,177 from the same time in 1992.

These figures represent full-time military personnel comprising both regular and reserves on active duty and officer candidates including cadets at the three military academies.

Excluded from these figures are approximately 67,850 full-time military personnel who are paid from other than active duty military personnel appropriations. This group is funded from appropriations for reserve components and Corps of Engineer civil functions. A comparable figure for Fiscal Year 1992 was approximately 70,250.

September 1993 strength figures for each service with month-ago and year-ago figures for comparison are:

	09/30/93 (Preliminary)	08/31/93 (Actual)	Previous Month Actual	Percent	09/30/92
Total DoD	1,705,422	1,709,559	-4,137	-0.24%	1,807,177
Army	572,423	575,540	-3,117	-0.54%	610,450
Navy	510,269	509,083	1,186	0.23%	541,883
Marine Corps	178,379	179,176	-797	-0.44%	184,529
Air Force	444,351	445,760	-1,409	-0.32%	470,315

-END-

Document Separator

DoD Environmental Security
Fast Track Cleanup Policy/Support

DoD Economic Security

US EPA

Military Service

DoD Base Closure & Utilization – BRAC Policy, Program Mgmt, and \$\$\$

State

BCT

\$

DoD Base Transition Office

Restoration Advisory Board

Base Transition Coordinator

Community Reuse Organization

Closing Installation

Other Federal/Local Agencies

Joseph Sites

Implementation of Fast-Track Cleanup

THE PRESIDENT'S COMMUNITY REINVESTMENT PROGRAM

- **Jobs-centered property disposal**
- **Easy access to transition and redevelopment assistance**
- **Fast-track cleanup**
- **Transition coordinations at closing bases**
- **Larger economic development planning grants**

Implementation of Fast-Track Cleanup

THE PRESIDENT'S FAST-TRACK CLEANUP INITIATIVE

- **Prevent needless delays**
- **Protect human health and the environment**
- **Key elements:**
 - **Establish a cleanup team at every base**
 - **Make property available for civilian reuse**
 - **Speed up the National Environmental Policy Act (NEPA) process**
 - **Involve the public**

BRAC CLEANUP TEAMS (BCT)

PROCEDURES

- **Form BCT for every BRAC installation**
- **Appoint BRAC Environmental Coordinator (BEC)**
- **Conduct "bottom up" review of the environmental cleanup**
- **Develop BRAC Cleanup Plan (BCP) which establishes:**
 - **Priorities in support of cleanup**
 - **Requirements, schedules and costs for redevelopment and reuse**

Implementation of Fast-Track Cleanup

NEPA ANALYSIS PROCESS

POLICY

- **Conduct one Environmental Impact Statement (EIS) per installation**
- **Expedite development of final EISs**
- **Ensure completion within 12 months of receipt of final reuse plan**

Implementation of Fast-Track Cleanup

PUBLIC INVOLVEMENT

POLICY

- **Involve local communities in the cleanup program**
- **Make information on program activities available**
- **Encourage public comment**
- **Be responsive to public comments**
- **Establish Restoration Advisory Board (RAB) to work in partnership with BCT**

Implementation of Fast-Track Cleanup

PUBLIC INVOLVEMENT

PROCEDURES

- Establish RAB where property is available for transfer
 - Made up of DoD Component, US EPA, State and local community representative
 - Jointly chaired by DoD Component (BEC) and local community representative
- Appoint members who reflect diverse interests within the community
- Provide RAB with draft and final documents and plans, and status reports

Document Separator

C. Rello

**OUTLINE OF REMARKS
BY CHAIRMAN JIM COURTER
TO THE 1993 BASH CLOSURE
CLEANUP CONTRACTING CONFERENCE**

December 8, 1993
Hyatt Regency Crystal City Hotel

DEFENSE WEEK'S BASE CLOSURE CLEANUP CONTRACTING CONFERENCE
"BASE CLOSURE - ANOTHER SIDE OF CLEANUP AND REUSE"

THE BASE CLOSURE AND REALIGNMENT COMMISSION CHARTER INCLUDES THE
INDEPENDENT ANALYSIS OF DOD BASE CLOSURE RECOMMENDATIONS AND
SUBSEQUENT RECOMMENDATION TO THE PRESIDENT

- COMMISSION APPOINTED BY PRESIDENT WITH ADVICE AND CONSENT OF THE CONGRESS
- COMMISSION DOES NOT SET POLICY NOR GOVERN REUSE OPTIONS
- SERVICES KEY ON DOD CLEANUP/CLOSURE RULES AND DIRECT CLOSURE/ CLEANUP/CARETAKER/LEASES/REUSE ACCORDINGLY
- DOD POLICY INCLUDES CLEANUP AS REQUIRED WHETHER OPEN OR CLOSED
- COMMISSION CLOSURE COST DETERMINATION DOES NOT INCLUDE CLEANUP DUE TO DOD POLICY.
- DOD POSITION IS MILITARY DEPARTMENTS ARE RESPONSIBLE FOR CLEANUP IRRESPECTIVE OF WHETHER THE INSTALLATION IS OPEN OR CLOSED, I.E., SUNK COSTS

Creedon

*Creedon covered
All substones*

*1501
1554
15 Aug
etc*

- COMMISSION RECOMMENDATIONS ARE BASED ON EIGHT SELECTION CRITERIA AND THE DEFENSE FORCE STRUCTURE.

- MILITARY VALUE CRITERIA (1 - 4)

- 1) CURRENT AND FUTURE MISSION REQUIREMENTS AND THE IMPACT OF OPERATIONAL READINESS OF THE DEPARTMENT OF DEFENSE TOTAL FORCE
- 2) THE AVAILABILITY AND CONDITION OF LAND, FACILITIES AND ASSOCIATED AIRSPACE AT BOTH THE EXISTING AND POTENTIAL RECEIVING LOCATIONS
- 3) THE ABILITY TO ACCOMMODATE CONTINGENCY, MOBILIZATION AND FUTURE TOTAL FORCE REQUIREMENTS AT BOTH THE EXISTING AND POTENTIAL RECEIVING LOCATIONS
- 4) THE COST AND MANPOWER IMPLICATIONS

- RETURN ON INVESTMENT CRITERIA

- 5) THE EXTENT AND TIMING OF POTENTIAL COSTS AND SAVINGS, INCLUDING THE NUMBER OF YEARS, BEGINNING WITH THE DATE OF COMPLETION OF CLOSURE OR REALIGNMENT, FOR THE SAVINGS TO EXCEED THE COST

•• IMPACT CRITERIA (6 - 8)

- 6) THE ECONOMIC IMPACT ON LOCAL COMMUNITIES
- 7) THE ABILITY OF BOTH THE EXISTING AND POTENTIAL RECEIVING COMMUNITIES' INFRASTRUCTURES TO SUPPORT FORCES, MISSIONS AND PERSONNEL
- 8) THE ENVIRONMENTAL IMPACT

•• AS STATED, DOES NOT KEY OR DEPEND ON ENVIRONMENTAL CLEANUP CONSIDERATIONS

•• MORE ATTUNED TO DAY TO DAY ENVIRONMENTAL COMPLIANCE ISSUES AS RELATED TO THE ASSESSMENT OF EXISTING CONDITIONS FOR DECISION MAKING, EG. AIR/ WATER QUALITY AND CULTURAL/BIOLOGICAL CONDITIONS

- "EIGHTH CRITERIA" GENERALLY CONSIDERS CLEANUP STATUS AS A FACTOR (AF CRITERIA SAYS CLEAN = KEEP, BUT ONLY AS ONE SUBELEMENT OF A "SECONDARY" CRITERIA)

- FT MONROE ISSUE DREW MUCH ATTENTION DURING 1993 CLOSURE PROCEEDINGS
 - LARGE AMOUNT OF UNEXPLODED ORDNANCE THROUGHOUT INSTALLATION
 - ORDNANCE NOT CONSIDERED AS HAZARD TO PUBLIC HEALTH OR SAFETY AS LONG AS DOD OPERATED
 - IF FT MONROE CEASES TO BE USED AS MILITARY INSTALLATION, IT REVERTS TO COMMONWEALTH OF VIRGINIA THUS REQUIRING CLEANUP
 - ARMY CLAIMED FUNDING OF ANY CLEANUP WHILE IN OPERATION WOULD NOT BE COMPETITIVE FOR LIMITED RESOURCES
 - IS INSTALLATION TOO "DIRTY" TO CLOSE? CREATES OVERALL DILEMMA

- COMMISSION VERY INTERESTED IN INDEMNIFICATION CONCERNS AND IN ENCOURAGING RELEASE OF UNCONTAMINATED LAND PARCELS

- MADE AWARE OF INDEMNIFICATION/CLEANUP ISSUE REGARDING PEASE AFB, NH LEASE - APPARANTLY SINCE RESOLVED *of at least 1 day*
But Covered by Melinda Kinsse yesterday

- NOT OUR CHARTER BUT CONSTANT DISCUSSION ITEM BROUGHT UP BY COMMUNITY GROUPS

Great Lessons Learned

[Handwritten mark]

- BOTTOM LINE IS COMMISSION VERY INTERESTED IN REUSE OPTIONS AND SUCCESSES BUT IS NOT IN DRIVER'S SEAT
 - • ENVIRONMENTAL CLEANUP REQUIREMENTS IMPACT ON REUSE
- REUSE CONSIDERATION SHOULD BEGIN AS EARLY AS BASE IS IDENTIFIED AS POTENTIAL CLOSURE CANDIDATE
- COMMUNITY IS ALREADY AN INTEGRAL PLAYER IN BASE CLEANUP REQUIREMENT/STATUS THROUGH REGULATORY AGENCY REVIEW CYCLES
- DOD SHOULD BE WELL ON ITS WAY IN MOST CASES IN IDENTIFYING SCOPE OF THE CLEANUP PROBLEM, IF NOT ALREADY REVIEWING METHODOLOGY, LEVEL OF CLEANUP AND PERFORMING ACTUAL CLEANUP
- SOME COMMUNITIES, STATE, ETC. HAVE DIFFICULTY AGREEING ON REUSE PLANS
 - • MYRTLE BEACH AFB, SC - DISPUTE REGARDING BUILDING A 2ND RUNWAY - BETWEEN CITY (NO) AND COUNTY (YES)
 - • LOWRY AFB, CO - DISPUTE BETWEEN DENVER AND AURORA
- FROM WHAT WE UNDERSTAND, AND FROM WHAT YOU MIGHT HAVE DISCUSSED, VERY LITTLE BASE CLOSURE DIRECTED REAL ESTATE HAS ACTUALLY FORMALLY TRADED HANDS WITH THE EXCEPTION OF SEVERAL SMALL ARMY HOUSING AREAS AND NUMEROUS AIR FORCE EXECUTED LEASES WITH COMMUNITIES (PEASE AFB, NH AND CHANUTE AFB, IL)

- THE RECENT PRESIDENTIAL FIVE-POINT POLICY SHOULD EASE INDEMNIFICATION CONCERNS AND ENCOURAGE MORE CLEAN PARCELS TO BE RELEASED FOR LEASE OR RESALE/REUSE

- GOAL IS TO SPEED UP ECONOMIC RECOVERY

- POLICY DEMANDS SHARP DEPARTURE FROM BUSINESS AS USUAL

- DOD IMPLEMENTATION ESTABLISHES A BRAC CLEANUP TEAM (BCT) FOR EACH CLOSURE BASE - BCT HAS DOD, STATE AND EPA REP

- Community involvement

- FIVE-POINT PLAN SUMMARY

- PROPERTY DISPOSAL ACTIONS TO BE JOB-CENTERED, I.E., PUT LOCAL ECONOMIC DEVELOPMENT FIRST

- FAST-TRACK ENVIRONMENTAL CLEANUP

- ASSIGNMENT OF TRANSITION COORDINATORS FOR EACH BASE AS SINGLE POINT OF CONTACT

- EASY ACCESS TO TRANSITION AND DEVELOPMENT HELP

- LARGER ECONOMIC DEVELOPMENT PLANNING GRANTS

*Mentioned
Numerous
Times*

- STATE DETERMINATION VARIES AS TO LEVEL OF CLEANUP AND RELATIONSHIP TO REUSE PLANS - HOW CLEAN IS CLEAN?

- WE UNDERSTAND DOD, EPA AND STATES HAVE PARTICIPATED IN CONFERENCES TO DISCUSS JOINT PLANNING EFFORTS WITH A GOAL TO ESTABLISH CLEANUP LEVELS ON THE BASIS OF EXISTING AND REASONABLY EXPECTED FUTURE USE OF PROPERTY
 - DOD POLICY ENCOURAGES CONTINUOUS PUBLIC PARTICIPATION AND INVOLVEMENT IN DECISIONS

 - I AM SURE YOU HAVE DISCUSSED THE DOD IMPLEMENTING POLICY ON THE FIVE- POINT PLAN AT LENGTH THIS WEEK

 - EFFORT SHOULD BRING SMOOTHER, QUICKER TRANSFERS

- EXTENSIVE CLEANUP, "HARD BALL", CONCERNS FOR HIGHLY CONTAMINATED PARCELS COULD RESULT IN FENCE AND RETAIN DECISIONS (I.E., TOO EXPENSIVE TO CLEAN UP, THUS SECURE AND RETAIN UNDER ENVIRONMENTAL REQUIRED STATUS) THUS PRECLUDING MAXIMUM POSSIBLE REUSE

Handwritten note:
Mentioned also by
Kassner as an issue of concern

A out of ~ 115 Major Bases

• TWENTY-FIVE BASES ON CLOSURE LIST FROM THE THREE CLOSURE ROUNDS ARE ON NATIONAL PRIORITY LIST (NPL)

Mentioned by V&E

•• 11 AIR FORCE BASES ON NPL (4 OF THE 9 OPERATIONALLY CLOSED TO DATE ARE NPL)

•• 8 ARMY BASES ON NPL

•• 6 NAVY BASES ON NPL

• COMPATIBLE REUSE COULD SUPPORT LONG TERM LEASES OR SALE WITH DOD FOLLOW-UP PUMP/TREAT/IN-PLACE CLEANUP

• CONSIDER FACT THAT IF IT WAS CLEAN ENOUGH FOR DOD USE IT SHOULD SUPPORT COMPATIBLE REUSE WITHIN REGULATORY LIMITS

•• FT. MONROE IS A POSSIBLE EXCEPTION

• BOTTOM LINE IS DOD HAS THE RESPONSIBILITY TO CLEAN UP TO THE LEVEL AGREED BY REGULATORY AGENCIES. CONSULTATION OF COMMUNITY AND REUSE INDUSTRY COULD BE A KEY TO QUICK ECONOMIC RECOVERY

DOD POLICY ENCOURAGES GETTING PROPERTY INTO USERS HANDS QUICKLY

- **AS STATED NOT A DIRECT COMMISSION ISSUE BUT CERTAINLY OF INTEREST IN OUR DISCUSSIONS WITH COMMUNITIES**

- **QUICK SUMMARY OF POLICY AS WE UNDERSTAND IT**

- **FAST TRACK CLEANUP AT CLOSING INSTALLATIONS**

- **FINAL ENVIRONMENTAL IMPACT STATEMENT TO BE COMPLETED WITHIN 12 MONTHS FROM DATE COMMUNITY SUBMITS FINAL REUSE PLAN**

- **SINGLE NEPA ANALYSIS TO SUPPORT BOTH DISPOSAL AND REUSE OF INSTALLATION**

- **COMMUNITY REUSE PLAN WILL BE BASIS OF PROPOSED ACTIONS AND ALTERNATIVES**

- **A REVISED "MODEL" LEASE WILL BE ENACTED TO INCLUDE CLEAR DELINEATION OF ENVIRONMENTAL CONDITIONS AND RESPONSIBILITIES.**

- **DIRECTED RAPID SCREENING PROCESS FOR REAL PROPERTY DISPOSAL**

- **MCKINNEY ACT (HOMELESS) APPLIES - RECENT LEGISLATION DOES EXPEDITE REVIEW PROCESS**

•• MORE DOD POLICY

••• CLOSE BASES "RIGHT"

•••• EARLY INTERACTION WITH COMMUNITY

•••• ACCELERATE DRAW-DOWN WHERE MISSION ALLOWS

•••• TAKE CARE OF DOD PEOPLE IMPACTED

••• WITH LIMITED MISSION AND SAFETY EXCEPTIONS DO NOT
REMOVE PERSONAL PROPERTY FROM BASES TO DETRIMENT
OF COMMUNITY

UNDER PL 101-510, PROVISIONS OF NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 DO NOT APPLY TO THE ACTUAL DECISION CLOSURE PROCESS AS RELATED TO

- THE NEED FOR CLOSING RECOMMENDED INSTALLATIONS
- THE NEED FOR TRANSFERRING FUNCTIONS TO ANY INSTALLATION SELECTED AS RECEIVING INSTALLATION
- MILITARY INSTALLATION SELECTED AS ALTERNATIVES BY THE COMMISSION TO THOSE RECOMMENDED BY THE SECRETARY OF DEFENSE
- PROVISIONS OF NEPA DO APPLY DURING THE PROCESS OF PROPERTY DISPOSAL AND DURING THE PROCESS OF RELOCATING FUNCTIONS FROM THE INSTALLATIONS BEING REALIGNED OR CLOSED TO THE RECEIVING INSTALLATION AFTER THE RECEIVING INSTALLATIONS HAVE BEEN SELECTED BUT BEFORE THE FUNCTIONS ARE RELOCATED

*Madelyn Creedon
Cover*

PRIVATE SECTOR ISSUES RELATED TO REDEVELOPMENT

- COMMUNITY APPOINTED SPOKESPERSON FOR POST CLOSURE DEVELOPMENT IS KEY
 - SPOKESPERSON MUST BE AWARE OF CLEANUP STATUS AND FORECAST
 - SPOKESPERSON CAN WORK WITH POTENTIAL DEVELOPERS OR TRANSITION CONSULTANTS AND REGULATORY AGENCIES TO MAXIMIZE DEVELOPMENT POTENTIAL
- PRIVATE SECTOR DEVELOPER OR INDUSTRY TO WORK WITH DOD TRANSITION CONTACT AND SERVICE CARETAKER TO ASSESS CLEANUP REQUIREMENTS, PARCELING AND INDEMNIFICATION CONCERNS.
- PRESIDENT'S FIVE-POINT PROGRAM WILL ACCELERATE THIS EFFORT
- DOD POLICY FOCUSES NATIONAL ATTENTION ON ACCELERATING CLEANUP AND TRANSFER OF PROPERTY AT CLOSING BASES
- DOD POLICY ALSO FOCUSING ON BRINGING ALL BASES TO FULL FEDERAL, STATE LOCAL COMPLIANCE WITH ENVIRONMENTAL REGULATIONS
 - THIS FOCUS WILL INSURE "CLEAN" DAY TO DAY OPERATIONAL STATUS, THUS FACILITATING TRANSITION OF CLOSED FACILITIES TO LIKE INDUSTRIES

- FROM COMMISSION PERSPECTIVE, OPENNESS AND ENVIRONMENTAL COMPLIANCE WILL ASSIST PRIVATE SECTOR IN DEVELOPMENT DECISIONS

- OTHER THOUGHTS ON TRANSITION DURING THE DOWN-SIZING
 - COMMUNITIES WILL AND SHOULD CONTINUE TO SUPPORT RETENTION OF THEIR INSTALLATIONS, KEYING ON MILITARY VALUE

 - COMMUNITIES NEED TO PARALLEL THIS EFFORT WITH A CONCENTRATED PERSPECTIVE ON HOW TO ACHIEVE NOT ONLY ECONOMIC RECOVERY BUT ECONOMIC ENHANCEMENT SHOULD CLOSURE BE THREATENED OR ENACTED

 - DEFENSE DEPARTMENT AND DEPARTMENT OF COMMERCE SHOULD RELATE AND DISTRIBUTE CONTINUING EXAMPLES OF RECOVERY AFTER CLOSURE

- DOD AND DEFENSE INDUSTRIES MUST COORDINATE NOW AS TO BEST MIX OF PUBLIC AND PRIVATE INDUSTRIAL EFFORTS TO INSURE MISSION ACCOMPLISHMENT WHILE REDUCING INFRASTRUCTURE AND MAINTAINING A PRIVATE INDUSTRY DEFENSE BASELINE.

- OBVIOUSLY THIS EFFORT SHOULD KEY ON THE DEFENSE DEPOT WORKLOAD - BUT, CAN REACH INTO OTHER AREAS SUCH AS TECHNICAL TRAINING, EDUCATION, AND ENVIRONMENTAL MANAGEMENT

- INDUSTRY TENDS TO CLAIM DOD PAROCHIALISM IN THIS REGARD

- DOD CONCERNS VARY WITH SOURCE

- THE BEST MIX AND HOW TO ACHIEVE IT MUST BE A TOP GOAL

BOTTOM LINE - THE BASE CLOSURE AND INTERRELATED ENVIRONMENTAL CLEANUP EFFORT SPURS BOTH INITIAL PANIC AND POTENTIAL OPPORTUNITIES DUE TO THE ECONOMIC AND ENVIRONMENTAL CHALLENGES RESULTING FROM MAJOR CLOSURES AND REALIGNMENTS

- **DOD MAINTAINS FULL RESPONSIBILITY FOR CLEANUP**
- **CAN BE A VERY MOMENTOUS EFFORT IF SUCCESS RATHER THAN EXTENDED LITIGATION IS THE GOAL OF ALL PARTIES**
- **CONSIDER THAT DOD OPERATION OF THESE FACILITIES IS AND HAS BEEN SOUND AND THE ACTUAL CLEANUP EFFORT HAS BEEN OPEN AND IN MANY CASES IN THE NATIONAL FOREFRONT**
- **FROM COMMISSION'S PERSPECTIVE DOD IS TACKLING THE CLEANUP OF CLOSURE FACILITIES WITH FORWARD-LEANING PERSPECTIVE**
- **FULL RANGE OF PARCELLING, LEASING AND COOPERATIVE AGREEMENTS SHOULD BE INVESTIGATED BY ALL PARTIES**
- **ALL PARTIES SHOULD TRY TO ACHIEVE BEST LEVEL PLAYING FIELD WHILE NOT COMPROMISING PUBLIC HEALTH OR SAFETY**

Document Separator

THIRD CIRILLO DRAFT (4 NOV)

SECOND ANNUAL ENVIRONMENTAL REGULATION INSTITUTE

DRAFT OUTLINE FOR MR. MATT BEHRMANN

"BASE CLOSURE CLEANUP AND REUSE"

I. THE BASE CLOSURE AND REALIGNMENT COMMISSION CHARTER INCLUDES THE INDEPENDENT ANALYSIS OF DOD BASE CLOSURE RECOMMENDATIONS AND SUBSEQUENT RECOMMENDATION TO THE PRESIDENT

- COMMISSION DOES NOT SET POLICY NOR GOVERN REUSE OPTIONS
- SERVICES KEY ON DOD CLEANUP/CLOSURE RULES AND DIRECT CLOSURE/CLEANUP/CARETAKER/LEASES/REUSE ACCORDINGLY
- DOD POLICY INCLUDES CLEANUP AS REQUIRED WHETHER OPEN OR CLOSED
- COMMISSION CLOSURE COST DETERMINATION DOES NOT INCLUDE CLEANUP DUE TO ABOVE POLICY. THIS IS BECAUSE DOD POSITION IS DOD IS RESPONSIBLE FOR CLEANUP IRRESPECTIVE OF WHETHER THE INSTALLATION IS OPEN OR CLOSED, IE. SUNK COSTS
- COMMISSION RECOMMENDATIONS ARE BASED ON EIGHT SELECTION CRITERIA AND THE DEFENSE FORCE STRUCTURE. THE EIGHT CRITERIA ARE:
 - MILITARY VALUE CRITERIA
 - 1) CURRENT AND FUTURE MISSION REQUIREMENTS AND THE IMPACT OF OPERATIONAL READINESS OF THE DEPARTMENT OF

DEFENSE TOTAL FORCE

2) THE AVAILABILITY AND CONDITION OF LAND, FACILITIES AND ASSOCIATED AIRSPACE AT BOTH THE EXISTING AND POTENTIAL RECEIVING LOCATIONS

3) THE ABILITY TO ACCOMMODATE CONTINGENCY, MOBILIZATION AND FUTURE TOTAL FORCE REQUIREMENTS AT BOTH THE EXISTING AND POTENTIAL RECEIVING LOCATIONS

4) THE COST AND MANPOWER IMPLICATIONS

• RETURN ON INVESTMENT CRITERIA

5) THE EXTENT AND TIMING OF POTENTIAL COSTS AND SAVINGS, INCLUDING THE NUMBER OF YEARS, BEGINNING WITH THE DATE OF COMPLETION OF CLOSURE OR REALIGNMENT, FOR THE SAVINGS TO EXCEED THE COST

• IMPACT CRITERIA

6) THE ECONOMIC IMPACT ON LOCAL COMMUNITIES

7) THE ABILITY OF BOTH THE EXISTING AND POTENTIAL RECEIVING COMMUNITIES' INFRASTRUCTURES TO SUPPORT FORCES, MISSIONS AND PERSONNEL

8) THE ENVIRONMENTAL IMPACT

• "EIGHTH CRITERIA" GENERALLY CONSIDERS CLEANUP STATUS AS A FACTOR (AF CRITERIA SAYS CLEAN = KEEP, BUT ONLY ONE SUBELEMENT OF SECONDARY CRITERIA)

• FT MONROE ISSUE DREW MUCH ATTENTION DURING 93 CLOSURE PROCEEDINGS

• LARGE AMOUNT OF UNEXPLODED ORDNANCE THROUGHOUT INSTALLATION

• ORDNANCE NOT CONSIDERED AS HAZARD TO PUBLIC HEALTH OR SAFETY AS LONG AS DOD OPERATED

• IF FT MONROE CEASES TO BE USED AS MILITARY INSTALLATION, IT REVERTS TO COMMONWEALTH OF VIRGINIA THUS REQUIRING CLEANUP

• ARMY CLAIMED FUNDING OF ANY CLEANUP WHILE IN OPERATION WOULD NOT BE COMPETITIVE FOR LIMITED RESOURCES

• IS INSTALLATION TOO "DIRTY" TO CLOSE. CREATES OVERALL DILEMMA

• COMMISSION HAS BEEN ACTIVE IN REVIEWING INDEMNIFICATION CONCERNS AND IN ENCOURAGING RELEASE OF UNCONTAMINATED LAND PARCELS

• NOT OUR CHARTER BUT CONSTANT DISCUSSION ITEM BROUGHT UP BY COMMUNITY GROUPS

• BOTTOM LINE IS COMMISSION VERY INTERESTED IN REUSE OPTIONS BUT IS NOT IN DRIVERS SEAT

II. REUSE OF LAND/FACILITIES REQUIRING ENVIRONMENTAL RESTORATION

• REUSE CONSIDERATION SHOULD BEGIN AS EARLY AS BASE IS IDENTIFIED AS POTENTIAL CLOSURE CANDIDATE

• COMMUNITY SHOULD ALREADY BE AN INTEGRAL PLAYER IN CLEANUP STATUS AND TECHNOLOGY THROUGH TECH WORKING GROUPS AND REGULATORY AGENCY REVIEW CYCLES

- HISTORICALLY, COMMUNITIES, STATE, ETC. HAVE DIFFICULTY AGREEING ON REUSE PLANS
- DOD SHOULD BE WELL ON ITS WAY IN MOST CASES IN IDENTIFYING SCOPE OF THE PROBLEM, IF NOT ALREADY REVIEWING METHODOLOGY, LEVEL OF CLEANUP AND ACTUAL REMEDIATION.
- VERY LITTLE REAL ESTATE HAS ACTUALLY TRADED HANDS FORMALLY
 - SEVERAL SMALL ARMY HOUSING AREAS ARE THE EXCEPTION
 - AIR FORCE AS NUMEROUS LEASES SUCH AS AT PEASE AFB, NH AND CHANUTE AFB, IL
- RECENT PRESIDENTIAL FIVE-POINT POLICY SHOULD EASE INDEMNIFICATION CONCERNS AND ENCOURAGE MORE CLEAN PARCELS TO BE RELEASED FOR LEASE OR RESALE/REUSE
 - GOAL IS TO SPEED UP ECONOMIC RECOVERY
 - IMPLEMENTATION DIRECTED BY USD(ACQUISITION)
 - POLICY DEMANDS SHARP DEPARTURE FROM BUSINESS AS USUAL
 - DOD IMPLEMENTATION ESTABLISHES A BRAC CLEANUP TEAM (BCT) FOR EACH CLOSURE BASE - BCT HAS DOD, STATE AND EPA REP
- FIVE-POINT PLAN SUMMARY
 - PROPERTY DISPOSAL ACTIONS TO BE JOB-CENTERED, I.E., PUT LOCAL ECONOMIC DEVELOPMENT FIRST
 - FAST-TRACK ENVIRONMENTAL CLEANUP
 - ASSIGNMENT OF TRANSITION COORDINATORS FOR EACH BASE AS SINGLE POINT OF CONTACT

- EASY ACCESS TO TRANSITION AND DEVELOPMENT HELP
- LARGER ECONOMIC DEVELOPMENT PLANNING GRANTS
- STATE DETERMINATION VARIES AS TO LEVEL OF CLEANUP AND RELATIONSHIP TO REUSE PLANS - HOW CLEAN IS CLEAN?

- DOD, EPA AND STATES HAVE PARTICIPATED IN CONFERENCES TO DISCUSS JOINT PLANNING EFFORTS

- GOAL IS TO ESTABLISH CLEANUP LEVELS ON THE BASIS OF EXISTING AND REASONABLY EXPECTED FUTURE USE OF PROPERTY

- THE DOD BCT REP WILL WORK THE RECORD OF DECISION FOR CERCLA CLEANUP ACTION

- THE DOD BCT REP WILL WORK THE CERTIFICATION FOR UNCONTAMINATED PARCELS

- DOD POLICY DIRECTS CONTINUOUS PUBLIC PARTICIPATION AND INVOLVEMENT IN DECISIONS

- EFFORT WILL BRING SMOOTHER, QUICKER TRANSFERS

- AN AIR FORCE CONSULTANT IS EXAMINING HOW FUTURE LAND USE CONSIDERATIONS CAN BE INTEGRATED INTO CLEANUP DECISIONS

- DOD WORKING WITH EPA AND CALIFORNIA TO DEVELOP PROCEDURES TO TRANSFER UNCONTAMINATED PARCELS OF A CLOSED INSTALLATION

- RESULT IS PROCEDURE WHERE DOD WILL PREPARE A "FINDING OF SUITABILITY TO TRANSFER" (FOST)

- DOD AND STATE TO HAVE CONCURRENCE IN FOST

- CLEANUP OF HIGHLY CONTAMINATED PARCELS COULD RESULT IN PUMP AND FENCE TECHNOLOGY (IE. TOO EXPENSIVE TO CLEAN UP THUS RETAIN UNDER ENVIRONMENTAL REQUIRED STATUS) THUS PRECLUDING REUSE

- TWENTY-FIVE BASES ON CLOSURE LIST FROM THE THREE CLOSURE ROUNDS ARE ON NATIONAL PRIORITY LIST (NPL)

- OFFICE OF ECONOMIC ADJUSTMENT OFFICE (OEA) OF DOD TRACKS 64 MAJOR BASES WITH INTENDED COMMUNITY REUSE

- 11 BASES ON NPL (4 OF THE 9 OPERATIONALLY CLOSED TO DATE ARE NPL)

- 8 ARMY BASES ON NPL

- 6 NAVY BASES ON NPL

- COMPATIBLE REUSE COULD SUPPORT LONG TERM LEASES OR SALE WITH DOD FOLLOW-UP PUMP/TREAT/IN-PLACE CLEANUP

- CONSIDER FACT THAT IF IT WAS CLEAN ENOUGH FOR DOD USE IT SHOULD SUPPORT COMPATIBLE REUSE WITHIN REGULATORY LIMITS

- FT. MONROE POSSIBLE EXCEPTION???

- BOTTOM LINE IS DOD HAS THE RESPONSIBILITY TO CLEAN UP TO THE LEVEL AGREED BY REGULATORY AGENCIES. CONSULTATION OF COMMUNITY AND REUSE INDUSTRY COULD BE A KEY TO QUICK ECONOMIC RECOVERY

III. DOD'S POLICIES FOR GETTING PROPERTY INTO USERS HANDS AS QUICKLY AS POSSIBLE

- AS STATED NOT A COMMISSION ISSUE

- ROUGH OUTLINE OF DOD POLICY AS FOLLOWS...

- UNDER PL 101-510, PROVISIONS OF NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 DO NOT APPLY TO THE ACTUAL DECISION CLOSURE PROCESS AS RELATED TO

- THE NEED FOR CLOSING RECOMMENDED INSTALLATIONS
- THE NEED FOR TRANSFERRING FUNCTIONS TO ANY INSTALLATION SELECTED AS RECEIVING INSTALLATION
- MILITARY INSTALLATION SELECTED AS ALTERNATIVES BY THE COMMISSION TO THOSE RECOMMENDED BY THE SECRETARY OF DEFENSE

- PROVISIONS OF NEPA DO APPLY DURING THE PROCESS OF PROPERTY DISPOSAL AND DURING THE PROCESS OF RELOCATING FUNCTIONS FROM THE INSTALLATIONS BEING REALIGNED OR CLOSED TO THE RECEIVING INSTALLATION AFTER THE RECEIVING INSTALLATIONS HAVE BEEN SELECTED BUT BEFORE THE FUNCTIONS ARE RELOCATED

- DUSD (ACQUISITION) HAS ISSUED SEVERAL POLICY STATEMENTS REGARDING THE CLEANUP AND PROPERTY DISPOSAL PROCESS AS A RESULT OF THE ADMINISTRATION'S FIVE-POINT PLAN

- FAST TRACK CLEANUP AT CLOSING INSTALLATIONS
 - FINAL ENVIRONMENTAL IMPACT STATEMENT OR OTHER ANALYSIS UNDER NEPA TO BE COMPLETED WITHIN 12 MONTHS FROM DATE COMMUNITY SUBMITS FINAL REUSE PLAN

- SINGLE NEPA ANALYSIS TO SUPPORT BOTH DISPOSAL AND REUSE OF INSTALLATION
 - COMMUNITY REUSE PLAN WILL BE BASIS OF PROPOSED ACTIONS AND ALTERNATIVES
 - DEVELOP DOD-WIDE PROCESS TO DETERMINE AND DOCUMENT THE ENVIRONMENTAL SUITABILITY OF PARCELS FOR DISPOSAL
 - REQUIREMENT FOR ASSESSMENT, DETERMINATION AND DOCUMENTATION OF PROPERTIES SUITABLE FOR OUTLEASE
 - MODEL LEASE WILL BE ENACTED TO INCLUDE CLEAR DELINEATION OF ENVIRONMENTAL CONDITIONS AND RESPONSIBILITIES. DOD RETAINS RIGHT TO PURSUE CLEANUP RESPONSIBILITIES IF REQUIREMENT ARISES.
- DIRECTED RAPID SCREENING PROCESS FOR REAL PROPERTY DISPOSAL
 - INTERNAL DOD AND FEDERAL AGENCY SCREENING WITHIN SIX MONTHS FROM CONGRESSIONAL "ENACTMENT" OF 93 ROUND
 - RAPID NOTIFICATION OF COMMUNITY AFTER SCREENING TO INFORM OF RESULTING REQUESTS
 - MCKINNEY ACT (HOMELESS) APPLIES
- CLOSE BASES "RIGHT"
 - EARLY INTERACTION WITH COMMUNITY
 - ACCELERATE DRAW-DOWN WHERE MISSION ALLOWS
 - TAKE CARE OF DOD PEOPLE IMPACTED

- DO NOT REMOVE PERSONAL PROPERTY FROM BASES TO DETRIMENT OF COMMUNITY, EXCEPT;

- CLASSIFIED, SENSITIVE, BIOLOGICAL, ETC.
- EQUIPMENT REQUIRED TO MEET VALID READINESS REQUIREMENTS
- OTHER DANGEROUS, MISSION-UNIQUE ITEMS

IV. PRIVATE SECTOR

- (OBJECTIVE STATEMENT "WHAT THE PRIVATE SECTOR WANTS TO KNOW ABOUT DIRTY LAND ON CLOSING BASES" DIFFICULT TO ASSESS)

- COMMUNITY APPOINTED SPOKESPERSON FOR POST CLOSURE DEVELOPMENT IS KEY

- SPOKESPERSON MUST BE AWARE OF CLEANUP STATUS AND FORECAST

- SPOKESPERSON CAN WORK WITH POTENTIAL DEVELOPERS OR TRANSITION CONSULTANTS AND REGULATORY AGENCIES TO MAXIMIZE DEVELOPMENT POTENTIAL

- PRIVATE SECTOR DEVELOPER OR INDUSTRY TO WORK WITH DOD TRANSITION CONTACT AND SERVICE CARETAKER TO ASSESS CLEANUP REQUIREMENTS, PARCELING AND INDEMNIFICATION CONCERNS.

- PRESIDENTS FIVE-POINT PROGRAM WILL ACCELERATE THIS EFFORT

- DOD POLICY LEANS TOWARD FOCUSING NATIONAL ATTENTION ON ACCELERATING CLEANUP AND TRANSFER OF PROPERTY AT CLOSING BASES

DOD POLICY ALSO FOCUSING ON BRINGING ALL BASES TO FULL FEDERAL, STATE LOCAL COMPLIANCE WITH ENVIRONMENTAL REGULATIONS

- THIS FOCUS WILL INSURE "CLEAN" DAY TO DAY OPERATIONAL STATUS THUS FACILITATING TRANSITION OF CLOSED FACILITIES TO LIKE INDUSTRIES

- FROM COMMISSION PERSPECTIVE, OPENNESS AND ENVIRONMENTAL COMPLIANCE WILL ASSIST PRIVATE SECTOR IN DEVELOPMENT DECISIONS

V. HOW COMMUNITIES AND INDUSTRY CAN BEST BE PREPARED FOR THE DEFENSE BUILD-DOWN

- COMMISSION HAS SEEN THIS FROM ALL ANGLES BOTH DURING AND BETWEEN CLOSURE ROUNDS

- COMMUNITIES WILL AND SHOULD CONTINUE TO SUPPORT RETENTION OF THEIR INSTALLATIONS KEYING ON MILITARY VALUE

- COMMUNITIES NEED TO PARALLEL THIS EFFORT WITH A CONCENTRATED PERSPECTIVE ON HOW TO ACHIEVE NOT ONLY ECONOMIC

RECOVERY BUT ECONOMIC ENHANCEMENT SHOULD CLOSURE BE THREATENED
OR ENACTED

- DEFENSE DEPARTMENT AND DEPARTMENT OF COMMERCE SHOULD RELATE AND DISTRIBUTE CONTINUING EXAMPLES OF RECOVERY AFTER CLOSURE
- COMMUNITIES MUST RESEARCH AND FOLLOW-UP ON THESE EXAMPLES
- DOD AND DEFENSE INDUSTRIES MUST COORDINATE NOW AS TO BEST MIX OF PUBLIC AND PRIVATE INDUSTRIAL EFFORTS TO INSURE MISSION ACCOMPLISHMENT WHILE REDUCING INFRASTRUCTURE AND MAINTAINING A PRIVATE INDUSTRY DEFENSE BASELINE.
- OBVIOUSLY THIS EFFORT SHOULD KEY ON THE DEFENSE DEPOT WORKLOAD - BUT, CAN REACH INTO OTHER AREAS SUCH AS TECHNICAL TRAINING, EDUCATION, AND ENVIRONMENTAL MANAGEMENT
- INDUSTRY TENDS TO CLAIM DOD PAROCHIALISM IN THIS REGARD
- DOD CONCERNS VARY WITH SOURCE
- BOTH ENDS ARE NOT MUTUALLY EXCLUSIVE

VI. BOTTOM LINE - THE BASE CLOSURE EFFORT SPURS BOTH PANIC AND OPPORTUNITIES DUE TO THE ECONOMIC AND ENVIRONMENTAL CHALLENGES RESULTING FROM MAJOR CLOSURES AND REALIGNMENTS

- DOD MAINTAINS FULL RESPONSIBILITY FOR CLEANUP REGARDLESS OF OPERATIONAL STATUS

• DOD, COMMUNITY, REGULATORY AND INDUSTRY REPRESENTATIVES CAN MAKE THIS A VERY MOMENTOUS EFFORT IF SUCCESS RATHER THAN EXTENDED LITIGATION IS THE GOAL

• ONE CAN TAKE THE APPROACH THAT ONLY PRISTINE REAL ESTATE CAN TRANSFER

• CONSIDER THAT DOD OPERATION OF THESE FACILITIES IS AND HAS BEEN SOUND AND THE ACTUAL CLEANUP EFFORT HAS BEEN OPEN AND IN MANY CASES IN THE NATIONAL FOREFRONT

• REVIEW EXAMPLES OF BASES WHERE THE COMMUNITY HAS BEEN DISPARAGING IN DEALING WITH BASE CLEANUP ACTIVITIES WHEN THE BASES WERE IN FACT OUT IN FRONT OF MANY, IF NOT MOST, SIMILAR COMMUNITY OR STATE OPERATIONS

• SOME OF THE ABOVE EXAMPLES HAVE ACTUALLY THREATENED THE DESIRABILITY OF BASE RETENTION. IN SOME CASES, RESULTING SPINOFFS OF AGGRESSIVE CLAMPING DOWN COULD UNNECESSARILY IMPACT COMMUNITY DEVELOPMENT

• FROM COMMISSION'S PERSPECTIVE DOD IS TACKLING THE CLEANUP OF CLOSURE FACILITIES WITH FORWARD-LEANING PERSPECTIVE

• FULL RANGE OF PARCELLING, LEASING AND COOPERATIVE AGREEMENTS SHOULD BE INVESTIGATED BY ALL PARTIES

- ALL PARTIES SHOULD TRY TO ACHIEVE BEST LEVEL PLAYING FIELD WHILE NOT COMPROMISING PUBLIC HEALTH OR SAFETY

Document Separator

DEFENSE WEEK

627 National Press Building
Washington, D.C. 20045
(202) 638-7430 (FAX) 662-9744

October 20, 1993

The Honorable James Courter
Chairman, Base Closure and Realignment Commission
1700 North Moore St., Suite 1425
Arlington, VA 22209

Dear Congressman Courter:

I am writing to confirm your engagement at our Dec. 7-8, 1993 **Base Closure Cleanup Contracting** conference. I enclose two conference brochures and a detailed agenda that includes all precise times.

Please note that the conference venue is the Hyatt Regency Crystal City Hotel. **Note as well:** we have you scheduled for presenting the Dec. 8 Luncheon Keynote Address. The luncheon will run from 1:15 to 2:45 pm. Your address will start at approximately 2:00 and allow time for Q&A.

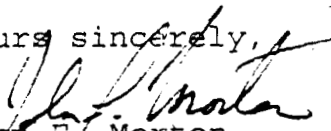
I shall call you in mid-November to go over any points that we may need to discuss. In the meantime, your contact here is Rosemarie Hargett on 202-638-4260 ext. 10.

Please complete the enclosed conference speaker questionnaire and return it to Rosemarie by Nov. 15. It will enable us to handle your special needs. She especially must have in advance a copy of your presentation to include in attendees' conference packets. Also, should you have any suggestions as to people who should receive our conference brochure, please contact us. We can either add them to our mailing list or provide you with additional brochures.

Thanks again for your participation. I hope you agree, we have a wonderful agenda and line-up of presenters. If you want to talk to me personally, please don't hesitate to call on 202-662-8563. I have voice mail.

Looking forward to working with you on the day, I remain,

Yours sincerely,


John F. Morton
Conference Director,
King Communications Group, Inc.

ncls.

Conference Speaker Questionnaire

Dear CONGRESSMAN COURTER

To help us make your participation at our conference as pleasant as possible, we need some information from you. Please take a few minutes and complete this questionnaire and send it back to us. A return envelope is provided for your convenience. Thank you.

1. Would you like us to make your hotel reservations? Yes No
a. If so, please indicate below your preferred arrival and departure dates. We will call you with a confirmation number after the reservation is made.

Arrive: _____ Depart: _____

- b. Would you like us to guarantee a late arrival? Yes No
2. A standing podium with microphone will be provided.
Do you also require: (Circle choices.)
overhead projector, 35 mm slide projector,
lavaliere (clip-on) microphone, other _____

3. On which day(s) will you be our guest for lunch? Dec 7 Dec 8
 Yes Yes

4. Do you anticipate joining us for the reception December 6? Yes No

5. Will you be bringing any ancillary materials (published papers, speeches, brochures, etc.) for the attendees? Yes No

6. Have you sent us your biography for our program? Yes No
(Please enclose, if not.)

7. Our attendees greatly value hand-outs for information and note-taking. Please provide us with a copy of your remarks by November 1. Enclosed
Speech title (or descriptive words): _____

8. Do you have any colleagues that we should notify about your speech? If yes, please enclose their names and addresses. We'll be happy to mail brochures to them. No Enclosed

9. Is there anything else we can help you with?

If you have any questions or concerns, please call Rosemarie Hargett at 202-662-9710.

**PLEASE RETURN THIS FORM BY NOVEMBER 1 FAX: 202-662-9719. Or mail to:
King Communications Group, 627 National Press Bldg., Washington, DC 20045**

AGENDA

TUESDAY, DECEMBER 7, 1993

9:00 am Welcome and Opening Remarks
Llewellyn King, *Publisher, Defense Week and Environment Week*

9:00-9:45 am *Keynote Address*
A Progress Report On The Reconvened Defense Environment Response Task Force
Sherri Wasserman Goodman, *Deputy Under Secretary of Defense (Environmental Security)*

9:45-11:00 am

PANEL: *How The Department Of Defense Is Expediting Base Closure Cleanup.*

♦ Panel Members:

Col. Gary Thomas, *Acting Assistant Deputy Under Secretary of Defense, Environmental Security (Cleanup)*

Terry Yonkers, *Chief of Environmental Programs, Air Force Base Disposal Agency*

Rick Newsome, *Assistant for Environmental Restoration, Office of the Deputy Assistant Secretary of the Army (Environmental Safety and Occupational Health)*

Representative from The Navy - TBD

11:00-11:15 am

Refreshments

11:15-12:00 pm

Base Closure Cleanup Contracting and The EPA
Office of Federal Facilities Enforcement, EPA - TBD

12:00-1:00 pm

CONGRESSIONAL PANEL: *Funding And Standards.*

♦ Panel Moderator:

Dick Wegman, *Partner, Garvey, Schubert and Barer*

♦ Panel Members:

Melinda Kassen, *Counsel, House Armed Services Committee*

Madelyn Creedon, *Counsel, Senate Armed Services Committee*

Dick Frandsen, *Counsel, House Energy and Commerce Committee (invited) -- RCRA and CERCLA As They Apply To Parcelization And Base Closure*

1:15-2:30 pm

Luncheon Keynote
Office of the Deputy Assistant Administrator, Federal Facilities, EPA - TBD

2:30-3:15 pm

Public/Private Sector Partnering Agreements To Accelerate And Improve Quality Of Cleanups.
Frank S. Waller, *President, Hazardous Waste Action Coalition*

3:15-3:30 pm

Refreshments

3:30-5:00 pm

PANEL: *The Local Communities And Cleanup Contracting.*

♦ Panel Moderator:

Keith Cunningham, *Policy Associate, Defense Management Issues, Business Executives for National Security -- Analysis of Issues and Opportunities in the 1993 BRAC list*

♦ Panel Members:

Haron Battle, *Associate Legislative Director, National Association of Counties -- The County View U.S. Conference of Mayors - TBD*

Veronica Ferguson, *Assistant County Administrative Officer, Monterey Co. -- Monterey's Experience*

9:00 am Opening Remarks, John Morton, *Conference Director*

9:00-10:15 am

RISK SHARING PANEL: *What Issues Still Need To Be Resolved?*

- ◆ Panel Moderator:
Carolyn Kiely, *Counsel And Director, Government Affairs, Hazardous Waste Action Coalition*
- ◆ Panel Members:
Office of The Assistant Deputy Under Secretary of Defense for Environmental Security (Cleanup) -- The Pentagon View - TBD
Daniel Kennedy, *Manager, Defense, Space And Security Programs, Bechtel Group, Inc.* -- The View of The Engineers
Brian Deery, *Director of Municipal Utilities, Associated General Contractors* -- The View Of Small Contractors And Subcontractors
Jane Dudley, *National Constructors Association* -- The View Of Large Contractors

10:15-11:30 am

STANDARDS PANEL: *Should Standards Be Tailored To Expedite Cleanup?*

- ◆ Panel Moderator:
Don Gray, *Senior Fellow and Water Resources Program Director, Environmental and Energy Study Institute*
- ◆ Panel Members:
Harold Bailey, *Partner, Garvey, Schubert And Barer* -- The Local Communities View
Sam Goodhope, *Social Counsel, Environment, Office of the Attorney General, State of Texas* -- The States' View
Office of the Assistant Deputy Under Secretary of Defense for Environmental Security (Cleanup) -- The Pentagon View - TBD

11:30-11:45 am

Refreshments

11:45-12:45 pm

LEASING PANEL: *What Level Of Cleanup Is Required For Leasing?*

- ◆ Panel Moderator:
George Schlossberg, *Counsel, Cotten and Selfon*
- ◆ Panel Members:
Alan Olsen, *Director, Air Force Base Disposal Agency*
Gary Paterson, *Chief Of The Base Realignment And Closure Office For Real Estate, U.S. Army*
Michele Greco, *Deputy for Installations, The Office of the Assistant Secretary of the Navy (Installations and Environment)*

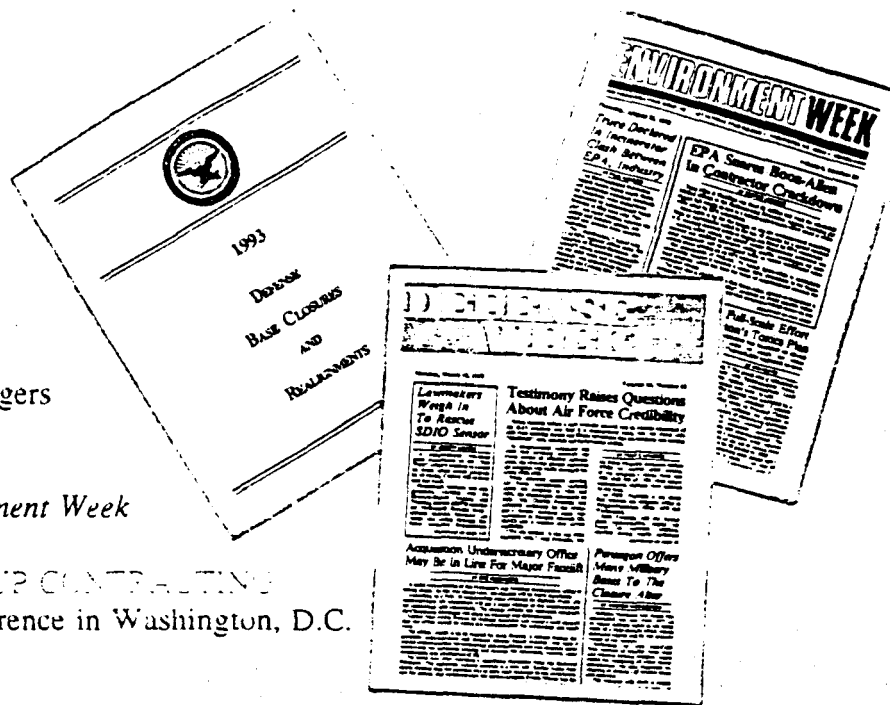
1:00-2:30 pm

Luncheon Keynote
Former Rep. James Courter (R-N.J.), *Chairman, The Base Closure And Realignment Commission*

2:30 pm

Conference Adjournment

Memorandum



TO: Environmental Contractors
Government Program Managers
Local Government Officials

FROM: *Defense Week and Environment Week*

SUBJECT: BASE CLOSURE CLEANUP CONTRACTING
December 7-8, 1993, Conference in Washington, D.C.

Environmental cleanup at the military bases scheduled for closure or realignment is now a government priority and represents an immediate contracting opportunity for companies involved in both **site characterization** and **cleanup** activities.

The Pentagon last year identified more than 18,000 sites (at both operating and closed bases) needing remediation. At that time, the Department of Defense had completed remedial investigations for only 545 sites, of which it had completed remedial actions at 416. Sixty percent of the sites involve fuel and solvent contamination; 30 percent, toxic and hazardous waste; 8 percent, unexploded bombs and artillery shells; and 2 percent, low-level nuclear waste.

Local communities are anxious to speed cleanups of bases to be closed and returned to civilian use but so far only one base has been deemed clean enough to transfer. Concerned about this slow pace, Congress mandated that the Department of Defense complete remedial investigations at the 130 bases slated for closure by the Base Closure and Realignment Commission.

In July, President Clinton responded with an initiative that called for an additional \$2.2 billion to accelerate environmental cleanup at bases being closed or realigned. Although estimates vary, the total cleanup bill will run into the billions of dollars.

Suddenly, new cleanup contracting opportunities are here, and the administration is eager to expedite the process that is now linked to defense conversion and other programs designed to stimulate local economies and provide new opportunities for U.S. technologies. The "Base Closure Cleanup Contracting" conference will look at the requirements, the funding and the structure of the work to be done in the cleanup of bases selected for closure or realignment.

Conference Objective

The conference will provide attendees with up-to-date, competitive information on the rapidly expanding opportunities in Base Closure and Realignment Commission site characterization and environmental cleanup contracting. At this interactive forum, speakers and panelists will share vital information on the **requirements** and **funding** for cleanup at the sites selected by the Commission.

What You Will Learn:

1. How DOD is expanding the contracting pool and whether it will increase the opportunities available to local contractors for environmental testing and cleanup services at the bases scheduled for closing.
2. How local contracting centers are getting more authority for cleanup.
3. The contracting role of the DOD Transition Coordinators and Environmental Managers.
4. The impact of CERCLA and RCRA requirements on cleanup contracting.
5. In what instances partnering agreements can expedite cleanup.
6. The current status of indemnification for cleanup contractors.
7. The different approaches to risk allocation.
8. The effect "tailoring" (relaxing standards in the Superfund law to reflect proposed use of facilities) will have on cleanup contracting.
9. How the recent policy changes for interim use leasing will affect cleanup.
10. Whether contractors can expect increased funding for cleanup.

Agenda - Tuesday, December 7, 1993 - Morning (9:00 a.m. - 12:30 p.m.)

- **Welcome and Opening Remarks**
 - Llewellyn King, Publisher, *Defense Week* and *Environment Week*
- **Keynote Address**
 - Sherri Wasserman Goodman, Deputy Under Secretary of Defense (Environmental Security):
A Progress Report On The Reconvened Defense Environmental Response Task Force
- **Panel: How The Department of Defense Is Expediting Base Closure Cleanup**
 - Terry Yonkers, Chief of Environmental Programs, Air Force Base Disposal Agency
 - Representatives From OSD, the Army and Navy
- **Base Closure Cleanup Contracting and EPA**
 - Gordon M. Davidson, Director, Office of Federal Facilities Enforcement, EPA
 - Jim Woolford, Division Director, Program Operations Office of Federal Facilities Enforcement, EPA
- **Congressional Panel: Funding And Standards**
 - Moderator:** Dick Wegman, Partner, Garvey, Schubert and Barer
 - Melinda Kassen, Counsel, House Armed Services Committee
 - Madelyn Creedon, Counsel, Senate Armed Services Committee


Please Join Us.....

For a get-acquainted cocktail party Monday night, December 6, 1993, 6:00 - 7:30 p.m. at the Hyatt Crystal City Hotel. We look forward to meeting you.

Three Ways To Register

Call 
(202) 638-4260

Fax 
(202) 662-9719

Mail 
the form to:

• Luncheon Keynote Address

Thomas L. McCall, Deputy Assistant Administrator, Federal Facilities, EPA (invited)

• Public/Private Sector Partnering Agreements To Accelerate and Improve Quality of Cleanups

Frank S. Waller, President, Hazardous Waste Action Coalition

• Panel: *The Local Communities And Cleanup Contracting*

Moderator: Keith Cunningham, Policy Associate, Defense Management Issues, Business Executives for National Security

Haron Battle, Associate Legislative Director, National Association of Counties

Veronica Ferguson, Assistant County Administrative Officer, Monterey Co., California

A Representative of the U.S. Conference of Mayors

• Opening Remarks

John F. Morton, Conference Director

• Risk Sharing Panel: *What Issues Still Need To Be Resolved?*

Moderator: Carolyn Kiely, Counsel and Director, Government Affairs, Hazardous Waste Action Coalition

- A Representative from the office of the Secretary of Defense (OSD)

- Daniel Kennedy, Manager, Defense, Space and Security Programs, Bechtel Group, Inc. -- *The View Of The Engineers*

- Brian Deery, Director of Municipal Utilities, Associated General Contractors -- *The View Of Small Contractors And Subcontractors*

- Jane Dudley, National Constructors Association -- *The View Of Large Contractors*

• Standards Panel: *Should Standards Be Tailored To Expedite Cleanup?*

Moderator: Don Gray, Senior Fellow and Water Resources Program Director, Environmental and Energy Study Institute

- Harold Bailey, Partner, Garvey, Schubert and Barer

- Sam Goodhope, Social Counsel, Environment, Office of the Attorney General, State of Texas

• Leasing Panel: *Does The Leasing Option Benefit Cleanup?*

Moderator: George Schlossberg, Counsel, Cotten and Selfon

- A representative from the U.S. Navy

- Alan Olsen, Director, Air Force Base Disposal Agency

- Gary Paterson, Chief of the Base Realignment and Closure Office for Real Estate, U.S. Army

• Luncheon Keynote Address

- Former Rep. James Courter (R-N.J.), Chairman of the Base Closure and Realignment Commission

BASE CLOSURE CLEANUP CONTRACTING CONFERENCE

December 7-8, 1993, Washington, D.C.

Conference hours are 9:00 a.m. - 5:30 p.m. on the first day, and 9:00 a.m. - 2:15 p.m. the second day. Check-in begins at 8:00 a.m. Tuesday, with a complimentary continental breakfast.

Fees: US \$795 for the first participant from a company, and \$745 for each additional participant. Special Early Bird rates are in effect until November 5, 1993. **Early Bird Fees:** US \$695 for the first participant from a company, and \$645 for additional participants.

Refunds will be given for cancellations received by November 15, 1993. Substitutions are gladly accepted at any time. Conference fee includes luncheon each day, printed materials, and beverage breaks and a get-acquainted reception December 6, the evening before the conference begins.

The conference will be held at the Hyatt Regency Crystal City Hotel, 2799 Jefferson Davis Highway, Arlington, VA 22202. The hotel is ten minutes from Washington's National Airport and a free shuttle bus is available if you call (703) 892-4100 on arrival. Participants are responsible for making their own hotel reservations. A block of rooms is being held until November 22, 1993 at the special rate of \$125 for single or double. Be sure to mention the **Base Closure Cleanup Contracting conference** when making reservations. The Hyatt's phone number is (703) 418-1234.

- Contractors interested in doing environmental cleanup and site characterization at bases scheduled for closure or realignment
- Federal, state and local environmental regulators
- Scientists and engineers
- Government program managers
- Security analysts
- Federal, state and local economic development officials
- Environmental attorneys (public and private sector)

REGISTRATION & FEES

Registrations are accepted by mail, phone and fax.

Please return the completed registration form with your credit card or purchase order number, or your check made payable to "King Communications Group, Inc." to King Communications Group, 627 National Press Building, Washington, D.C. 20045, Attn: Conference Registrar, C-17.

Register by calling Lauren Greifer at (202) 662-9728 or Jane Peressini at (202) 662-8569.

Fax your registrations to (202) 662-9719.



Registration Form

Base Closure Cleanup Contracting Conference
December 7-8, 1993, Washington, D.C.

Name: _____

Title: _____

Organization: _____

Address: _____ M/S: _____

City/State: _____ Zip: _____ +

Phone: _____ Fax: _____

Name preferred for badge: _____

This confirms a telephone reservation.

Registration Fees:

- Early Bird: US\$695 Additional Early Bird: US\$645
(For Early Bird rates, registration must be received by November 5, 1993.)
 Regular: US\$795 Additional Regular: US\$745
US Government employee rates are available.

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REMARKS OF BUZZ BAILEY
Partner, Garvey, Schubert & Barer
Washington, D.C. Office

*DEFENSE WEEK/ENVIRONMENT WEEK CONFERENCE ON
BASE CLOSURE CLEANUP CONTRACTING*

CHANGING REMEDY SELECTION STANDARDS FOR BASE CLOSURE CLEANUPS:

WOULD TAILORING RIP THE FABRIC OF SUPERFUND?

Dated: December 8, 1993

When the Director of this Conference, John Morton, asked me earlier this year what I thought the key issues in base cleanups would be, I rather hastily answered "tailoring". Unfortunately, our friends at DOD and EPA don't seem to use this word much (they prefer "remedy selection"), so I think I'm using a term which may not be part of current usage, such as "strategic defense initiative" or "kinder and gentler". But this is the tailoring panel, and as I understand it, the concept refers to the process of factoring into CERCLA decisionmaking the relative efficacy of specific cleanup technologies, future land uses (residential v. industrial), and legal restrictions on property use (transfer deed covenants and other so-called institutional controls).

No matter what you call it, however, the question of whether there should be a change in the legal standards, assumptions and remedies used in cleanups is on the table for the foreseeable future. Although industry, cleanup contractors and municipalities would be expected to be active on this issue, the real sign of its importance is the seriousness with which tailoring concepts are being discussed at the highest levels of the Administration and the Congress.

I split my practice between government contracting matters and environmental legislation, so let me address this area first wearing my lawyer hat, and then switch to my lobbyist hat. Since many of you are cleanup contractors or local officials dealing with base closures, I have tried to direct my comments to the tailoring issues which could have the most impact on you.

I. CERCLA Standards and Tailoring: Legal Incompatibility?

Three key legal phrases lie at the heart of whether cleanup can be tailored; two of these familiar phrases come from CERCLA itself--the statutory requirements in CERCLA Section 121 for utilizing "permanent" remedies and "treatment" to the maximum extent practicable. A third phrase "assumption of residential use" comes from the preamble to the 1990 National Oil and Hazardous Substances Pollution Contingency Plan which states that:

The assumption of residential land use is not a requirement of the program but rather is an assumption that may be made, based on conservative but realistic exposures, to ensure that remedies that are ultimately selected for the site will be protective. An assumption of future residential land use may not be justifiable if the probability that the site will support residential land use in the future is small.

Combining these statutory and administrative preferences for cleanups with permanent treatment assuming residential use has resulted in some very conservative remedy selection proposals by EPA, some very unhappy landowners, businesses and municipalities, and a great deal of work for cleanup contractors. I imagine from the contractor's point of view that this situation is not all

that bad, but CERCLA is supposed to be more than just a full employment act for lawyers and contractors.

Basically stated, those favoring tailoring want to change the existing statutory and administrative preferences so that different assumptions can be used and different types of remedies can be selected, chiefly those which are less invasive and less costly. It is interesting to note, however, that the language I quoted from NCP would already seem to give EPA significant flexibility in making its assumptions of land use in remedy selection. I would also refer you to the June, 1993 testimony of EPA Deputy Administrator Sussman before Chairman Swift's Energy and Commerce Subcommittee, where he made the case that EPA has the necessary flexibility on remedy selection, and is developing additional policies to avoid costly cleanups from overly conservative assumptions.

Despite Mr. Sussman's testimony, however, it seems to me that EPA would have a very difficult time jettisoning the assumption of residential use, and diverging in a significant way from the permanent treatment regimen without explicit congressional direction. EPA admitted as much in a Senate hearing before Chairman Baucus. Also, in a very practical sense, future land use assumptions become legally irrelevant under CERCLA as it now reads if state ARARs are so specific and immutable as to dictate a particular remedy decision.

In my view, the whole controversy over tailoring stems from the fact that Congress gave no clear statutory direction in this

area (silence is golden when there is no political consensus), and EPA and the states have been left to interpret and/or implement remedy selection standards in a minefield of technological complexity and political crosscurrents. EPA's natural response as a federal agency has often to model conservatively and take actions which are more easily defensible in court, which does not exactly encourage federal bureaucrats to take a flexible, innovative approach to remedy selection. A frequently cited example of this involves Smuggler's Mountain in Colorado, where EPA's overly conservative modeling regarding lead exposure led to some draconian remedy proposals which were later reversed, much to the embarrassment of the agency.

Irrespective of whether EPA's assumptions are too conservative, however, there is little question that the battles over remedy selection create enormous delay and costly litigation. Although the actual numbers are closely-guarded, some U.S. companies have asserted that up to 60% of their cleanup costs are paid to lawyers, not contractors. I will discuss some of the legislative proposals to change this situation later, but I wanted to make the point that the current remedy selection process is driven by existing statutory and EPA rules to produce conservative remedies, slow cleanups and costly litigation.

So far I have not focused on military base cleanups, because the main difference between military and civilian cleanups is in the process, not legal assumptions and substantive standards. The federal facilities provisions of CERCLA and the '86 Superfund

amendments are intended to produce legally equivalent treatment of DOD base cleanups, and there is a powerful political constituency which opposes any special rules for DOD. An important part of that constituency would appear to be sitting on this panel, as neither Mr. Goodhope from the state perspective nor Mr. Gray from EESI are very fond of ideas which might be seen to be letting DOD off easy. Just to make sure we do not all sing from the same songbook, however, let me at least raise the argument that the national economic impact of base closure cleanups is so vast that special treatment may indeed be deserved. As a nation, we could declare that many permanent, conservative treatment remedies at base cleanups are simply too costly and too slow, that we should control and monitor contaminant migrations and then declare the environmental damage done as a national sacrifice zone. While I know this idea may sound extreme, let me point out that it is not so far afield of the some of the very serious proposals being advanced by industry and the Clean Sites group for Superfund reauthorization. These proposals basically seek to rid Superfund of the three legal phrases I noted at the outset, and focus more on three other concepts: site stabilization, monitoring and institutional (read legal) controls on future land use. It would seem to me that these proposals could have special relevancy to military bases which pose some of the most intractable and costly cleanup challenges. It is also clear that EPA and the Administration are taking a close look at this area, and are probably moving farther

than many of us thought (and farther than many environmentalists would wish).

For example, EPA is currently making changes to its approach to "DNAPLs" (dense nonaqueous phase liquids), whose tough-to-clean nature is causing EPA officials to "refine our expectations regarding what the practicable extent of ground water remediation may be." It is obvious to anyone in this room that certain DNAPLs are present in large quantities at DOD facilities, and EPA appears to be recognizing that source stabilization and control remedies may be more practicable than conventional pump and treat remedies for DNAPLs. To the extent that the Superfund reauthorization debate focuses on permitting different legal cleanup standards to be used for different types of contaminants, it is my feeling that there may be no need to write any special laws for base closure cleanups.

To those who are charged with cleaning up and redeveloping military bases at the state and local level, the issue of tailoring and special treatment for base closure cleanups could constitute both a blessing and a curse. On one hand, tailoring could speed cleanup, facilitate land transfers, and reassure lenders and developers. The prospect of avoiding delay and putting people back to work sooner is hard to ignore. Institutional controls such as permanent zoning classifications and covenants running with former base lands are relatively inexpensive and politically painless steps. Unfortunately, from a legal perspective, I have to say that I see a host of problems:

- o Tailoring has been criticized as cost-cutting masquerading as a substantive change to remedy selection; are we really talking about legal standards or merely budget-pairing?
- o Tailoring cleanups to future heavy industrial use probably means foregoing more aggressive remedies, thereby creating greater risk and liability for future health or environmental damages; what would be the public reaction the first time a tailored cleanup went wrong?
- o Tailoring could force redevelopment authorities into over-reliance on heavy industrial uses instead of seeking out other uses which might provide the area with a more competitive labor base. As Sam Goodhope pointed out to me, do we really need large numbers of new municipal airports just to make Air Force base conversion go quicker?
- o What happens when contaminants from a tailored cleanup migrate off-base? In the ensuing legal free-for-all would DOD be more easily able to evade liability leaving a redevelopment authority "on the hook"?
- o While tailoring is intended to provide flexibility and efficiency in remedy selection, would developers and banks be even more nervous about future cleanup costs when there are even fewer "bright lines"?
- o Focusing on site stabilization, monitoring and institutional controls does not create many financial incentives for cleanup contractors to develop innovative treatment processes; I agree that Don Gray is right to ask a key question about tailoring: do we risk "freezing" technology? While the potential competitive advantage afforded to base cleanup contractors with superior technology will always be significant given the dollars involved, it is foolish to think that the legal standards chosen will not have an influence on the technology developed.
- o States with more stringent and specific cleanup laws would clearly be alarmed at both the impact of tailoring on state laws and the potential confusion created between federal and state remedy selection; there is already much tension between the federal and state agencies regarding cleanup standards. Will we be exacerbating the problem?

- o Federal Facility Agreements between EPA, DOD and the states are intended to force negotiations and agreement on remedy selection; many of the FFAs have functioned fairly smoothly to produce equitable remedy selections--if it ain't broke, why fix it with tailoring?

With all these issues, is there any good option for factoring future land uses and institutional controls into base cleanups? Two ideas seem to have merit. First, the DOD Environmental Security office is reportedly crafting a special policy for "low-risk" cleanups which could proceed with less-strict regulatory scrutiny. Such cleanups would have a greater focus on future land use at an early stage of the cleanup. This seems to me a promising avenue provided that DOD and EPA are absolutely sure about their low-risk determination. The Army is apparently testing the future land use waters at Fort Ord, but I suspect that the services may not be able to go too far until they obtain some statutory cover from the Congress.

A second idea which is being considered by both EPA and DOD is the use of "presumptive" or "generic" remedies. Deputy Administrator Sussman has emphasized the need for presumptive remedies as a non-statutory administrative improvement to cleanups, noting that seven categories of sites lend themselves to standardized remedies: municipal landfills, wood treater sites, VOC sites, PCB sites, coal gasification sites, grain storage sites and ground water sites. I would be very interested whether this audience would agree with Mr. Sussman on the need for presumptive remedies and whether these seven categories are the appropriate candidates. While presumptive remedies would not

take future land uses directly into account, a standardized approach to the applicable sites could presumably take some of the hassle out of remedy selection. The Air Force is also reportedly interested in considering whether generic approaches to petroleum pollution could facilitate cleanup.

While I think that these ideas are interesting, they are basically playing around the edges of CERCLA, and may run into the same legal roadblocks that afflict tailoring. The real question is whether the Administration and Congress will agree on any substantive changes in Superfund remedy selection as it applies to military bases, and I want to turn to this question at this point.

II. Congressional and Administration Views on Tailoring

Now that I have my lobbying hat back on (and the audience's hissing has abated), let me try to sketch the political battlefield over tailoring. Most obviously, the debate over tailoring reflects the traditional battlelines between DOD and EPA, federal interests v. state interests, local v. state interests, and industry v. environmental groups. The congressional debate over the FY94 DOD authorization bill featured another meeting of these familiar foes, this time in the form of assistance to local communities dealing with base closures. Senator Pryor, whose amendment also incorporated much of the Clinton proposals on base closures, had originally sought some changes in the remedy selection standards for base closure

cleanups. However, the mere mention of the words "sequential referral to Chairman Dingell" torpedoed any hope the Senator had of using the FY94 authorization bill to change the CERCLA standards applicable to DOD. {Attached to these remarks are two articles on the Pryor legislation and related base closure cleanup issues.}

As a result, the focus of the tailoring debate has been folded back into the ongoing debate between the Administration and the Congress about Superfund reauthorization. Most of you know that there is a Superfund interagency workgroup trying to agree on an Administration proposal, and that the President will probably have to play arbiter between the OMB, EPA, DOD, DOE and Treasury proposals. The workgroup is obviously trying to pick its way between a multitude of powerful competing interests, but there are some indications of where the workgroup is initially headed on remedy selection. In addition to the proposals for national standards and presumptive remedies mentioned above, the workgroup is also apparently considering 1) limiting Superfund's preference for permanent remedies, 2) establishing two categories of future anticipated land uses, "residential" and "restricted", 3) allowing greater use of institutional controls, and 4) requiring states with stringent ARARs to pay for more rigorous cleanups at their own expense. As always, OMB is a major player in attempting to obtain a scale-back in the restoration goals of Superfund, and has apparently been arguing that some Superfund sites are not worth restoring to productive use. As you could

guess, the final Administration proposal on Superfund remedy selection is unlikely to please all concerned, and may take a while even to be announced.

Up on the Hill, a number of important bills have been introduced as "markers" for the coming debate on reauthorization, and the House and Senate committees are busily conferring with the Administration and preparing their own ideas. While some of this was covered in detail yesterday, let me point out the reauthorization issues most pertinent to tailoring:

- o Superfund is the only major non-delegable environmental protection plan, and the states are clamoring for delegation. Those states with very specific and aggressive cleanup standards may feel threatened by any attempt to give EPA and DOC more flexibility in cleanup remedies.
- o Much of the hue and cry for tailoring is viewed as a stalking horse for those who want to spend less on environmental restoration. It will be politically difficult for well-known industrial polluters to argue effectively for tailoring, and relatively easy for environmental groups to attack the Administration or the Congress for going "soft" on polluters.
- o The apparent desire in the Administration and the Congress to ease CERCLA burdens on small businesses while avoiding major tinkering with the statute may make it even more difficult to get special treatment for military base cleanups involving large public entities.
- o Environmental organizations such as Don Gray's have an important tactical advantage with respect to Superfund reauthorization and tailoring--it's always easier to play defense in Congress than offense. Environmentalists can make detailed criticisms of reforms knowing that the strong environmental protections of CERCLA will remain if congressional gridlock sets in.

- o EPA Administrator Browner and members of Congress have supported special relief from normal CERCAL remedy selection standards for non-CERCLA-liable entities who buy contaminated property and perform "voluntary" cleanups. This concept seems analogous to the actions of local redevelopment authorities "voluntarily" purchasing DOD bases, but it is unclear whether Administrator Browner intended to cover base cleanups.

The bottom legislative line on tailoring is that there will probably be no special rules for DOD unless key members such as Chairman John Dingell and Max Baucus can be convinced that a) special treatment for DOD is justified, and b) flexibility in remedy selection increases cleanup efficiency while protecting human health and the environment. That is a tall order, especially given the fact that the Administration does not appear to be making any loud noises about providing closure-only remedy flexibility. What seems more likely is that whatever changes are made to Superfund will not create special rules for military base cleanup remedy selection, and that it will be left to EPA, DOD, local authorities and contractors themselves to push the legal envelope of CERCLA to find creative solutions. If this is the case, then the Superfund reauthorization battle will leave remedy selection just about where it was originally--confusing, long and litigious.

III. Conclusion

With more than 250 major military bases in various stages of being closed, and with more than \$500 million dollars being appropriated for FY94 cleanups at those bases, the need for

prompt, effective and fiscally-responsible remedy selection is patently clear. Whether tailoring concepts such as early consideration of future land use and institutional controls will actually facilitate the remedy selection process is significantly less clear. While I have tried to point out some of the legal and legislative hurdles that remedy selection modifications may face, I sincerely hope that the current debate will bring much-needed brain-power and new ideas to the issue. If we're fortunate, technological advances and planning initiatives from people in this room will also make this issue somewhat easier.

In closing, I want to thank Conference Director John Morton for inviting me to speak on this topic, whether or not the word tailoring survives any longer.

Attachments

County News

Official Publication of the National Association of Counties

Vol. 25, No. 17 • September 13, 1993
Washington, D.C.

Back from summer recess, Congress begins hammering out base closure details

By Richard A. Wegman
and Harold G. Bailey, Jr.

(This is the first installment of a two-part series on efforts to expedite the transfer of closed military bases to civilian control.)

This week, as Congress returns from its summer recess, it will confront President Clinton's July 1993 decision to close 130 military bases and to realign 45 others, a decision that will affect hundreds of communities located in 33 states.

From the state and local perspective, the two issues that Congress needs to resolve most quickly are: 1) ensuring that the transition from federal to state or local control is handled expeditiously, with red tape and other administrative hurdles kept to an absolute minimum; and 2) addressing the widespread environmental contamination that exists at these facilities, while ensuring that they can be put to productive use by state and local governments as rapidly

as possible.

With estimates of contamination at these facilities now approaching \$1 billion (cost estimates that seem to climb almost weekly as more and more becomes known about the extent of toxic waste contamination at these facilities), the second issue may prove more difficult for Congress than the first.

Congress will have its first opportunity to deal with these matters this week when Senator David Pryor (D-Ark.) brings legislation to the Senate floor to provide transition assistance to the affected communities, and to impose time limits on steps that need to be taken by the Department of Defense (DoD) and other federal agencies.

Pryor, who heads the Senate Democratic Task Force on Defense Reinvestment, will offer an amendment to the FY94 DoD authorization bill that is designed to carry out parts of the program that President Clinton proposed when he announced the base closures nine weeks ago.

Pryor's amendment would:

- permit DoD to lease or sell base property to local communities at less than fair market value

- speed up the leasing process so that base properties can be put to use even if environmental cleanup has not been completed

- make clean properties available for reuse within nine months if local communities can identify a reuse, and

- complete DoD compliance with the National Environmental Policy Act within 12 months.

Pryor believes his legislation is needed to remove the federal government "as a barrier to redevelopment," and that enactment will help "tilt the scales in favor of base closure during this difficult transition period."

The urgency behind the Pryor initiative arises from the recent round of base closure announcements which, coupled with the closures ordered in 1988 and 1991, represent a major challenge to communities across the nation.

President Clinton's revitaliza-

tion initiative is designed to speed the recovery of affected communities by spending \$2.8 billion on transition assistance and \$2.2 billion for accelerating environmental cleanups.

To obtain fast-track cleanup, the Clinton plan proposes that a DoD transition coordinator and environmental manager be stationed full-time at each base to work with EPA and state officials to expedite identification and remediation of contamination.

Such steps will complement one of the most important features of Pryor's legislation, which is to permit transfers of DoD properties at less than fair market value. Senator Pryor's proposal would amend government property transfer statutes to authorize a less-than-fair-market value transfer if it is in furtherance of a reuse plan, will ensure replacement of lost jobs, or save DoD money by reducing maintenance costs. The Pryor approach on fair market value incorporates one

See **BASE CLOSURES**, next page

of the major recommendations of the NACo Base Closure Task Force.

The acknowledgement by the White House that communities require tangible help from the federal government on base closure matters has generally been greeted with a better-late-than-never attitude.

Sam Karas, Monterey County (Calif.) supervisor, welcomed the Administration's initiative: "It's a major step. The Administration is finally listening to local communi-

ties. I'm proud that NACo took the lead in developing recommendations which the Administration is now following."

Karas noted that Fort Ord was the first place nationwide where a fast-track approach had been attempted, and that the Fort Ord cleanup had benefited from a very positive relationship with DoD.

However, there remains some concern about the adequacy of funding in the Clinton program. Bob Clark, executive director of the

Northern Maine Regional Planning Commission, who heads the planning efforts related to the closure of Loring AFB, expressed concerns about the Administration's failure to address the financial realities confronting communities.

Clark says that "it would be nice if the Clinton plan is implemented, but most of the plan is old money."

Noting the continuing inability of communities to obtain needed bank loans and insurance for converting cleaned-up base properties

to local use, Clark said that "the interim leases proposed in the plan won't solve the problem because we still can't get banks and insurers to accept the leases."

(In the next installment, Wegman and Bailey discuss the impact of environmental contamination on efforts to free bases for civilian use. Wegman and Bailey are attorneys with Garvey, Schubert & Barer, with offices in Washington, D.C.; Portland, Ore.; and Seattle, Wash.)

County News

Official Publication of the National Association of Counties

Vol. 25, No. 18 • September 27, 1993

Washington, D.C.

Environmental cleanups key to base closure process

By Richard A. Wegman and
Harold G. Bailey, Jr.

(Last week's installment by the authors discussed legislation by Senator David Pryor (D-Ark.) to expedite the process of transferring military bases to local use. The Pryor legislation has now been adopted by the Senate, and will be taken up in a House-Senate conference later this month. This week's article focuses on cleanup of environmental contamination at these facilities.)

A major obstacle to rapid conversion of military bases to civilian use is the problem of environmental contamination, and the potential threat it poses to the health and welfare of adjoining communities.

There has been widespread discontent with the current pace of cleanups at bases affected by the 1988 and 1991 Closure and Realignment Commissions. Due to technical difficulties and bureaucratic delays associated with the cleanups, there has been only one transfer of a major base property pursuant to the 1988 and 1991 base closure process. By the end of 1992, the Department of Defense (DoD) had identified more than 18,000 sites (at both operating and

closed bases) that require remediation, but DoD had finished its remedial investigations for only 545 sites.

Remedial action by DoD has been completed in only 416 instances, leaving roughly 98 percent of the total sites with legal barriers to transfer of DoD bases.

Concerned about the slow pace, Congress has directed DoD to complete remedial investigations at all bases slated for closure by the 1988 and 1991 commission by January 1994.

In its most recent report, the 1993 Base Closure and Realignment Commission found that DoD has consistently underestimated the costs of environmental cleanup at closing bases, and it recommended for the 1995 process that DoD consider additional cleanup costs in making recommendations for closure. The commission pointed out that a "given base's cleanup may need to be more extensive if that base closes, given possible changes in land uses."

The issue of changes in land use and effects on the cleanup process is a particularly complex aspect of the current debate. Many local communities are anxious for base cleanup to proceed quickly and conform to the proposed future use of the base fa-

cilities (industrial, residential, etc.), but what if those uses change and the cleanup becomes inadequate? Moreover, what if state and local environmental standards become more stringent? These are some of the most worrisome questions facing the Administration and the Congress.

Over the past year, there has been extensive debate about the tension between accelerating base closure cleanups and environmental and legal liabilities. For example, it is unclear what flexibility DoD has under the Superfund law to "tailor" cleanups to a particular future use in an attempt to facilitate transfer. Under Superfund, title to a closed DoD base cannot pass unless a Superfund cleanup process has first been completed for all the contaminated sites at the base.

The problem this poses was raised by Senator Barbara Boxer (D-Calif.) in a May hearing on DoD cleanups: "We can't keep a standard based on kids in a daycare center eating sand," Boxer stated. "We want the land's use to be considered during cleanups." Moreover, because judicial review of a particular cleanup often occurs after most of the time-intensive cleanup work is over, DoD and local communities might find out too late that a particular cleanup does not

meet Superfund or more stringent state standards.

Another problem is the confusion between cleanup requirements under Superfund and the parallel provisions of the Resource Conservation and Recovery Act (RCRA). The Army cites an example where a Superfund cleanup was delayed until a RCRA study was completed, even though the site had been thoroughly studied under Superfund.

The Pryor legislation to expedite base transfer and local redevelopment — which the Senate just adopted as part of the 1994 DoD reauthorization bill — does not address many of these cleanup issues. Therefore, once Congress completes action on Senator Pryor's provisions, it needs to focus squarely on environmental aspects of base closures. Action that could greatly ease the burden for local communities includes the following:

1) **Tailoring** — Congress should statutorily affirm tailoring as acceptable action, thereby eliminating any doubts about the legality of tailoring cleanups to future uses.

2) **Superfund/RCRA overlap** — Congress should direct EPA to publish additional guidelines describing how Superfund and RCRA should be handled in the base closing con-

text, and clear up any confusion about which statute and which cleanup standards apply to a given situation.

3) **Financial responsibility** — Congress should consider steps to reassure lenders that contamination at bases will not become a financial albatross for local communities. One way to do so would be to provide that in the event contamination at a former military base is disclosed at a future date, the DoD should bear the burden of demonstrating that such contamination was not caused by the DoD.

4) **Funding** — The \$2.2 billion proposed by President Clinton for base cleanups almost certainly will fall far short of what is needed to restore these facilities to productive use. Notwithstanding budgetary constraints, sooner or later Congress will have to recognize this, and provide whatever amounts are necessary for remediation and cleanup.

These steps would ease the transition for affected communities considerably, and make it possible for former military property and facilities to be used productively much more rapidly than has been possible in the past.

(Wegman and Bailey are attorneys with Garvey, Schubert & Barer, with offices in Washington, D.C.; Portland, Ore.; and Seattle, Wash.)

Document Separator

DoD Environmental Security
Fast Track Cleanup Policy/Support

DoD Economic Security

US EPA

Military Service

DoD Base Closure & Utilization – BRAC Policy, Program Mgmt, and \$\$\$

State

BCT

\$

DoD Base Transition Office

Restoration Advisory Board

Base Transition Coordinator

Community Reuse Organization

Closing Installation

Other Federal/Local Agencies

Joseph Sites

Implementation of Fast-Track Cleanup

**THE PRESIDENT'S COMMUNITY
REINVESTMENT PROGRAM**

- **Jobs-centered property disposal**
- **Easy access to transition and redevelopment assistance**
- **Fast-track cleanup**
- **Transition coordinations at closing bases**
- **Larger economic development planning grants**

Implementation of Fast-Track Cleanup

**THE PRESIDENT'S
FAST-TRACK CLEANUP INITIATIVE**

- **Prevent needless delays**
- **Protect human health and the environment**
- **Key elements:**
 - **Establish a cleanup team at every base**
 - **Make property available for civilian reuse**
 - **Speed up the National Environmental Policy Act (NEPA) process**
 - **Involve the public**

BRAC CLEANUP TEAMS (BCT)

PROCEDURES

- **Form BCT for every BRAC installation**
- **Appoint BRAC Environmental Coordinator (BEC)**
- **Conduct "bottom up" review of the environmental cleanup**
- **Develop BRAC Cleanup Plan (BCP) which establishes:**
 - **Priorities in support of cleanup**
 - **Requirements, schedules and costs for redevelopment and reuse**

Implementation of Fast-Track Cleanup

NEPA ANALYSIS PROCESS

POLICY

- **Conduct one Environmental Impact Statement (EIS) per installation**
- **Expedite development of final EISs**
- **Ensure completion within 12 months of receipt of final reuse plan**

Implementation of Fast-Track Cleanup

PUBLIC INVOLVEMENT

POLICY

- **Involve local communities in the cleanup program**
- **Make information on program activities available**
- **Encourage public comment**
- **Be responsive to public comments**
- **Establish Restoration Advisory Board (RAB) to work in partnership with BCT**

Implementation of Fast-Track Cleanup

PUBLIC INVOLVEMENT

PROCEDURES

- **Establish RAB where property is available for transfer**
 - **Made up of DoD Component, US EPA, State and local community representative**
 - **Jointly chaired by DoD Component (BEC) and local community representative**
- **Appoint members who reflect diverse interests within the community**
- **Provide RAB with draft and final documents and plans, and status reports**

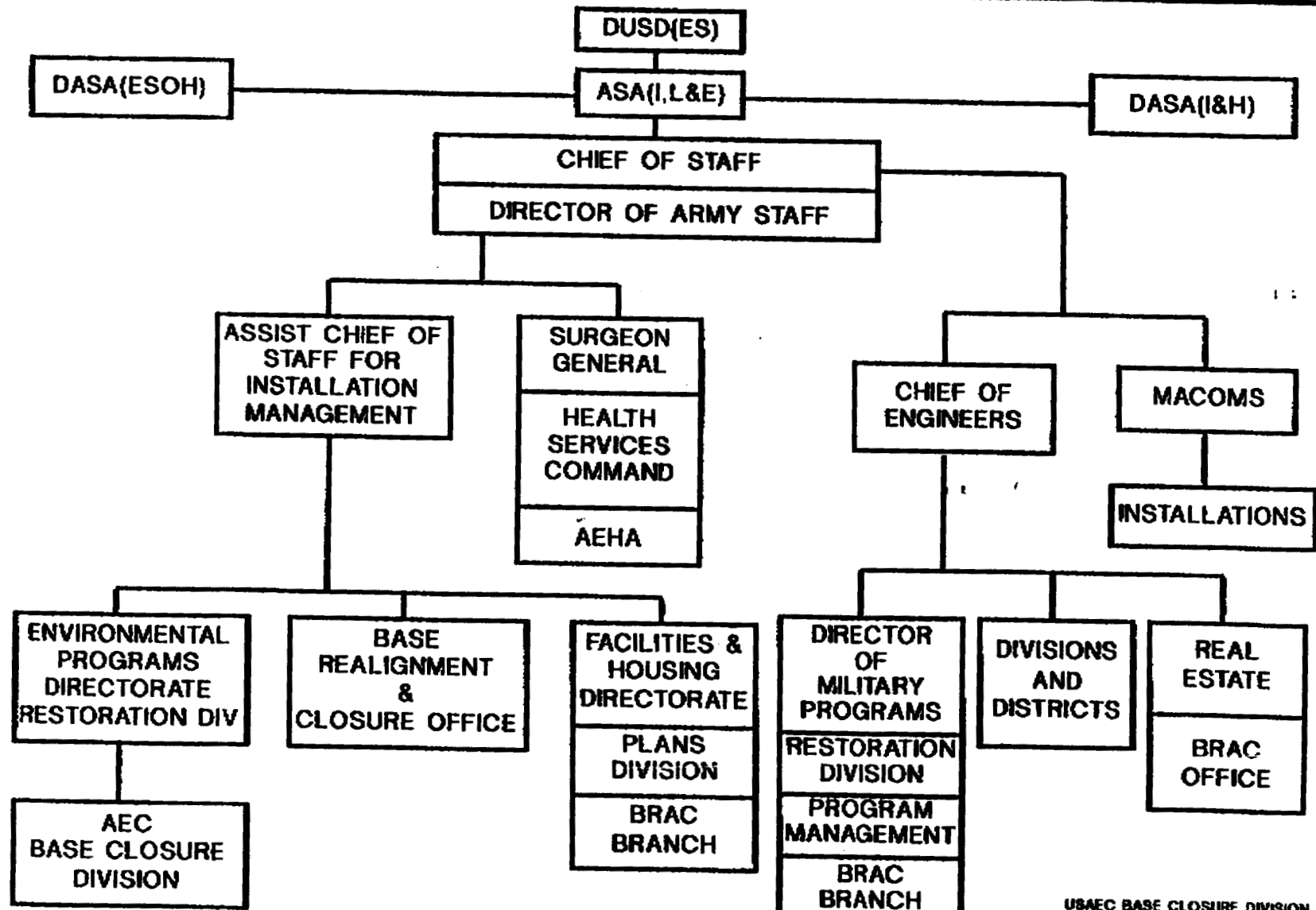
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ARMY
BASE REALIGNMENT AND CLOSURE
(BRAC)
ENVIRONMENTAL RESTORATION
PROGRAM

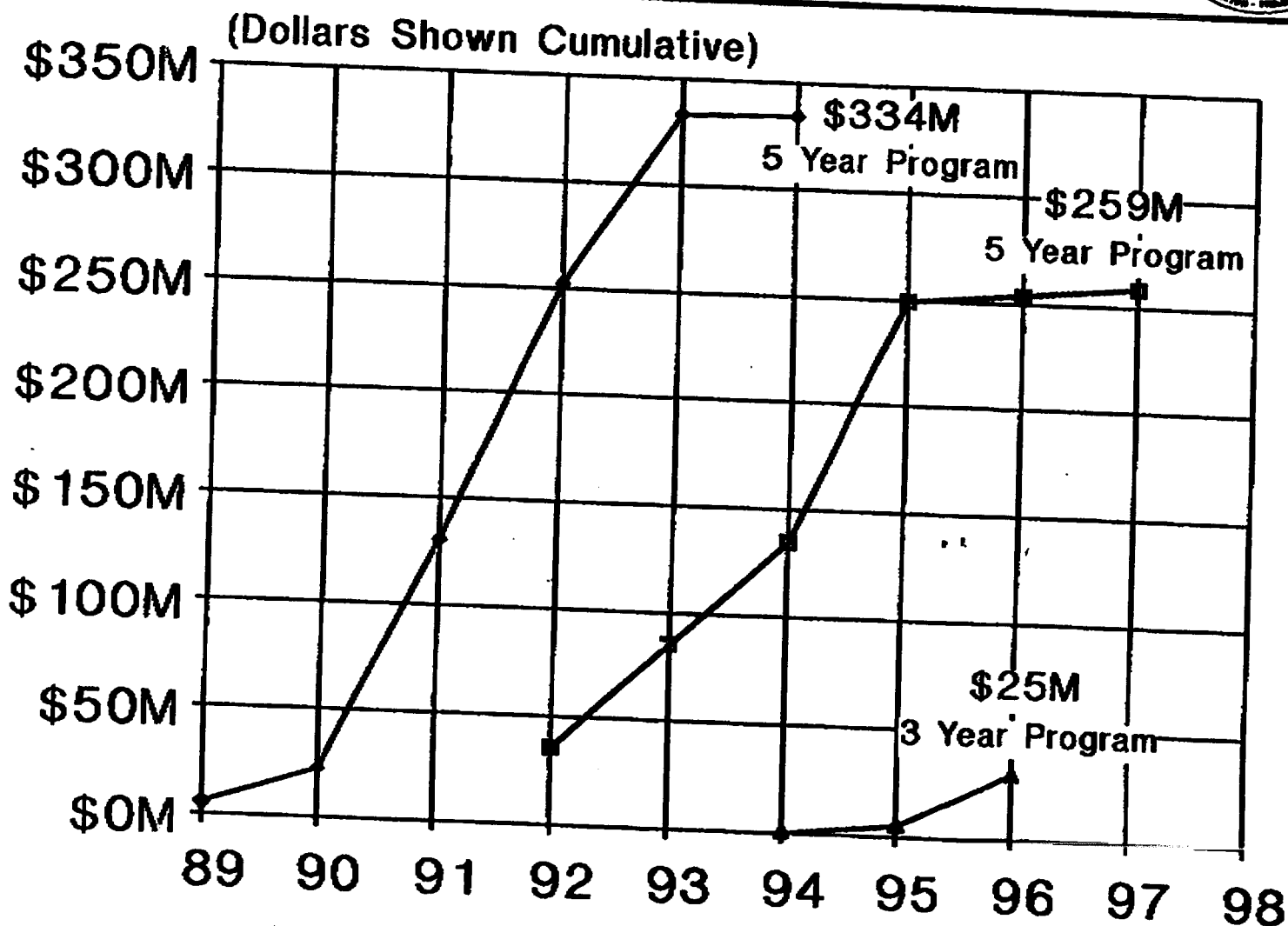


ARMY BRAC ENVIRONMENTAL EXECUTION





ARMY BRAC ENVIRONMENTAL PROGRAM

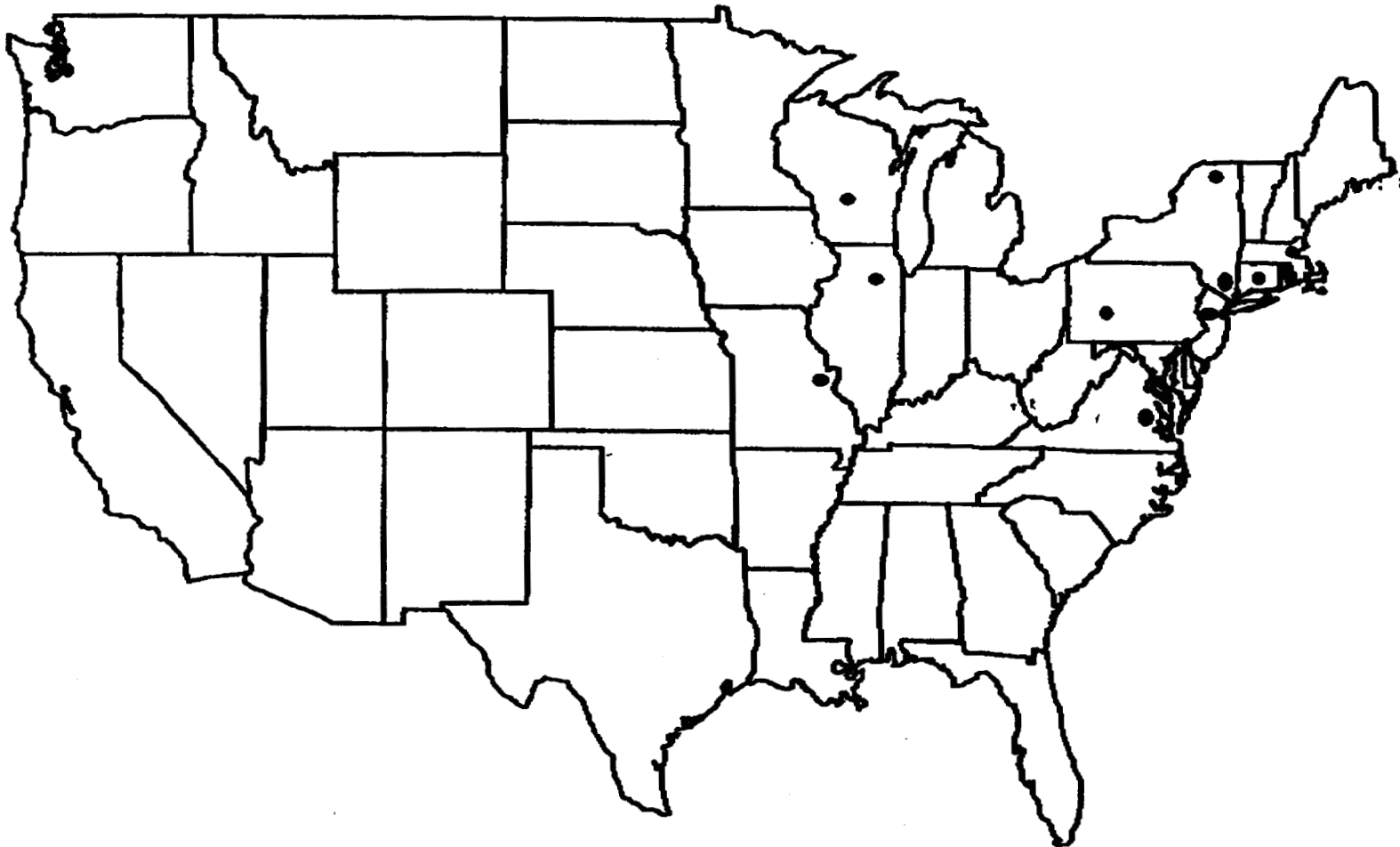




USAEC BASE CLOSURE ENVIRONMENTAL RESTORATION PROGRAM



STAND ALONE HOUSING AREA LOCATIONS





BRAC 91 ENVIRONMENTAL RESTORATION PROJECTS





BRAC 93 ENVIRONMENTAL RESTORATION PROJECTS



BRAC BASE CLOSURE IMVSON
SEP 93



OBJECTIVES OF ARMY BRAC
PROGRAM



- REALIGN AND CLOSE BASES BY CONGRESSIONALLY MANDATED DATES
- ACCELERATE DISPOSAL OF PROPERTIES IN ORDER TO GENERATE REVENUES
- FACILITATE REUSE OF PROPERTIES IN ORDER TO REVITALIZE IMPACTED COMMUNITIES
- PROTECT HUMAN HEALTH AND THE ENVIRONMENT



BRAC ENVIRONMENTAL RESTORATION ACCOMPLISHMENTS



PROGRAM RELATED

- Adapted Cone Penetrometer to Reduce Costs and Expedite Process
- Provide CERFA Information Letters to Affected States (8) and EPA Regions (7)
- Contracted for CERFA Clean Parcel Reports (24 by Jan 94, Remaining 5 by Mar 94)
- Implementing On-Site BECs as Required by DUSD(ES) and Fast Track Cleanup Initiative



ENVIRONMENTAL RESTORATION ACCOMPLISHMENTS



BRAC I

- AMTL, MA
Decommissioned Nuclear Reactor and 4 Research Buildings
- COMPLETED:
78 Enhanced Preliminary Assessments
57 Statements of Condition
6 Remedial Actions (5 w/ SOC's)
- TRANSFERRED 4 PARCELS HAMILTON ARMY AIR FIELD
- TRANSFERRED 51 ACRES FROM FT. DOUGLAS TO UNIVERSITY OF UTAH
- TRANSFERRED 863 ACRES OF INDIANA ARMY AMMUNITION PLANT TO THE STATE OF INDIANA



ENVIRONMENTAL
RESTORATION
ACCOMPLISHMENTS



BRAC 91

- **THROUGH PARTNERING:**
 - Eliminated 6 Sites from RI / FS at Ft. Devens; 11 Pending.
 - Eliminated 6 Sites from RI / FS at Ft. Ord; 18 Pending.
- **COMPLETED:**
 - 6 Enhanced Preliminary Assessments
 - 3 Records of Decision (2 Umatilla, 1 SAAD)
- **LEASED 14 ACRES AT FT. DEVENS**
- **COMPLETED ENVIRONMENTAL DOCUMENTS FOR 5 LEASES AND 1 DEED TRANSFER AT FT. DIX**

Document Separator

EPA'S MODEL ACCELERATED CLEANUP PROGRAM (MAC)

In support of the Department of Defense and its Fast Track Cleanup for closing and realigning bases, the Environmental Protection Agency (EPA) is implementing the Model Accelerated Cleanup (MAC) Program for selected bases. The MAC will be carried out by Regional teams with a small EPA headquarters contingent for coordination and oversight responsibilities.

MAC teams will be managed by the EPA Regional offices and will be accountable to appropriate Regional Division Directors and, ultimately, to the Assistant Administrator for the Office Office of Solid Waste and Emergency Response.

A key participant in the MAC team is the Remedial (or Site) Project Manager (RPM). For major closing or realigning bases that are on the National Priorities List (NPL), EPA Regions will assign a RPM full time to work with DoD, the State and local communities to expedite the clean up process. For non-NPL and non-HSWA closing bases or minor realigning installations, the Region may assign an RPM to more than one base. The RPM assigned to a base will be EPA's representative on the Base Cleanup Team (BCT). The RPM will be supported by a team of experts that will work across installations, depending upon the needs at a site at a given time.

The support team will include experts in such areas as hydrogeology, health risk assessment and toxicology, ecological risk assessment, engineering, community relations, field work support (sampling and site assessment), and clean parcel identification. Administrative, management, and legal support will also be provided to address regulatory complexities and policy issues.

Areas in which the MAC will work with DoD include but are not limited to:

- o Accelerating the identification of clean parcels under CERFA;
- o Promoting community involvement in restoration and reuse decision making;
- o Completing site assessment and characterization processes;
- o Supporting up-front planning and scoping;
- o Preparing and reviewing documents;
- o Reviewing the Remedial Investigation/Feasibility Study (RI/FS), Remedial Design (RD), and Remedial Action (RA) study and sampling data; and
- o Expediting review of environmental documentation relating to deeds and leases to accelerate economic revitalization through reuse.

MAC team resources and expertise will also be available to the states at non-NPL sites. The amount of technical support required at non-NPL sites will vary, depending on the development of a state's environmental program, and the potential of the site for listing on the NPL.

James Woodford

Document Separator

BASE CLOSURE CLEANUP CONTRACTING

December 7 - 8, 1993

**PUBLIC/PRIVATE SECTOR PARTNERING AGREEMENTS
TO ACCELERATE AND IMPROVE QUALITY OF CLEANUPS**

**By Frank Waller
President, HWAC
Chairman, Woodward Clyde Group, Inc.**

WHAT IS PARTNERING?

It is my pleasure today to discuss with you the many benefits of Partnering - a project management tactic now in force at numerous public and private sector organizations. This process is designed to eliminate some of the obstacles that have plagued construction, cleanup and other projects in the past.

Partnering is a semi-formal arrangement on the part of owners, contractors, sub-contractors and other "stakeholders" designed to bring about maximum cooperation, efficiency and understanding during the course of a project. The basic idea is to create an atmosphere of cooperation rather than confrontation in the solving of problems that inevitably arise during large projects. Too often in the past, the response to disagreements has been to waste valuable time finding fault and consulting lawyers. Partnering creates new attitudes and fuels a sincere concern for the other person's point of view so that disputes can be settled quickly, without rancor and in the interest of moving the project along toward an on-time, under-budget conclusion.

Let me discuss some of **the elements of Partnering**.

First of all, in many ways Partnering is not new. In fact, it is as old as the Golden Rule: treat other people as we would wish to be treated. Some people - the best people - have always done business this way. For these people, their word is their bond; they accept responsibility; they seek cooperation over confrontation, understanding over fault-finding, compromise over litigation. They LISTEN, and they seek to understand the views and feelings of others. They develop an aptitude for looking out for others.

These people genuinely CARE about the well being of their customers, suppliers, business partners and others they work with. They seek solutions to problems in nonadversarial ways - always keeping uppermost in their minds the impacts upon others.

Partnering seeks to develop - or re-establish - these traits in the rest of us at a time when economics, politics, legalities and other modern-day complications pull us in other directions. It seeks to remove acrimony and finger-pointing when things go wrong and replace them with constructive avenues for solving problems and getting the job done - on time, under budget, with no litigation and to everyone's satisfaction.

Partnering is not a contract - indeed, it has no legal standing whatsoever - but rather a recognition that every contract includes an implied covenant of good faith. While the project contract establishes the legal relationships, the partnering process attempts to establish working relationships among the parties (stakeholders) through a mutually developed, formal strategy of commitment and communication.

Today I would like to discuss with you how these tactics have been successful in other contexts and how we can go about implementing them in base-closure work.

HOW IT WORKS

Partnering was developed by construction buyers in the private sector on design/build projects. Implementation generally begins before construction begins, although it has been used to rescue projects running behind schedule or over budget.

The process starts with an orientation, or Partnering conference, attended by representatives of the owner, major contractors, design consultants and, importantly, all others who have a stake in the outcome of the project. These "stakeholders" traditionally have felt left out of the process and as a result have been quick to criticize the outcome of projects - often through costly lawsuits.

This meeting is normally run by an outside facilitator and often involves the administration of behavioral and personality trait tests to let participants glimpse into their communications styles and those of others involved in the project.

Participants are drilled in the basics of the Partnering concept, and at the end of the conference they draw up a document, or Charter, which embodies the essence of their agreements and mutual goals for the project.

Let's take a closer look at how such a Partnering conference might unfold.

THE PARTNERING WORKSHOP

The Partnering Workshop should be held at a mutually acceptable time for all stakeholders and at a neutral location away from corporate environments. The duration of the Workshop and size of teams depends on complexity - it could last anywhere from one-half day to a week. The Workshop should focus first on establishing a mutual understanding of the concept of Partnering. Topics would include a discussion of how to change ways of thinking about relationships between owner and contractor; how to develop trust, and make and keep commitments; how to develop mutual respect and understanding of one another's expectations and objectives.

The Workshop should include a series of exercises, because exercises demonstrate synergy of team decision-making versus individual decision-making; because partnering skills are based on empathy for the other side's point of view and seeking to understand before being understood; and because exercises emphasize that Partnering skills and abilities must be understood, nurtured and practiced throughout the project.

Lessons in effective team functioning and conflict-resolution techniques are also important, as is the setting of mutual goals during a Workshop.

A win-win format discusses "Partnering Goals" - collective goals, objectives and expectations sets objectives for ALL stakeholders. The "Charter" allows for and provides for modifications in case of unexpected changes. It avoids an "or else" tone. The "Charter" is signed by parties, and copies are displayed in each party's office as a reminder of the moral commitment of cooperation and commonality of goals.

Key elements in the Partnering Goals are:

- Timely completion
- Meeting design intent
- Setting value goals
- Schedule
- Reasonable profit
- Safety
- Quality product
- Open communications
- Minimum cost growth
- Minimize paperwork
- Project-specific goals as necessary
- Favorable public relations

PARTNERING BENEFITS

CASE HISTORIES

In just the past few years, the benefits of Partnering have been shown to be so dramatic, so cost-effective and so time saving that Partnering principles have been adopted by many public and private sector entities, including the Army Corps of Engineers, which has blazed the trail for the rest of us, General Services administration, Federal Highway Administration, the Associated General Contractors of America, the American Consulting Engineers Council, and, of course, the Hazardous Waste Action Coalition.

Here are a few examples of the successes brought about by Partnering agreements on some recent projects.

First, there was a \$54 million contract for building hangars for the F-117A Stealth fighter jets at Holloman Air Force Base. This design/build contract was awarded in December 1991 and completed two weeks ahead of schedule last year. At the end of construction, no claims, disputes or modifications were outstanding. A total of 104 modifications were executed during the contract without any increase in the original completion date - not

one day. There were no lost time injuries - an amazing statistic for a project of this size. The quality of the work was judged as excellent by the Corps and the customer. And everyone agreed that these results would not have been achieved without a strong partnering agreement between the contractor and the government.

Another Partnering success was the new Bonneville Lock and Dam. On this \$331 million project, the drilling subcontractor installed some work that did not meet the tolerances required by the specs. Had the government greeted this news "by the book" and swung its punitive measures into force, this could have been a multi-million-dollar liability for the contractor and probably a year's time delay. Instead, with the Partnering principles in place and committed to by all parties, the sub came in and said, "I've made a mistake. There are no excuses. Can you help me?" All parties then sat down and in two hours worked out a solution that cost the sub only \$5,000 and kept the job on schedule. That's what partnering is all about!

The key to such successful Partnering is the promoting of a cooperative attitude based upon the pursuit of common goals. Without this, no Partnering agreement has a chance. Let us look at some "lessons learned" by the Corps of Engineers in its extensive use of Partnering:

- Partnering is not a substitute for a good contract.
- Partnering requires effort.
- Partnering must be tailored to the project.
- Leaders must be committed at the start and throughout. Partnering is not a bottom-up process, but rather the reverse.
- The Partnering agreement must be realistic.
- The parties must periodically reinforce, evaluate and compromise.
- Partnering will not work if you don't make it work.

The key features to any Partnering Agreement are:

- It establishes mutual goals.
- It establishes teamwork attitudes.
- It includes compromise.
- It does not mean one-sided giving away of services.

The goals of planning a Partnering Agreement are to:

- Develop a cooperative management team.
- Remove adversarial mindset.
- Establish and exploit common interests, goals.
- Provide continuing mechanism for contact, communications, evaluation, adjustment.
- Assign clear roles and responsibilities.

The factors that inhibit successful partnering include:

- A structure of traditional relationships between owners and contractors that promotes adversarial relationships
- Two distinct management teams that make independent decisions designed to further their separate goals for the project
- An inclination to find fault when mistakes happen
- Personality conflicts

APPLYING PARTNERING TO BASE CLOSURES

DOD, MONEY AND CLEANUPS

President Bill Clinton has promised that the DOD will be more forthcoming in its acceptance of responsibility for cleanup of hazardous waste at the 130 military bases now planned for closure as part of the "peace dividend." This could mean more of a willingness to include in agreements with contractors specific language accepting

financial responsibility. This would be a key first step in developing a partnering atmosphere for base closure cleanups.

Because so many federal agencies now have adopted Partnering, there is real hope to reverse the historical attitudes freezing out local "stakeholders" such as municipalities, neighborhood groups and other interest groups who want and need to know what is being done to clean up these bases.

In many cases, closure of military bases hits a community hard because of the number of jobs lost and the lengthy time it often takes to put the property back into productive use. Partnering can be a real help here, as it always incorporates means for getting projects completed on time or ahead of time with no need for rework and with a view toward being satisfactorily completed. Community groups need to be in on the front end of this Partnering process so that they have input into how the cleanup will be done, on what schedule and with what results. Cleanups will vary in their degree depending upon future uses, and everyone needs to know on the front end what the future uses will be and what level of cleanup is necessary, and then have a means to monitor progress.

Base closures, unlike many other types of jobs, may affect groups from all over an area. Creative means need to be taken to identify stakeholders who might not be so obvious. Anyone who is going to try to influence the closure and the cleanup and anyone who might be significantly affected should be offered a seat at the Partnering conference. By bringing them in and enlisting their ideas, we create a trusting relationship with groups who in the past felt they were being frozen out, lied to or ignored. Define objectives up front, not later, and get all groups to "buy in." Identify site complexities so everyone is aware of what it will take and what results to expect. Secret-keeping is not Partnering.

DOD must stay at the Partnering table. If harmed, citizens will sue contractors before they sue the DOD. It is essential to obtain adequate risk-protection in your contract with DOD and to keep DOD involved in the Partnering process.

CONCLUSION

I am convinced we are at a turning point in the way we do business with government agencies in this country. I am convinced the government knows this, too.

Out of an inglorious history of dispute resolution through regulatory decisions and appeals, courts, arbitrators and the rest, often leading to less-than-satisfactory results, I see a new day dawning.

I think it is not only possible but highly desirable and profitable to begin nurturing new attitudes about how we solve the inevitable problems that arise during the course of a project. I believe in keeping the focus on problem-solving, not blame-placing and on open communications, not stonewalling or resistance.

I believe in promoting a cooperative attitude and pursuing common goals in a non-adversarial forum. Partnering is nothing more than a willingness by owners, design professionals, contractors, and all stakeholders to work collectively to do the best job possible.

We have to anticipate that we will have disagreements; too many of our contracts are structured to feed an adversarial relationship. All we need to do now is agree to a more sensible and humane way of dealing with them.

Thank you very much and good afternoon.

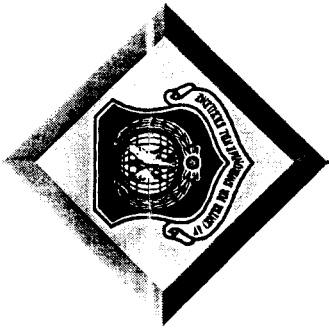
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Air Force Central for Environmental Excellence



Presented by
Mr Anthony Zugay
Base Closure Restoration Div



Air Force Center for Environmental Excellence

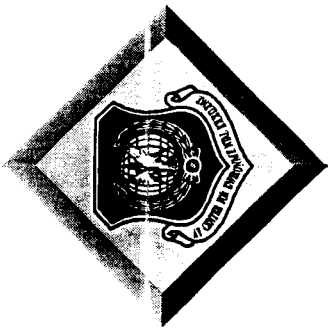




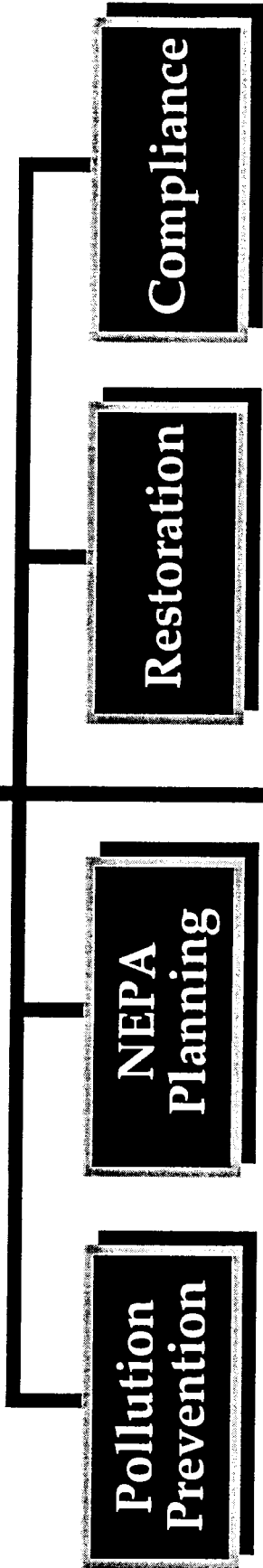
Mission Statement

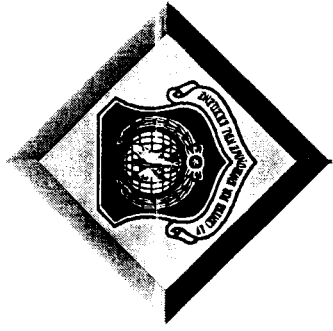
The Air Force Center for Environmental Excellence aggregates in a single organization at Brooks AFB a capability to provide a full range of technical services to Air Force commanders in areas related to Environmental Compliance, Pollution Prevention, Hazardous Waste Cleanup (IRP), Environmental Planning and Impact Assessments, and Design and Construction Management.

Authority: AF PAD 91-22



**Air Force Center for
Environmental Excellence**
Director, Mr J.B. Cole





Environmental Services

- Pollution Prevention
- NEPA Planning
- Restoration
- Technology Transfer



NEPA Planning

- **Accomplishments and Process Improvements**
 - 19 Base disposal/reuse EISs and SIASs
 - ◆ Model documents (EIS, SIAS, EA) & Reuse Planning Guide
 - Environmental baseline surveys
 - Wetlands, historical/cultural, threatened & endangered species studies
 - Major program EISs (Ballistic Missile Defense System, Space Nuclear Thermal Propulsion,)

- **Looking to the Future**
 - BRAC III EISs and SIASs
 - Natural and Cultural Resources Program execution



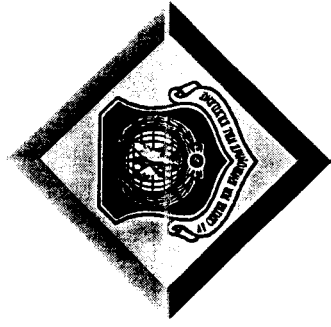
Restoration

■ Accomplishments and Process Improvements

- \$875M contracting capability in place
- \$2.1B in acquisition process
- Over \$400M in cleanup work underway (BRAC & DERA)
- New technologies being fielded

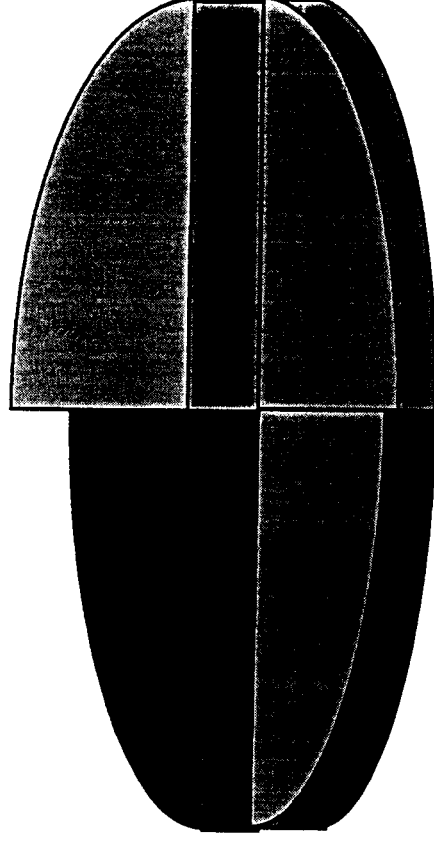
■ Looking to the Future

- Continued innovation: New technology/delivery strategies



How to get a piece of the pie?

- Commerce Business Daily (CBD)
- Team up and compete
- Quality performance



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BASE CLOSURE CLEANUP CONTRACTING

December 7-8, 1993 ♦ Washington, DC
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BASE CLOSURE CLEANUP CONTRACTING

December 7-8, 1993 ♦ Washington, DC
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DEPARTMENT OF DEFENSE BASE CLOSURE CLEANUP

**RISK-SHARING IN CLEANUP CONTRACTING FROM
THE SMALLER CONTRACTOR AND SUBCONTRACTOR VIEWPOINT**

*By Harold I. Rosen
December 8, 1993*

THE MARKET

"The government may have to spend hundreds of billions of dollars in the next 30 years to clean up hazardous waste at military bases, Energy Department installations, and other federal facilities." Congressional Budget Office as reported in BNA Federal Contract Reporter, no. 54 at p. 12 (July 2, 1990).

In November 1992, the Army issued its Army's Environmental Strategy for the 21st Century. That Strategy defines the Army's commitment to environmental stewardship. The pillars of the Strategy are (1) environmental compliance, (2) restoration of the environment, (3) pollution prevention (reducing waste), and (4) conservation (including preservation). Under the restoration pillar, the Army is dedicated to "continue to restore previously contaminated sites as quickly as funds permit."

The fiscal year 1992 DOD appropriation for cleanup was \$1,183,900,000.

The fiscal year 1993 appropriation for all DOD environmental programs is \$3.93 billion.

The President called for an additional \$2.2 billion to accelerate environmental cleanup at military installations being closed or realigned.

These are just appropriations. The costs and money needed are much, much greater. The extent of environmental restoration is not fully known or quantified. Even as remediation actions are underway, differing conditions are being found. Previously, in August 1992 the Congressional Budget Office found that cleanup cost estimates for installations covered by the first round of Base Realignment and Closure increased about 50% since February 1991.

THE GOVERNING LAWS

Environmental compliance activities primarily are governed by the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act ("RCRA"). The clean-up of past activities is governed by CERCLA, the Comprehensive Environmental Response, Compensation and Liability Act (Superfund).

THE RISKS

General Overview

These environmental statutes impose real, substantial added risks to contractors who undertake cleanup or remedial action work. Under CERCLA, an "operator of a site" can be a PRP. A "generator" of hazardous substances is also included as a PRP. So is a transporter of hazardous substances.

Every contractor who is either involved in remediation contracting or has an interest in the market is aware of the decision in Kaiser Aluminum v. Catellus Development Corp., 976 F. 2d 1338 (9th Cir. 1992) in which the U.S. Court of Appeals for the Ninth Circuit ruled that a company hired to excavate and grade land for a housing development was liable as a transporter of hazardous substances under CERCLA. While excavating the site, the contractor spread some soil containing hazardous chemical compounds over other parts of the property. The court concluded that the contractor was an operator because it had sufficient control over its portion of the development project and was a transporter because it had moved contaminated soil within the site.

CERCLA also imposes a strict liability standard (with an exception for response action contractors) regardless of culpability or negligence. To compound that problem, under CERCLA, PRPs assume joint and several liability.

RCRA also comes into play. RCRA creates the master-plan for the storage, transportation, and treatment and disposal of hazardous waste (cradle to grave concept). The Federal Facility Compliance Act expands the federal government's waiver of sovereign immunity under RCRA to expose those on federal sites to state requirements including fines

and penalties for RCRA violations.

Liability Risk Exposure to Third Parties

Potential third party liability extends to personal injury, injury to property and economic damages. Claimants may include employees, other workers at the site, PRPs, other response action contractors (RACs) at the site, visitors, and neighboring landowners or residents. There are numerous theories of liability available to these potential claimants.

1. Negligence - simple negligence (failure to use due care expected of a reasonable person under similar circumstances) or professional negligence (failure to act within generally applicable and accepted standards of the profession). Negligence liability requires (1) the existence of a duty of care, (2) conduct falling short of that duty, (3) proximate cause, and (4) injury. Cases are generally governed by state common law.

In the cleanup field, by way of example, Henshaw v. Edward E. Clark Engineers-Scientists, Inc., 490 So. 2d 161 (Fla. Appl. 1986) involved a case in which an engineering firm had been hired by a company to assess the extent of toxic contamination at the company's facility and then to bring the company's site into environmental compliance. Four years later, a state inspection found heavy contamination at the site. Company employees brought a personal injury action against, among others, the engineering firm, and it was found that the engineering firm owed those employees a duty of care.

2. Negligent Misrepresentation - defined in the Restatement of Torts as follows:

One who, in the course of his business, profession or employment, or in any other transaction in which he has a pecuniary interest, supplies false information for the guidance of others in their business transactions, is subject to liability for pecuniary loss caused to them by their justifiable reliance upon the information, if he fails to exercise reasonable care or competence in obtaining or communicating the information.

A response action contractor could have a liability risk for negligent misrepresentation where it misrepresents the extent or nature of contamination or the costs of cleanup of that contamination. Negligent misrepresentation represents a source of potential third party liability for RACs. RACs are arguably aware that their reports and work product will be

reported to and relied upon by others such as PRP groups. Potentially, any party who receives the RAC's reports and could reasonably rely on those reports is a possible source of negligent misrepresentation liability to the cleanup contractor.

3. Common Law Strict Liability - defined in the Restatement of Torts as follows:

One who carries on an abnormally dangerous activity is subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm.

Claims for common law strict liability have been brought against owners of hazardous waste disposal sites, as well as against generators and transporters of hazardous waste. For example, in Sterling v. Velsicol Chem. Corp., 647 F. Supp. 303 and 855 F. 2d 118, it was found that the operation of a chemical waste burial site was ultra-hazardous activity.

Similarly, the disposal of mercury in Love Canal was deemed to be abnormally dangerous activity for which strict liability could apply. N.J. Dept. of Environmental Protection v. Ventron Corp., 468 A. 2d 150 (1983). At the same time, other courts have taken the view that involvement with hazardous materials is not necessarily abnormally dangerous so that strict liability theories do not apply.

4. CERCLA Strict Liability - section 107(a) imposes strict joint and several liability for a release or threatened release of a hazardous substance. Liabilities are imposed upon the owner and operator of the hazardous waste site, transporters and those who arrange for the transportation of hazardous waste substances.

In 1986, section 119 was added to CERCLA. It established a federal negligence standard for RACs. Section 119 removed strict liability from the RAC provided the RAC was not liable under other provisions of CERCLA or federal law for its activities. As a result of section 119, a RAC is liable for its negligence, gross negligence, and intentional misconduct due to RAC activities, but is not strictly liable absent such negligence. This is helpful to cleanup contractors, but this exception is not without its limitations. First, it is unclear whether the exception extends to activities as an operator or arranger for transport under CERCLA. It also does not extend to remedial actions at sites other than Superfund (NPL) sites.

5. RCRA Liability - any person may bring suit directly against a RAC who is in violation of RCRA. In addition, suit may be brought if there is an imminent and substantial danger presented by the management of a solid or hazardous waste site. While injunctive relief is the only relief available to a private citizen in such an action, the prevailing party may be awarded costs and attorneys' fees. This can be a significant consideration for a citizens group that may be considering a private RCRA enforcement action. It adds another risk to the cleanup contractor.

6. State Superfund Liability - many states have statutes patterned on CERCLA. Section 119 of CERCLA does not extend to state Superfund activities. Whether strict liability applies to a RAC under a state Superfund cleanup will depend on the state Superfund statute.

7. Nuisance - this concept deals with the use and enjoyment of land. If activities unreasonably interfere with a landowner, nuisance liability may be imposed. Nuisance liability may be imposed many years after the activity giving rise to the nuisance is undertaken.

8. Trespass - the interference with a possessory interest in land constitutes a trespass under common law where there is an entry on the land. There is inconsistency in the case law on whether the migration of pollutants onto property constitutes trespass. In any event, trespass is a commonly asserted cause of action where off-site migration has occurred.

9. Third Party Beneficiary Rights - another basis of potential liability can arise where a third party, such as a PRP, is an intended third party beneficiary of a cleanup contractor. In such an instance, even though the PRP is not a party to the contract, the PRP can bring an action against the RAC claiming third party beneficiary rights.

Liability Risk Exposure to Contracting Parties

First party liability arises between contracting parties when one party suffers injury due to the other party. In other words, RAC liability may arise to a property owner who has contracted for cleanup work. The liability is predicated on either breach of contract or contractual rights arising under the terms of the contract. The typical first party liability scenario implicating the cleanup contractor involves a delayed or abandoned performance or

poor quality of work failing to meet the requirements of the contract. From the other side, RAC assertions against the owner generally involve such things as interference with performance or extra work. There are cases involving those issues. An example is the litigation involving the Motco site in Texas in which the site owner claimed the cleanup contractor abandoned the soil incineration project and the contractor contended that the scope of the work was originally misrepresented and that the owner interfered with the cleanup work performance.

Liability Risk Exposure for Civil and Criminal Penalties

In addition to third and first party liability risk exposures, the compliance statutes provide civil enforcement procedures including the assessment of civil penalties for various violations which add even further risk to the cleanup contractor. For example, under RCRA, civil penalties up to \$25,000 per day for each RCRA violation may be imposed. The compliance statutes also provide for significant criminal penalties. Under RCRA, criminal penalties of \$50,000 for each day of violation and from two to five years imprisonment for a first violation can be imposed. This would cover such things as knowingly managing a hazardous waste facility without a permit, submitting false documents, or knowingly transporting hazardous waste to a facility without a permit. The penalties are substantially greater for second violators and where activities are involved that place individuals into imminent danger of death or serious bodily injury.

OSHA penalties also may arise. OSHA regulations extend to hazardous waste operations and emergency response and include such requirements as a written safety and health program, and notification regarding the properties of toxic substances. In addition, hazard communication standards are imposed. These regulations add further liability exposure to the cleanup contractor beyond those normally experienced by the typical construction contractor.

All of this is not the sort of framework conducive to enticing contractors into the cleanup contracting marketplace. It is also not conducive to low cost work.

LIMITING LIABILITY

Having emphasized the extensive list of added risk exposures to the cleanup contractor, it is also important to realize that there are means of reducing the liability exposure to a cleanup contractor. These include such things as corporate organization, insurance and fair and reasonable contract provisions.

Corporate Organization

Some companies involved in the cleanup field have concluded that a separate corporate structure for cleanup contracting is appropriate to protect the other corporate activities and their assets from the risk exposures. The theory is that under corporate law the separate corporation will be responsible for the liabilities arising out of the cleanup activity and that related corporate structures will not be "pierced" or touched in the event of some catastrophic liability incurred by the cleanup organization. Other companies have decided that a separate corporate structure for remedial action contracting is unnecessary. Whether a new corporate structure is appropriate depends on the particular circumstances of the particular company and the cleanup activities it intends to undertake.

Another corporate organizational action that can limit the risks is the development of a company-wide policy on remediation contracting. It is not unusual or inappropriate for even the smaller contractor to have such a policy. Such a policy can define the scope of work efforts that will be undertaken by the company in remediation contracting. The policy can state things the company will do and things the company will not do. It can explain the types or levels of contaminants the company will deal with and the types of owners it will work with. Company policy can also spell out certain contractual protections the company will expect in any remediation contract it will perform.

Insurance

Insurance for cleanup activities is not particularly available to cleanup contractors. Standard liability policies normally exclude risks associated with hazardous materials. Pollution liability policies have been either non-existent or offered with low liability limits

and high premiums. In addition, the pollution liability insurance that is available is normally only available on a claims-made rather than an occurrence basis. This means the policy must be in effect at the time the claim is made, which could be years after the cleanup work is performed.

Some consideration might be given to the development of a government insurance program providing liability protection to cleanup contractors. The government is a self insurer of its own activities. Why not extend that concept to those involved in remediation? After all, there is a great national interest in the restoration of our environment.

Contract Provisions

One of the most significant means of reducing liability risks for the cleanup contractor involves the terms of the cleanup contract. Frequently, liability risks of a project are so great and the contract provisions so imbalanced that prospective cleanup contractors have no interest in the contract. Competition is reduced.

Nowhere is this better exemplified than with the subject of indemnification. Because of the onerous risks of remedial action contracting, some indemnification against risks is normally in order but it is almost always unavailable.

1. Indemnification - shifts the exposure to liability from one contracting party to the other. The cleanup contractor sees itself as the first party to be exposed to liability for the cleanup activity. It is the contractor that moves or removes the first spade of earth. Prior to that time, investigation and design is performed, but those activities in and of themselves do not create the liability exposure. The contractor is the first one out there on the front-line exposing itself to liability, and those liabilities are great. It is for this reason that contractors are so vocal about indemnification.

EPA, under CERCLA, has not seen fit to offer indemnification to cleanup contractors. The issue has been active for years without real progress being made. In general, EPA has determined that it is inappropriate to offer indemnification to cleanup contractors in most instances. This policy is also mandatorily imposed on the Corps of Engineers with regard to its Superfund cleanup contracting program for EPA. Otherwise,

indemnification would be available to DOD and its cleanup contractors under Public Law 85-804.

Indemnification would be a tremendous boost to the environmental restoration process. It would bring more contractors into the marketplace and would reduce cleanup costs. Only when liability costs are actually experienced would the government pay.

2. **Scope of Work** - it is important that a cleanup contract clearly define the parameters of the work. The development of the scope of work should consider the risks to the cleanup contractor of performing the cleanup work. The scope of work is of primary significance in determining the extent of the cleanup contractor's responsibilities to the other contracting party, but it also has bearing on third party claims as well. Third parties can point to broadly written work scopes in support of contentions that the contractor violated its responsibilities.

3. **Defined Standard of Care** - because of the uncertainty regarding applicable standards of care, the situation can be improved by a contractual definition of the applicable standard of care. The Hazardous Waste Action Coalition in the past has prescribed a standard of care for engineers. Standards of care for cleanup contractors can be contractually prescribed as well.

4. **Liability Limitations** - are generally opposed by AGC contractors. AGC contractors are willing to be held responsible for their own wrongful actions and are unaccepting of shifts of liability due to liability limitations. Frequently, these shifts through liability limitations end up imposing greater risks upon contractors. As a result, AGC, as a policy, does not support liability limitations generally.

5. **Flow-down Provisions** - as subcontractors in the cleanup field, it is imperative that protective prime contract provisions be fully flowed down to the subcontractor so that the cleanup contractor, as a subcontractor, has the full extent of liability exposure minimization offered to the prime contractor. Thus, for example, if a prime contract grants some form of indemnification, that indemnification should be fully extended to the subcontractor.

ISSUES TO BE RESOLVED

From the smaller contractors' viewpoint much more needs to be done, policy-wise, to ensure greater contractor involvement and competition in the cleanup process. Will the EPA, an agency designed to protect the environment, prevail over others, such as the Corps of Engineers, an agency designed for engineering and construction, who believe that cost effectiveness and competition can be fostered by providing added protections, such as indemnification, against the high risks associated with environmental cleanup contracting? Policy should consider other protections as well. After all, the smaller contractors can play a very key role in cleaning up our DOD facilities, and policy must recognize this key role and the risks inherent in the work to those contractors. Cleanup contracting is not construction contracting "as usual" and the process must recognize this.

Document Separator

The Role of States in the Cleanup of
Closing Bases

(Summary of Authorities and Preliminary
Notes on Possible Issues)

Samuel W. Goodhope
Special Counsel for Environment and Transportation
Office of the Attorney General,
State of Texas

Presentation to the Base Closure Cleanup Contracting Conference

Defense Week and Environment Week

December 7-8, 1993

Washington, D.C.

London. Michaelmas term lately over, and the Lord Chancellor sitting in Lincoln's Inn Hall. Implacable November weather...Fog everywhere. Fog up the river, where it flows among green aits and meadows; fog down the river, where it rolls defiled among the tiers of shipping, and the waterside pollutions of a great (and dirty) city. Fog on the Essex Marshes, fog on the Kentish heights...The raw afternoon is rawest, and the dense fog is densest, and the muddy streets are muddiest, near the leaden-headed old obstruction, appropriate ornament for the threshold of a leaden-headed old corporation: Temple Bar. And by Temple Bar, at Lincoln's Inn Hall, at the very heart of the fog sits the Lord High Chancellor in his High Court of Chancery.

Never can there come fog too thick, never can there come mud and mire too deep, to assort with the groping and floundering condition which this High Court of Chancery, most pestilent of hoary sinners, holds, this day, in the sight of heaven ad earth.

Charles Dickens, Bleak House

The Task Force report points to overlapping jurisdiction, conflicting standards, and litigation as causes of confusion and delay in the remediation process. This leaves the impression, which I believe to be misleading, that regulatory authorities might facilitate cleanups by simplifying environmental standards and/or reducing their enforcement efforts. The report would be more balanced in my opinion if it stressed, instead, the absolute importance of cooperation among state and federal regulatory authorities, public involvement at all stages, and strict compliance with environmental standards. These measures are most likely to reduce confusion and avoid delay.

Dan Morales, Attorney General, State of Texas¹

¹ Letter to Mr. Thomas E. Baca, Deputy Assistant Secretary of Defense (Environment), dated October 15, 1991.

I. The Legislative Framework: "On a Clear Day...."

A. The Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA")

1. "Contaminated" Property

42 U.S.C § 9620(h)(3)² provides:

[I]n the case of any real property owned by the United States on which any hazardous was stored for one year or more, known to have been released, or disposed of, each deed entered into for the transfer of such property by the United States to any other person or entity shall contain--

...

(B) a covenant warranting that--

(i) all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer, and

(ii) any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States...

2. "Clean " Property

42 U.S.C. § 9620(h)(4)³ provides the framework for identifying and transferring "clean parcels" of real property from the Department of Defense ("DOD") to our communities. This provision provides, furthermore, that DOD must provide a covenant "warranting that any response action or corrective action found to be necessary after the date of [the clean parcel transfer] shall be conducted by the United States."

² Section 120(h)(3) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA").

³ Section 120(h)(4) of CERCLA, as amended by the Community Environmental Response Facilitation Act ("CERFA").

42 U.S.C. § 120(h)(4)(A) enumerates several procedures which must be used in identifying clean parcels, *i.e.*, parcels of land on a closing base on which "no hazardous substances and no petroleum products or their derivatives were stored for one year or more, known to have been released, or disposed of." (CERFA describes the enumerated identification procedures as the "minimum" required.)

Regulatory concurrence is inherent and essential to the "identification" of clean parcels under § 120(h)(4). Section 120(h)(4)(B) states:

The identification required under subparagraph (A) is not complete until concurrence in the results of the identification is obtained, in the case of real property that is part of a facility on the National Priorities List, from the [USEPA] Administrator, or, in the case of real property that is not part of a facility on the National Priorities List, from the appropriate State official. (Emphasis added.)

That is, until there is regulatory concurrence, there is no "perfected" identification of "clean" parcels.

B. The Resource Conservation and Recovery Act ("RCRA")⁴

Pursuant to 42 U.S.C § 6961, states which have "authorized" programs have oversight of federal facilities. Federal facilities are thus subject to all state, interstate, and local hazardous waste requirements (substantive and procedural), including requirements for permitting, reporting, imposing corrective action, and the taking of other enforcement procedures.

C. The Role of States in Cleanups

1. CERCLA

42 U.S.C. § 9620(a)(4) provides:

State laws concerning removal and remedial action, including State laws regarding enforcement, shall apply to removal and remedial action at facilities owned or operated by a department, agency, or instrumentality of the United States when such facilities are not included on the National Priorities List. The preceding sentence shall not apply to the extent a State law would apply any standard or requirement to such facilities which is more stringent than the standards and requirements applicable to facilities which are not

⁴ As amended by the Hazardous and Solid Waste Amendments of 1984 and the Federal Facility Compliance Act of 1992, § 102(a) and (b).
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owned or operated by any such department, agency, or instrumentality.

42 U.S.C. § 9620(f) provides:

The Administrator and each department, agency, or instrumentality responsible for compliance with this section shall afford to relevant State and local officials the opportunity to participate in the planning and selection of the remedial action, including but not limited to the review of all applicable data as it becomes available and the development of studies, reports, and action plans. In the case of State officials, the opportunity to participate shall be provided in accordance with section 9621 of this title.

In turn, 42 U.S.C. § 9621(d) provides:

(1) Remedial actions selected under this section or otherwise required or agreed to by the President under this chapter shall attain a degree of cleanup of hazardous substances, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment. Such remedial actions shall be relevant and appropriate under the circumstances presented by the release or threatened release of such substance, pollutant, or contaminant.

(2)(A) With respect to any hazardous substance, pollutant or contaminant that will remain onsite, if -

(i) any standard, requirement, criteria, or limitation under any Federal environmental law, including, but not limited to, the Toxic Substances Control Act [15 U.S.C.A. § 2601 et seq.], the Safe Drinking Water Act [42 U.S.C.A. § 300f et seq.], the Clean Air Act [42 U.S.C.A. § 7401 et seq.], the Clean Water Act [33 U.S.C.A. § 1251 et seq.], the Marine Protection, Research and Sanctuaries Act [33 U.S.C.A. § 1401 et seq.], or the Solid Waste Disposal Act [42 U.S.C.A. § 6901 et seq.]; or

(ii) any promulgated standard, requirement, criteria, or limitation under a State environmental or facility siting law that is more stringent than any Federal standard, requirement, criteria, or limitation, including each such State standard, requirement, criteria, or limitation contained in a program approved, authorized or delegated by the Administrator under a statute

cited in subparagraph (A), and that has been identified to the President by the State in a timely manner,

is legally applicable to the hazardous substance or pollutant or contaminant concerned or is relevant and appropriate under the circumstances of the release or threatened release of such hazardous substance or pollutant or contaminant, the remedial action selected under section 9604 of this title or secured under section 9606 of this title shall require, at the completion of the remedial action, a level or standard of control for such hazardous substance or pollutant or contaminant which at least attains such legally applicable or relevant and appropriate standard, requirement, criteria, or limitation. (Emphasis added.)

42 U.S.C § 9621(e)(2) provides:

A State may enforce any Federal or State standard, requirement, criteria, or limitation to which the remedial action is required to conform under this chapter....

42 U.S.C. § 9621(f) sets forth the provisions regarding state involvement in the remedy selection process:

(1) The President shall promulgate regulations providing for substantial and meaningful involvement by each State in initiation, development, and selection of remedial actions to be undertaken in that State. The regulations, at a minimum, shall include each of the following:

...

(E) A reasonable opportunity for States to review and comment on each of the following:

(i) The remedial investigation and feasibility study and all data and technical documents leading to its issuance.

(ii) The planned remedial action identified in the remedial investigation and feasibility study.

(iii) The engineering design following selection of the final remedial action.

(iv) Other technical data and reports relating to implementation of the remedy.

(v) Any proposed finding or decision by the President to exercise the authority of subsection (d)(4) of this section.

(F) Notice of the State of negotiations with potentially responsible parties regarding the scope of any response action at a

facility in the State and an opportunity to participate in such negotiations and, subject to paragraph (2), be a party to any settlement.

(G) Notice to the State and an opportunity to comment on the President's proposed plan for remedial action as well as on alternative plans under consideration. The President's proposed decision regarding the selection of remedial action shall be accompanied by a response to the comments submitted by the State, including an explanation regarding any decision under subsection (d)(4) of this section on compliance with promulgated State standards. A copy of such response shall also be provided to the State.

...

(3)(A) This paragraph shall apply to remedial actions at facilities owned or operated by a department, agency, or instrumentality of the United States. At least 30 days prior to the publication of the President's final remedial action plan, if the President proposes to select a remedial action that does not attain a legally applicable or relevant and appropriate standard, requirement, criteria, or limitation, under the authority of subsection (d)(4) of this section, the President shall provide an opportunity for the State to concur or not concur in such selection. If the State concurs, or does not act within 30 days, the remedial action may proceed.

2. RCRA

42 U.S.C. § 6924(u) and (v)⁵ require each federal facility to comply with state (or EPA on- and off-site corrective actions as part of a RCRA permit process.

42 U.S.C. § 6929 provides:

Nothing in this title shall be construed to prohibit any State or political subdivision thereof from imposing any requirements, including those for site selection, which are more stringent than those imposed by such regulations.

⁵ RCRA § 3004(u) and (v).
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II. Intergovernmental Development of Appropriate Cleanup Standards: The "Fog" Descends...(or, "What Part of "No" and "Any" is Not Understandable?)

A number of concerns have arisen during the past few years regarding the role of states in ensuring DOD compliance with CERCLA and RCRA. Aside from issues of jurisdiction (e.g., which regulator has the lead?), these concerns have centered around the development or imposition of cleanup standards. The concerns can be summarized as follows:

1. It is unclear whether states have the authority to impose their standards on DOD.

As should be clear from the provisions cited above, Congress has either given states robust authority to have their standards enforced under CERCLA by EPA (through the § 9621(f) process), or has recognized the power of states to enforce their standards on their own through the RCRA corrective action process.

This is probably not a big issue any more.

2. State standards differ, are inconsistent with respect to other states, and are difficult to compile.

This is a communication problem which DOD is expending a lot of effort and time in addressing. As work proceeds and communication increases, the services and the states will solve this problem.

3. State standards may be inconsistent with EPA standards and this causes confusion.

As should be clear from the legislative framework, state standards which are more rigorous and which ensure a higher degree of protection for health and the environment should be complied with by DOD.

In any event, it should be determined whether or not this is as important an issue as some make it out to be.

4. State standards do not necessarily take into account the future use of property to be transferred.

Whether future land use should be a factor in determining whether or not DOD property is "contaminated" to begin with, or to what standard the property must be cleaned up, are policy and political issues to be decided by Congress. States do not have to take into account future land use at this time (although they might by adopting risk reduction rules).

At this time, however, if "any hazardous substance was stored for one year or more, known to have been released, or disposed of," then "all remedial action necessary to protect human health and the environment" must be taken before the property is transferred. The EPA in enforcing CERCLA § 120(h)(3) would presumably accede (pursuant to CERCLA § 120(a)(4) and (f)) to state requirements regarding whether there was "any" contamination or storage, as well as whether "all" remedial action had been taken.

Furthermore, it may be important to note that courts have not been as willing as regulators to read quantity limitations into CERCLA. See, United States v. Alcan Aluminum Corporation, 990 F.2d 711, 720 (2nd Cir. 1993)("The absence of...quantity requirements in CERCLA leads inevitably to the conclusion that Congress planned for the "hazardous substance" definition to include even minimal amounts of pollution); Amoco Company v. Borden, Inc., 889 F. 2d 664, 669 (5th Cir. 1989)("As with 'hazardous substance,' the plain statutory language fails to impose any quantitative requirement on the term 'release.'")

It is important to reduce or eliminate possible tensions between the economic redevelopment and environmental remediation interests associated with the clean up, transfer, and reuse of closing bases. Decisions regarding clean up standards and priorities among sites at any given base should be based primarily upon public health and environmental criteria.

While development-oriented local interests may believe that less strict clean up standards encourage or allow quicker economic development, it can be argued that stricter standards and continued adherence to "worst first" principles will better serve local economic growth in the long run.

For example, and most ominously, communities may pursue base reuse plans to quickly convert airbases into airports which are not appropriately mindful of environmental clean up issues. These plans may grind to a halt when banks, insurance companies, and other investors and lenders (and their lawyers) discover that the base cleanups have not been complete or have been accomplished according to a lower clean up standards.

5. It may be too expensive for DOD to comply with state standards.

This is more of a budget issue than an environmental issue. If, after the regulators and the services work together during the CERCLA and RCRA process, the remedial or corrective action is found to be too expensive, then Congress must address the issue. Under the current legislative and regulatory regime, attempts to subsidize economic development through the loosening of cleanup standards may be problematic, as well as short-sighted.

§ 9620(a)(4) State Laws

State laws concerning removal and remedial action, including State laws regarding enforcement, shall apply to removal and remedial action at facilities owned or operated by a department, agency, or instrumentality of the United States when such facilities are not included on the National Priorities List. The preceding sentence shall not apply to the extent a State law would apply any standard or requirement to such facilities which is more stringent than the standards and requirements applicable to facilities which are not owned or operated by any such department, agency, or instrumentality.

§ 9620(f) State and local participation

The Administrator and each department, agency, or instrumentality responsible for compliance with this section shall afford to relevant State and local officials the opportunity to participate in the planning and selection of the remedial action, including but not limited to the review of all applicable data as it becomes available and the development of studies, reports, and action plans. In the case of State officials, the opportunity to participate shall be provided in accordance with section 9621 of this title.

§ 9621 (d) Degree of cleanup

(1) Remedial actions selected under this section or otherwise required or agreed to by the President under this chapter shall attain a degree of cleanup of hazardous substances, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment. Such remedial actions shall be relevant and appropriate under the circumstances presented by the release or threatened release of such substance, pollutant, or contaminant.

(2)(A) With respect to any hazardous substance, pollutant or contaminant that will remain onsite, if -

(i) any standard, requirement, criteria, or limitation under any Federal environmental law...; or

(ii) any promulgated standard, requirement, criteria, or limitation under a State environmental or facility siting law that is more stringent than any Federal standard, requirement, criteria, or limitation, including each such State standard, requirement, criteria, or limitation contained in a program approved, authorized or delegated by the Administrator under a statute cited in subparagraph (A), and that has been identified to the President by the State in a timely manner,

is legally applicable to the hazardous substance or pollutant or contaminant concerned or is relevant and appropriate under the circumstances of the release or threatened release of such hazardous substance or pollutant or contaminant, the remedial action selected under section 9604 of this title or secured under section 9606 of this title shall require, at the completion of the remedial action, a level or standard of control for such hazardous substance or pollutant or contaminant which at least attains such legally applicable or relevant and appropriate standard, requirement, criteria, or limitation.

§ 9621(d)(4)

The President may select a remedial action meeting the requirements of paragraph (1) that does not attain a level or standard of control at least equivalent to a legally applicable or relevant and appropriate standard, requirement, criteria, or limitation as required by paragraph (2) (including subparagraph (B) thereof), if the President finds that - . . .

....

(E) with respect to a State standard, requirement, criteria, or limitation, the State has not consistently applied (or demonstrated the intention to consistently apply) the standard, requirement, criteria, or limitation in similar circumstances at other remedial actions within the State; or

...

§ 9621 (f) State involvement

(1) The President shall promulgate regulations providing for substantial and meaningful involvement by each State in initiation, development, and selection of remedial actions to be undertaken in that State. The regulations, at a minimum, shall include each of the following:

...

(3)(A) This paragraph shall apply to remedial actions at facilities owned or operated by a department, agency, or instrumentality of the United States. At least 30 days prior to the publication of the President's final remedial action plan, if the President proposes to select a remedial action that does not attain a legally applicable or relevant and appropriate standard, requirement, criteria, or limitation, under the authority of subsection (d)(4) of this section, the President shall provide an opportunity for the State to concur or not concur in such selection. If the State concurs, or does not act within 30 days, the remedial action may proceed.

§ 9620(a)(4) State Laws

State laws concerning removal and remedial action, including State laws regarding enforcement, shall apply to removal and remedial action at facilities owned or operated by a department, agency, or instrumentality of the United States when such facilities are not included on the National Priorities List. The preceding sentence shall not apply to the extent a State law would apply any standard or requirement to such facilities which is more stringent than the standards and requirements applicable to facilities which are not owned or operated by any such department, agency, or instrumentality.

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MONTEREY COUNTY

INTERGOVERNMENTAL AFFAIRS

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VERONICA A. FERGUSON
Assistant County Administrative Officer



Good Afternoon. Today I will be sharing the Monterey County, California perspective on cleanup contracting. While looking through papers on Fort Ord to gather material for this speech, I came across a briefing on the President's 5-point plan -- explaining Transition coordinators. In it, in wonderful Army graphics, there were these clouds on the chart illustrating the word "LOCAL". Interestingly, local for the sake of that chart included: counties, cities, other governments, special districts, the State, Congress, the Installations, community agencies, and the private sector.

For the sake of this speech, I am going to take much of the same liberties. I am going to share my perspectives as a County administrator facing a significant base closure for the first time, but also some of the insights as a member of the California Environmental Protection Agency (EPA) Base Closure Advisory Commission on behalf of the California State Association of Counties (CSAC), as a public policy instructor in the Masters of Public Administration (MPA) program at Golden Gate University, and as a student of public perception of government actions. Each of these roles has broadened my "local" view and enables me to share certain insights on environmental cleanup.

Monterey County is the home of Fort Ord, which was downsized in BRAC II. Fort Ord, established in 1917 as a training and staging facility for Army Infantry troops, has also been a basic training center and most recently was the home of the 7th Infantry Division. We are fortunate in that most of our cleanup involves petroleum hydrocarbons. Chemicals in the soil that were a result of routine activities can be easily cleaned.

Fort Ord is the largest in acreage of the U.S. military bases to close to date. It covers 28,000 acres, the equivalent of 44 square miles, about the size of the City and County of San Francisco. Approximately 22,000 acres are in the unincorporated area, including 4,000 acres of the most beautiful coastal property in the United States and 8,000 acres, home to rare habitat and endangered species and also an impact area covered with unexploded ordnances. The Cities of Marina and Seaside have jurisdiction over approximately 6,000 acres, predominantly developed areas, resulting from annexations for the per capita subventions in the 1970s.

Fort Ord was placed on the National Priorities List of Superfund sites by the EPA in February, 1990. The Army is the lead agency for the cleanup. A Federal Facility Agreement between Region 9 of the EPA, the State Department of Toxic Substances Control, and the State Regional Water Quality Control Board is in place. One of our first concerns locally was that we were not a party to the Agreement and were excluded from the agreement negotiations. The Army learned early on, however, how important it was to include us -- and the County Environmental Health Officer is now invited to attend, after some interesting media attention.

Tip #1: Figure out who you are leaving out before you leave them out to avoid negative publicity locally.

The original dilemma at Fort ord was that long term remedial action could take 20 to 30 years and that no transfers could occur until it was completed. CERFA -- a bill introduced by our then Congressman, Leon Panetta, has helped by allowing "clean parcels" to be transferred.

My experience with the Army, its NEPA and cleanup contractors, has been extremely positive. In fact, I have only seriously questioned the Army's judgment once -- back in 1990 when they included Fort Ord on the Base Closure List. Those of you that have had the chance to spend a sunny, clear day at Fort Ord know what I am talking about. Its an unbelievable facility and will made an exceptional California State University campus.

CERCLA site characterizations are being done on 41 sites on Fort Ord. Two operable units have been identified for separate investigations and cleanup: the landfills approximately 150 acres and burn pits at the Airfield used for fire training. The Army had to study the impacts of the landfills on soil and ground.

The environmental staff at Fort Ord have emphasized an Accelerated Action Planning process which will hopefully save the federal government \$10 million and the community two years of delays. They have accelerated the site characterization before reuse can begin. Rather than do the work consecutively, they have taken a "rolling" approach, consolidated their review periods, and eliminated time lags. They have reduced the risk before the record of decision, rather than after. It is a model for the Nation.

The County Administrative Office - Intergovernmental Affairs Division is in place to handle special projects including the Fort Ord downsizing. We staff the County's interdepartmental committee on Fort Ord. This committee consists of our Health department, Environmental Health, Planning and Building Inspection, Public Works, and Parks to name a few.

We are also the administrator for the Office of Economic Adjustment, Economic Development Administration, Community Development Block Grant, and Trade and

Commerce grant monies. These are the dollars and cents that -- coupled with blood, sweat, and tears -- finance our local reuse efforts. These monies pay for our reuse office, our project coordinator, habitat mitigation planning and interface with the Section 7 process, and detailed infrastructure studies. As an aside, we have hired Paul Reimer, a member of the ULI and a representative on the Federal Environmental Response Task Force to complete this work for us. We are financing operational plans and a University of California science, environment, technology policy center and research park, including California Environmental Quality Act (CEQA) environmental review.

We are generalists. We will and have looked to contractors to assist us with all this work. In our ignorance we looked to experts.

Tip #2: Consider giving free advice early on to get your foot in the door -- establish your credentials.

One of my first questions as an administrator to environmental consultants is "Who are you and what are you going to do?" As the County contact person, it was very helpful when the environmental contractor went out of their way to communicate with us -- the "locals". I am even more appreciative when I consider how many of us there are and the difficulty of outreach.

Our former Congressman, Leon Panetta, formed an advisory group early that began reviewing the cleanup issues. The group is headed by the County Environmental Health Officer and a proactive, former County Planning Commissioner. Together with engineers, marine biologists, and citizens they have worked with the Army and have been included in meetings.

Just recently, last Friday in fact, the policymakers, Board members and Mayors,

were approached to form a restoration advisory board and appoint a "local" community co-chair. The advisory board will hopefully fold in/incorporate the environmental advisory group to avoid duplication and will include other active citizens. For example, we now have a Fort Ord Toxics projects. They have been anxious to participate and hopefully will have that chance.

One of the first things we did at the County at the outset of our reuse efforts and in conjunction with the National Association of Counties (NACO) and IBM, was hold a three day strategic planning seminar on Fort Ord and the Vision of the County in the year 2000. 200+ members of the community were invited to participate. We asked our local leaders to draw a picture of the vision for the County. Amazingly, the pictures were very similar.

Three major themes emerged:

The desire for environmental enhancement, educational opportunity and economic recovery. The participants emphasized their love of our natural environment, the pristine nature of the Monterey Bay.

We found out a very obvious, yet overlooked fact. Our citizens were proud of their environment. To clean the base to less than the most stringent of federal, state, and local standards would be very controversial. The lesson we learned is:

Tip #3: Survey the community. Understand the underlying values as soon as you can.

Another thing that came out of the three day session was that our community was worried about the economic impacts -- about jobs. They wanted to replace the

jobs lost immediately, if not sooner.

Tip #4: Use local resources. When putting the proposal together, consider a subcontract with a local engineering firm; use local job training programs, start a local office. It will make it much easier for you to integrate into the community and make it easier for the political leadership to support you.

One notable experience at the outset involved the NEPA document. The County Board of Supervisors was emphatic that if at all possible, NEPA and CEQA environmental review and documentation ought to be consolidated and combined. The Army was reluctant to pay for both. Given the County's financial condition at the time, we abstained. Now after over \$1 million in expenditures, I am glad we weren't joint financing partners in the environmental document but will most likely end up regretting it if no economic conversion takes place while we wait for the EIR to be completed.

The Cal EPA Environmental Advisory Group was formed by the Governor Pete Wilson, staffed by the State Department of Toxic Substances to ensure accelerated environmental restoration. Our group is diverse. It includes government, environmental interest groups, and chambers of commerce. We have met five times and discussed topics such as air credits, radioactive and mixed waste, technical advisory grants, water cleanup standards, ARARS and indemnification.

As a member of the Cal EPA Base Closure Advisory Group, I have been exposed to much greater information than the average citizen and am sensitive to this because everyone wants to talk about Fort Ord -- and they do. My graduate students try to write about the environmental cleanup. When confronting base

closure for the first time one thing is clear: the audience is simple and naive -- even graduate students. Base Closure 101 is a relatively new course. It was not taught in law school when I attended. Administrators and elected policymakers have had little need to understand environmental cleanup procedures, and at first the subject is overwhelming.

I attended an excellent Base Closure workshop sponsored by the California Assembly Task Force on Defense Conversion. One of the discussion sessions was on environmental cleanup. A local brilliant legislator who was moderating the discussion was asked several times why there isn't an easy way to understand the cleanup process. After pointing out what we would consider to be a fairly straight forward chart, he shrugged and ended the session in frustration.

Two weeks ago, before the California Coastal Commission, I used the term Record of Decision (ROD). Several members of the Commission asked me to define that unfamiliar word, Record of Decision.

Tip #5: Don't take shortcuts in your explanations. Spend the time and target your written and oral communications to a 10th grade level with no military background or experience.

The Fort Ord Environmental Office has been doing that and it shows. Their outreach efforts have been extremely successful. People understand what they are talking about.

Tip #6: Heed the keystone report.

The Committee's recommendations were, in my opinion, well grounded. Where possible, provide for: 1) improved information flow; 2) greater citizen/local

input; and 3) information exchange.

In California, CSAC, in conjunction with the California Council on Partnerships, established a Base Closure/Base Conversion electronic bulletin board. I have put in information on the Cal EPA Advisory Committee, the Governor's Military Base Reuse Task Force and others provide general information on the conversion/reuse. There is no reason why a similar board could not be established for environmental information in an area. The Board is an easy and convenient way to share information. It allows you to communicate in a timely manner both site specific and programmatic decisions regarding cleanup.

One of the nice things about working on Fort Ord is that we haven't had to endure a frustrating environmental cleanup yet. In the September/October edition of the California County journal, there was an article on Norton Air Force Base in San Bernardino County. Former Assemblyman, now County Supervisor Jerry Eaves is quoted as saying:

"Part of the problem is that the military has a base closure process that is outdated and incomplete. When Norton was placed on the 1980 list, the idea was to sell it for a profit, clean up the environmental problems and still have money left over. It wasn't realistic. The cleanup was a lot more expensive than originally considered."

Despite sympathizing with Supervisor Eaves, Fort Ord's environmental program has been responsive. The Clinton Administration's Fast Track Cleanup is committed to cutting red tape and removing delays while protecting public health.

In conclusion, if one thing is true in the Base Closure business, it's that if you give the military a date or if the military gives you a date, they meet that date.

Tip #7: Take the Army's dates seriously.

The Army and its contractors' efforts have made it possible to expect disposition of properties as early as April, 1994. We locals are working hard to be ready to receive the property at that time. We are proud of the Army's efforts in environmental cleanup. I encourage those of you in the contracting arena to contact our environmental office to learn what fast tracking really means.

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**The Need for Risk Sharing
in DOD Base Closure Cleanup Contracts: An Engineers Perspective**

**Hazardous Waste Action Coalition
December 8, 1993**

HWAC

Carolyn Kiely

LIABILITY CONSIDERATIONS

- Legal
 - Liability without regard to fault (i.e., strict, joint and several liability)
 - Recent suits against contractors for cleanup activities (EPA contractors, DOE contractors)
- Risk Management
 - Available insurance is insufficient risk management (i.e., claims made)
 - Unproven technologies
 - Absence of widely accepted standards
 - Bonds available in very limited amounts/quantity
- **DOD CAN NOT CONTRACT AWAY LIABILITY FOR THEIR WASTE**
 - Created in interest of national defense
 - DOD is owner, operator and generator, or directed the waste production, and as such has retroactive liability for their waste

IIWAC

DOD RISK SHARING

- **History**
 - Contractor liability study (June 1991)
 - March 10, 1992 -- "no problem" (Thomas Baca, Deputy Assistant Secretary of Defense - Environment)
 - June 10, 1992 -- DOD missed the deadline for announcing policy
 - Risk Sharing Initiative (HWAC, AGC, NCA, NSIA, ADPA, individual firms)
 - Final 1992 legislation -- DOD study situation (again)
- **Endorsed industry position on environmental restoration contractor liability**

DOD RISK SHARING, cont.

- DOD should
 - Implement an Agency-wide policy → Apparently soon to come out?
 - Indemnify contractors for strict, joint and several liability ie For Liability w/o Fault
 - Cap contractor liability for negligence (i.e., establish a reasonable "deductible" that takes into account uncertainties) *
 - Limit contractor liability to a specified period of years *
 - Provide special incentives for use of innovative technologies
 - Reimburse contractors for the cost of pollution-related insurance

* Insurance considerations

RISK SHARING BY OTHER FEDERAL AGENCIES

- DOE risk sharing
 - DOE M&O contractor accountability rule
 - Standard of liability based on negligence
 - Contractor responsible for the first layer of financial exposure (like a "deductible") that is determined by six-month fee or profit
 - Mandatory subcontractor flow-down
 - Insurance not an allowable cost
 - Public Law 85-804 "umbrella"

EPA RISK SHARING

- Existing Contracts

- CERCLA Section 119 (NPL-Sites)

- Exempts Response Action Contractors (RACs) and their subcontractors from strict, joint and several liability under Federal Law

- Indemnification for negligence

only not state

- Section 119 Requirements

- Unavailable insurance or insurance not offered at "fair and reasonable price"

- RAC and subcontractor "diligent efforts"

- New Contracts

- No indemnification unless insufficient competition results (one case so far)

[Handwritten mark]

KEY POINTS

- **DOD has been slow to provide risk sharing to its environmental restoration contractors**
- **Need a prompt resolution of this matter (i.e., upcoming procurements)**
- **DOD is not obtaining the full range of firms for environmental restoration activities**
- **Business Concerns:**
 - **Should not be required to "bet the company" with each cleanup job**
 - **Commercial clients provide risk sharing**
 - **Current insurance is insufficient to deal with hazardous waste risks; long-term protection not available**
 - **Limited (i.e., claims made vs. occurrence)**
 - **Amounts available insufficient**
 - **Costly (annual policy; annual premiums)**
 - **Companies are willing to face exposure for willful misconduct; other risk profiles should be based on a negligence standard, the value of the contract, and available insurance**

KEY POINTS, cont.

- Business concerns, cont.:
 - Contractor "at risk" amounts must be definable in both dollars and time, and must be related to the contract fee or profit
 - ↳ this would help getting insurance available
- Contracts should not require environmental restoration firms to indemnify the government (no legal basis)
- Bonding and insurance requirements must be reasonable

CONCLUSION

**ADEQUATE RISK SHARING IS VITAL TO CONTINUED
INVOLVEMENT OF EXPERIENCED, QUALIFIED FIRMS IN
FEDERAL ENVIRONMENTAL RESTORATION ACTIVITIES**

ENDORSED INDUSTRY POSITION ON ENVIRONMENTAL RESTORATION CONTRACTOR LIABILITY

DOD is anticipating a major expansion of its environmental restoration activities due to the need to clean up both existing facilities and bases targeted for closure. This effort is anticipated to cost several billion dollars, and involves activities to protect human health and the environment from the impacts of hazardous waste releases and/or potential releases. DOD, as the owner of facilities, bears the responsibility for protecting human health and the environment, and also bears direct liability for the existence of waste at these facilities.

Because of the liability associated with cleanup of DOD facilities, many experienced environmental restoration and management firms are either not bidding or proposing DOD environmental restoration work or are bidding or proposing only limited tasks to minimize liability exposure. Given the planned expansion in DOD's cleanup program, a change in DOD's contract terms is needed to expand the contractor resource base available to DOD and to improve competition.

Principles

Changes to DOD's contracting policy should be based on the following principles.

First, DOD generated the waste as a by-product of its basic mission. Therefore, DOD bears the ultimate responsibility for the waste including responsibility for protecting the public. This principle is consistent with the CERCLA concept of liability which holds the generator responsible for hazardous waste pollution. DOD's responsibility cannot be contracted away.

Second, liabilities incurred by cleanup and management contractors should be based on a negligence standard rather than a standard based on strict, joint and several liability. The strict, joint and several liability standards are more appropriate for the waste generator not the cleanup contractor who did not generate the waste, has limited control over the final remedy selected, and who may be unaware of pre-existing site conditions and/or the extent of environmental contamination at the site.

Third, innovative technologies will be needed to solve many of DOD's environmental contamination problems. The uncertainties concerning the ultimate effects resulting from the application of innovative technologies result in additional risks. Contractors should be encouraged, not discouraged, to use innovative technologies.

Fourth, the risks associated with environmental restoration should be allocated between the government and the cleanup contractor on the basis of their respective roles.

Framework for a Solution

DOD's contracting policies should be changed to provide the following provisions.

1. DOD should provide an indemnity for strict, joint and several liability arising under both federal and state laws. Current federal and state laws potentially hold the contractor responsible regardless of the degree of fault.

2. Cleanup contractors should be liable to the extent of their negligence up to some level above which the government would assume responsibility for claims. The amount for which the contractor is responsible should be related to the size of the contract.
3. DOD should provide contract language that establishes a time limit after completion of the work for the contractor's responsibility. This would eliminate "long tail" claims that can occur long after the work has been performed.
4. Changes to liability terms should be implemented as a matter of overall DOD policy. Implementation by the Services or Commands should be established and made known well in advance of any procurement to the contractor community.
5. In addition to adequate risk sharing mechanisms, DOD should provide special incentives such as reduced liability limits to encourage contractors to use innovative technologies.

Implementation

1. DOD can accomplish a significant improvement by fully using existing authorities, such as Public Law 85-804 and FAR Clause 52.228-7 to fulfill government responsibilities. Appropriate Secretary approval and FAR modifications should be obtained to facilitate the use and ensure the applicability of these mechanisms.
2. In addition, the Congress could provide substantial assistance to this effort by incorporating these principles into law.

POSITION ENDORSERS (as of August 26, 1992)

ORGANIZATIONS:

American Defense Preparedness Association
 Associated General Contractors of America
 Hazardous Waste Action Coalition
 National Constructors Association
 National Security Industrial Association

American Congress on Surveying and Mapping
 American Council of Independent Laboratories
 ASFE/The Association of Engineering Firms
 Practicing in the Geosciences
 Contract Services Association of America
 Electronic Industries Association
 National Society of Professional Engineers
 Remedial Contractors Institute

American Consulting Engineers Council
 American Society of Civil Engineers
 Associated Builders and Contractors

 Design Professionals Coalition
 National Association of Minority Contractors
 Professional Services Council
 The Environmental Business Association

INDIVIDUAL FIRMS:

ABB Environmental Services, Inc.
AECOM Technology Corp.
Ayers Associates
Bartelle
Bechtel Group Inc.
Burns & McDonnell Waste Consultants, Inc.
CH2M Hill
Consoer Townsend & Associates
Dames & Moore
Ebasco Environmental
Fluor Daniel, Inc.
Gannett Fleming, Inc.
GeoEngineers, Inc.
GZA GeoEnvironmental, Inc.
HALLIBURTON NUS Environmental Corp.
Harding Lawson Associates
HMM Associates, Inc.
International Technology Corp.
James M. Montgomery
Kleinfelder, Inc.
Lockwood, Andrews & Newnam, Inc.
Malcolm Pirnie, Inc.
McDermott/Babcock & Wilcox
Michael Brandman Associates
Ogden Environmental & Energy Services
Parsons Brinckerhoff Quade & Douglas, Inc.
Raytheon Company
Rizzo Associates
Roy F. Weston, Inc.
SEA Consultants, Inc.
SSM/Spotts, Stevens & McCoy, Inc.
Stone & Webster Engineering Corp.
TAMS Consultants, Inc.
The Earth Technology Co.
Versar, Inc.

Alliance Technologies
AWD Technologies, Inc.
Baker Environmental, Inc.
BDM Engineers, Inc.
Brown and Caldwell
CDM Federal Programs Corporation
Chester Environmental Group
(Gall) Corrigan Consulting, Inc.
David Evans and Associates, Inc.
Engineering-Science, Inc.
Fuller, Mossbarger, Scott & May
GEI Consultants, Inc.
Geotechnology, Inc.
Haley & Aldrich, Inc.
Hanson Engineers, Inc.
Hatcher-Sayre, Inc.
ICF Kaiser Engineers
J.A. Jones Construction Services Co.
KCI Technologies, Inc.
Lockheed Corporation
Lowney, Associates
McCrone, Inc.
Metcalf & Eddy/Air & Water Tech.
Morrison Knudsen Environmental Services
P.W. Grosser Consulting
Paul C. Rizzo Associates, Inc.
Raba-Kistner Consultants, Inc.
RMT Inc.
Science Applications International Corp.
SEC Donohue, Inc.
Stanley Consultants Environmental, Inc.
Strand Associates, Inc.
Terracon Consultants, Inc.
TRW, Inc.
Waste Management Environmental Services, Inc.

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Defense Environmental Response

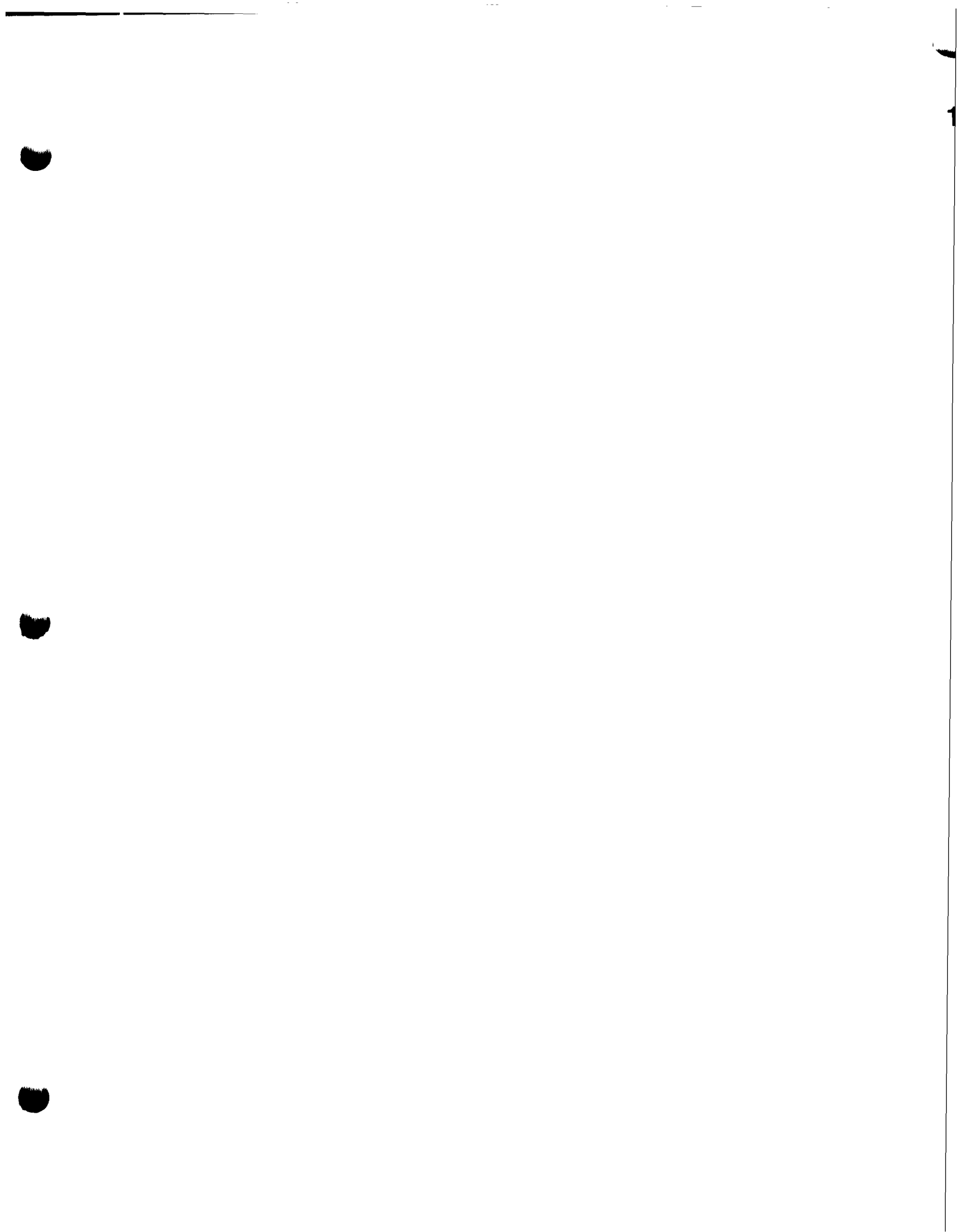
Task Force Meeting

19 June 1991

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AGENDA
DEFENSE ENVIRONMENTAL RESPONSE TASK FORCE MEETING
KIMBALL CONFERENCE CENTER
1616 P Street, NW
Washington, D.C.

JUNE 19, 1991, 9:00 AM - 4:00 PM

- 9:00-9:20 a.m. I. Chairman's Welcome - Mr. Baca, Members
 A. Task Force Mission
 B. Introductions
- 9:20-9:40 II. Base Closure Process: Overview -
 Colonel Hourcle
- 9:40-10:00 III. Task Force Procedures - LTC Bryan
 A. Charter
 B. Task Force deadlines
 C. Federal Advisory Committee Act
 Requirements
 D. Operating Rules
- 10:00-10:20 IV. Environmental Response Process: Overview -
 (Col. Jackson)
- 10:20-11:20 V. Experience to Date: Case Histories
 A. Panel Presentations:
 - Pease AFB (Mr. Cheney)
 - Chanute AFB (Mr. Ayers)
 - Norton AFB (Col. Walsh)
 - Fort Meade (Mr. Torissi)
 B. Task Force Discussion
- 11:20-12:00 B. Task Force Discussion
- 12:00-1:00 p.m. LUNCH
- 1:00-1:45 VI. Members of Congress
- 1:45-3:30 VII. Discussion of Issue Papers - Staff
 A. Staff Presentations
 B. Task Force Discussion
- 3:30-3:50 VIII. Next Steps - Mr. Doxey
 A. Schedule of Task Force Meetings
 B. Schedule of Report Preparation
 C. Opportunities for Additional Informa-
 tion Gathering:
 - field trips
 D. Task Force Assignments
 E. Staff Assignments
- 3:50-4:00 IX. Closing Remarks - Mr. Baca

SEC. 2923. FUNDING FOR ENVIRONMENTAL RESTORATION AT MILITARY INSTALLATIONS SCHEDULED FOR CLOSURE INSIDE THE UNITED STATES

(a) **AUTHORIZATION OF APPROPRIATIONS.**—There is hereby authorized to be appropriated to the Department of Defense Base Closure Account for fiscal year 1991, in addition to any other funds authorized to be appropriated to that account for that fiscal year, the sum of \$100,000,000. Amounts appropriated to that account pursuant to the preceding sentence shall be available only for activities for the purpose of environmental restoration at military installations closed or realigned under title II of Public Law 100-526, as authorized under section 204(a)(3) of that title.

(b) **EXCLUSIVE SOURCE OF FUNDING.**—(1) Section 207 of Public Law 100-526 is amended by adding at the end the following:

"(b) BASE CLOSURE ACCOUNT TO BE EXCLUSIVE SOURCE OF FUNDS FOR ENVIRONMENTAL RESTORATION PROJECTS.—No funds appropriated to the Department of Defense may be used for purposes described in section 204(a)(3) except funds that have been authorized for and appropriated to the Account. The prohibition in the preceding sentence expires upon the termination of the authority of the Secretary to carry out a closure or realignment under this title."

(2) The amendment made by paragraph (1) does not apply with respect to the availability of funds appropriated before the date of the enactment of this Act.

(c) **TASK FORCE REPORT.**—(1) Not later than 12 months after the date of the enactment of this Act, the Secretary of Defense shall submit to Congress a report containing the findings and recommendations of the task force established under paragraph (2) concerning—

(A) ways to improve interagency coordination, within existing laws, regulations, and administrative policies, of environmental response actions at military installations (or portions of installations) that are being closed, or are scheduled to be closed, pursuant to title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526); and

(B) ways to consolidate and streamline, within existing laws and regulations, the practices, policies, and administrative procedures of relevant Federal and State agencies with respect to such environmental response actions so as to enable those actions to be carried out more expeditiously.

(2) There is hereby established an environmental response task force to make the findings and recommendations, and to prepare the report, required by paragraph (1). The task force shall consist of the following (or their designees):

(A) The Secretary of Defense, who shall be chairman of the task force.

(B) The Attorney General.

(C) The Administrator of the General Services Administration.

(D) The Administrator of the Environmental Protection Agency.

(E) The Chief of Engineers, Department of the Army.

(F) A representative of a State environmental protection agency, appointed by the head of the National Governors Association.

(G) A representative of a State attorney general's office, appointed by the head of the National Association of Attorney Generals.

(H) A representative of a public-interest environmental organization, appointed by the Speaker of the House of Representatives.



3

CHARTER

Defense Environmental Response Task Force

In accordance with the provisions of the National Defense Authorization Act for Fiscal Year 1991, Section 2923, a Defense Environmental Response Task Force is hereby ordered as follows:

I. ESTABLISHMENT

There is established the Defense Environmental Response Task force. The Task Force shall be composed of the following (or their designees):

- A. The Secretary of Defense, who shall be chairman of the task force.
- B. The Attorney General
- C. The Administrator of the General Services Administration
- D. The Administrator of the Environmental Protection Agency
- E. The Chief of Engineers, Department of the Army
- F. A representative of a State environmental protection agency, appointed by the head of the National Governors Association.
- G. A representative of a State attorney general's office, appointed by the head of the National Association of Attorney Generals.
- H. A representative of a public-interest environmental organization, appointed by the Speaker of the House of Representatives.

II. FUNCTIONS

The Task Force shall study and provide a report to the Secretary of Defense for transmittal to the Congress on the findings and recommendations concerning environmental restoration at military installations closed or realigned under Title II of Public Law 100-526, as authorized under section 204(a)(3) of that title. The primary objectives of the Task Force shall be to:

1. Determine ways to improve interagency coordination, within existing laws, regulations, and administrative policies, of environmental response actions at military installations (or portions of installations) that are being closed, or are scheduled to be closed, pursuant to Title II of the Defense Authorization Amendments and Base Closure and Realignment Act (P.L. 100-526); and
2. Determine ways to consolidate and streamline, within existing laws and regulations, the practices, policies, and administrative procedures of relevant Federal and State agencies with respect to

such environmental response actions so as to enable those actions to be carried out more expeditiously.

The Task Force may also make recommendations regarding changes to existing laws, regulations and administrative policies.

III. ADMINISTRATION

All Task Force members may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law for persons serving intermittently in the government service (5 U.S.C. 5701-5707), to the full extent funds are available. The expenses of the Task Force are estimated to be \$500,000 and shall be paid from such funds as may be available to the Secretary of Defense. Man-year requirements are estimated to be three. The proponent official is the Assistant Secretary of Defense (Production and Logistics) who will provide administrative support through the Office of The Deputy Assistant Secretary of Defense (Environment).

The Task Force shall be in place as soon as possible and meet as often as necessary (estimate is four meetings). The Task Force's final report shall include findings and recommendations concerning the environmental response actions at military installations closed or realigned under Title II of Public Law 100-526, as authorized under Section 204 (a) (3). The Task Force should complete its work by October 5, 1991 and will terminate on November 5, 1991.

17 APR 1991



4

PROPOSED PROCEDURAL RULES OF THE DEFENSE
ENVIRONMENTAL RESPONSE TASK FORCE

Rule 1: The Defense Environmental Response Task Force was chartered as a Federal Advisory Committee under Public Law 92-463 and shall comply with this Act.

Rule 2: The Task Force's meeting will be open to the public.

Rule 3: The Task Force will meet at the call of the Chairman or at the request of a majority of members of the Task Force.

Rule 4: The Chairman will designate a member to preside in his absence.

Rule 5: The Chairman (or another Member of the Task Force presiding in the Chairman's absence) shall have the authority to ensure the orderly conduct of the Task Force's business. This power includes, but is not limited to, recognizing members of the Task Force and members of the public to speak, imposing reasonable limitations on the length of time a speaker may hold the floor, determining the order in which Members of the Task force may question witnesses, conducting votes of members of the Task Force, and designating Task Force members for the conduct of public hearings.

Rule 6: A member of the Task Force may designate in writing another member to vote and otherwise act for the first member when he or she will be absent, or vote through his or her designated Alternate.

Rule 7: A simple majority of members shall be necessary to approve the report of the Task Force.

Rule 8: These Rules may be amended by the majority vote of the members of the Task Force serving at that time.



ENVIRONMENTAL RESPONSE TASK FORCE

Department of Defense:

Chairman: Thomas E. Baca
Deputy Assistant Secretary of Defense (Environment)
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Assistant Attorney General

Barry Hartman (Alternate)
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(202) 501-4071 (Fax)

James Kearns (Alternate and Technical Representative)
Director, Office of Systems & Information Management
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Christian R. Holmes
Deputy Assistant Administrator for Federal Facilities

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Cathy Hudson (Point of Contact)
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Deputy Assistant Chief of Engineers

LTC Stephen Etsell (Point of Contact)
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(703) 614-9670 (Fax)

Mrs. Tilden (Scheduler)
(703) 697-4221

National Governors Association:

James Strock
Secretary for Environmental Protection

Brian Runkel (Alternate and Point of Contact)
Executive Officer
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(916) 445-6401 (Fax)

National Association of Attorneys General:

Daniel C. Morales
Attorney General of Texas
P.O. Box 12548
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Samuel W. Goodhope (Alternate, Technical
Representative, and Point of Contact)
Special Assistant Attorney General

Office of the Attorney General (hand deliver)
8th Floor
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14th and Colorado Ave.
Austin, TX 78701
(512) 475-4679
(512) 463-2063 (Fax)

Speaker of the House of Representatives:

To be announced.

Executive Director:

Kevin Doxey
Director
Defense Environmental Restoration Program
Room 3D833, the Pentagon
Washington, D.C. 20301-8000
(703) 695-8355





Federal Advisory Committee Act

Public Law 92-463
92nd Congress, H. R. 4383
October 6, 1972

An Act

86 STAT. 770

To authorize the establishment of a system governing the creation and operation of advisory committees in the executive branch of the Federal Government, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Federal Advisory Committee Act".

Federal Advisory Committee Act.

FINDINGS AND PURPOSES

Sec. 2. (a) The Congress finds that there are numerous committees, boards, commissions, councils, and similar groups which have been established to advise officers and agencies in the executive branch of the Federal Government and that they are frequently a useful and beneficial means of furnishing expert advice, ideas, and diverse opinions to the Federal Government.

(b) The Congress further finds and declares that—

- (1) the need for many existing advisory committees has not been adequately reviewed;
- (2) new advisory committees should be established only when they are determined to be essential and their number should be kept to the minimum necessary;
- (3) advisory committees should be terminated when they are no longer carrying out the purposes for which they were established;
- (4) standards and uniform procedures should govern the establishment, operation, administration, and duration of advisory committees;
- (5) the Congress and the public should be kept informed with respect to the number, purpose, membership, activities, and cost of advisory committees; and
- (6) the function of advisory committees should be advisory only, and that all matters under their consideration should be determined, in accordance with law, by the official, agency, or officer involved.

DEFINITIONS

Sec. 3. For the purpose of this Act—

(1) The term "Director" means the Director of the Office of Management and Budget.

(2) The term "advisory committee" means any committee, board, commission, council, conference, panel, task force, or other similar group, or any subcommittee or other subgroup thereof (hereafter in this paragraph referred to as "committee"), which is—

- (A) established by statute or reorganization plan, or
- (B) established or utilized by the President, or
- (C) established or utilized by one or more agencies,

in the interest of obtaining advice or recommendations for the President or one or more agencies or officers of the Federal Government, except that such term excludes (i) the Advisory Commission on Intergovernmental Relations, (ii) the Commission on Government Procurement, and (iii) any committee which is composed wholly of full-time officers or employees of the Federal Government.

(3) The term "agency" has the same meaning as in section 551(1) of title 5, United States Code.

(4) The term "Presidential advisory committee" means an advisory committee which advises the President.

APPLICABILITY

SEC. 4. (a) The provisions of this Act or of any rule, order, or regulation promulgated under this Act shall apply to each advisory committee except to the extent that any Act of Congress establishing any such advisory committee specifically provides otherwise.

Restrictions.

(b) Nothing in this Act shall be construed to apply to any advisory committee established or utilized by—

- (1) the Central Intelligence Agency; or
- (2) the Federal Reserve System.

(c) Nothing in this Act shall be construed to apply to any local civic group whose primary function is that of rendering a public service with respect to a Federal program, or any State or local committee, council, board, commission, or similar group established to advise or make recommendations to State or local officials or agencies.

RESPONSIBILITIES OF CONGRESSIONAL COMMITTEES

Review.

SEC. 5. (a) In the exercise of its legislative review function, each standing committee of the Senate and the House of Representatives shall make a continuing review of the activities of each advisory committee under its jurisdiction to determine whether such advisory committee should be abolished or merged with any other advisory committee, whether the responsibilities of such advisory committee should be revised, and whether such advisory committee performs a necessary function not already being performed. Each such standing committee shall take appropriate action to obtain the enactment of legislation necessary to carry out the purpose of this subsection.

Outlines.

(b) In considering legislation establishing, or authorizing the establishment of any advisory committee, each standing committee of the Senate and of the House of Representatives shall determine, and report such determination to the Senate or to the House of Representatives, as the case may be, whether the functions of the proposed advisory committee are being or could be performed by one or more agencies or by an advisory committee already in existence, or by enlarging the mandate of an existing advisory committee. Any such legislation shall—

(1) contain a clearly defined purpose for the advisory committee;

(2) require the membership of the advisory committee to be fairly balanced in terms of the points of view represented and the functions to be performed by the advisory committee;

(3) contain appropriate provisions to assure that the advice and recommendations of the advisory committee will not be inappropriately influenced by the appointing authority or by any special interest, but will instead be the result of the advisory committee's independent judgment;

(4) contain provisions dealing with authorization of appropriations, the date for submission of reports (if any), the duration of the advisory committee, and the publication of reports and other materials, to the extent that the standing committee determines the provisions of section 10 of this Act to be inadequate; and

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(5) contain provisions which will assure that the advisory committee will have adequate staff (either supplied by an agency or employed by it), will be provided adequate quarters, and will have funds available to meet its other necessary expenses.

(c) To the extent they are applicable, the guidelines set out in subsection (b) of this section shall be followed by the President, agency heads, or other Federal officials in creating an advisory committee.

RESPONSIBILITIES OF THE PRESIDENT

Sec. 6. (a) The President may delegate responsibility for evaluating and taking action, where appropriate, with respect to all public recommendations made to him by Presidential advisory committees.

(b) Within one year after a Presidential advisory committee has submitted a public report to the President, the President or his delegate shall make a report to the Congress stating either his proposals for action or his reasons for inaction, with respect to the recommendations contained in the public report. Report to Congress.

(c) The President shall, not later than March 31 of each calendar year (after the year in which this Act is enacted), make an annual report to the Congress on the activities, status, and changes in the composition of advisory committees in existence during the preceding calendar year. The report shall contain the name of every advisory committee, the date of and authority for its creation, its termination date or the date it is to make a report, its functions, a reference to the reports it has submitted, a statement of whether it is an ad hoc or continuing body, the dates of its meetings, the names and occupations of its current members, and the total estimated annual cost to the United States to fund, service, supply, and maintain such committee. Such report shall include a list of those advisory committees abolished by the President, and in the case of advisory committees established by statute, a list of those advisory committees which the President recommends be abolished together with his reasons therefor. The President shall exclude from this report any information which, in his judgment, should be withheld for reasons of national security, and he shall include in such report a statement that such information is excluded. Annual report to Congress.

Exclusion.

RESPONSIBILITIES OF THE DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET

Sec. 7. (a) The Director shall establish and maintain within the Office of Management and Budget a Committee Management Secretariat, which shall be responsible for all matters relating to advisory committees. Committee Management Secretariat.
Establishment.

(b) The Director shall, immediately after the enactment of this Act, institute a comprehensive review of the activities and responsibilities of each advisory committee to determine— Review.

- (1) whether such committee is carrying out its purpose;
- (2) whether, consistent with the provisions of applicable statutes, the responsibilities assigned to it should be revised;
- (3) whether it should be merged with other advisory committees; or
- (4) whether it should be abolished.

The Director may from time to time request such information as he deems necessary to carry out his functions under this subsection. Upon the completion of the Director's review he shall make recommendations to the President and to either the agency head or the Congress with respect to action he believes should be taken. Thereafter, the Director shall carry out a similar review annually. Agency heads shall cooperate with the Director in making the reviews required by this subsection. Recommendations to President and Congress.

Agency cooperation.

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Performance guidelines.

(c) The Director shall prescribe administrative guidelines and management controls applicable to advisory committees, and, to the maximum extent feasible, provide advice, assistance, and guidance to advisory committees to improve their performance. In carrying out his functions under this subsection, the Director shall consider the recommendations of each agency head with respect to means of improving the performance of advisory committees whose duties are related to such agency.

Uniform pay guidelines.

(d)(1) The Director, after study and consultation with the Civil Service Commission, shall establish guidelines with respect to uniform fair rates of pay for comparable services of members, staffs, and consultants of advisory committees in a manner which gives appropriate recognition to the responsibilities and qualifications required and other relevant factors. Such regulations shall provide that—

(A) no member of any advisory committee or of the staff of any advisory committee shall receive compensation at a rate in excess of the rate specified for GS-18 of the General Schedule under section 5332 of title 5, United States Code; and

Travel expenses.

(B) such members, while engaged in the performance of their duties away from their homes or regular places of business, may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5, United States Code, for persons employed intermittently in the Government service.

80 Stat. 499;
83 Stat. 190.

(2) Nothing in this subsection shall prevent—

(A) an individual who (without regard to his service with an advisory committee) is a full-time employee of the United States, or

(B) an individual who immediately before his service with an advisory committee was such an employee, from receiving compensation at the rate at which he otherwise would be compensated (or was compensated) as a full-time employee of the United States.

Expense recommendations.

(e) The Director shall include in budget recommendations a summary of the amounts he deems necessary for the expenses of advisory committees, including the expenses for publication of reports where appropriate.

RESPONSIBILITIES OF AGENCY HEADS

SEC. 8. (a) Each agency head shall establish uniform administrative guidelines and management controls for advisory committees established by that agency, which shall be consistent with directives of the Director under section 7 and section 10. Each agency shall maintain systematic information on the nature, functions, and operations of each advisory committee within its jurisdiction.

Advisory Committee Management Control Officer, designation.

(b) The head of each agency which has an advisory committee shall designate an Advisory Committee Management Officer who shall—

(1) exercise control and supervision over the establishment, procedures, and accomplishments of advisory committees established by that agency;

(2) assemble and maintain the reports, records, and other papers of any such committee during its existence; and

(3) carry out, on behalf of that agency, the provisions of section 552 of title 5, United States Code, with respect to such reports, records, and other papers.

81 Stat. 54.

ESTABLISHMENT AND PURPOSE OF ADVISORY COMMITTEES

SEC. 9. (a) No advisory committee shall be established unless such establishment is—

(1) specifically authorized by statute or by the President; or

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(2) determined as a matter of formal record, by the head of the agency involved after consultation with the Director, with timely notice published in the Federal Register, to be in the public interest in connection with the performance of duties imposed on that agency by law. Publication in Federal Register.

(b) Unless otherwise specifically provided by statute or Presidential directive, advisory committees shall be utilized solely for advisory functions. Determinations of action to be taken and policy to be expressed with respect to matters upon which an advisory committee reports or makes recommendations shall be made solely by the President or an officer of the Federal Government.

(c) No advisory committee shall meet or take any action until an advisory committee charter has been filed with (1) the Director, in the case of Presidential advisory committees, or (2) with the head of the agency to whom any advisory committee reports and with the standing committees of the Senate and of the House of Representatives having legislative jurisdiction of such agency. Such charter shall contain the following information: Charter, filing. Contents.

- (A) the committee's official designation;
- (B) the committee's objectives and the scope of its activity;
- (C) the period of time necessary for the committee to carry out its purposes;
- (D) the agency or official to whom the committee reports;
- (E) the agency responsible for providing the necessary support for the committee;
- (F) a description of the duties for which the committee is responsible, and, if such duties are not solely advisory, a specification of the authority for such functions;
- (G) the estimated annual operating costs in dollars and man-years for such committee;
- (H) the estimated number and frequency of committee meetings;
- (I) the committee's termination date, if less than two years from the date of the committee's establishment; and
- (J) the date the charter is filed.

A copy of any such charter shall also be furnished to the Library of Congress. Copy.

ADVISORY COMMITTEE PROCEDURES

Sec. 10. (a) (1) Each advisory committee meeting shall be open to the public. Meetings.

(2) Except when the President determines otherwise for reasons of national security, timely notice of each such meeting shall be published in the Federal Register, and the Director shall prescribe regulations to provide for other types of public notice to insure that all interested persons are notified of such meeting prior thereto. Notice. Publication in Federal Register. Regulations.

(3) Interested persons shall be permitted to attend, appear before, or file statements with any advisory committee, subject to such reasonable rules or regulations as the Director may prescribe.

(b) Subject to section 552 of title 5, United States Code, the records, reports, transcripts, minutes, appendices, working papers, drafts, studies, agenda, or other documents which were made available to or prepared for or by each advisory committee shall be available for public inspection and copying at a single location in the offices of the advisory committee or the agency to which the advisory committee reports until the advisory committee ceases to exist. 51 Stat. 54.

(c) Detailed minutes of each meeting of each advisory committee shall be kept and shall contain a record of the persons present, a complete and accurate description of matters discussed and conclusions reached, and copies of all reports received, issued, or approved by the Minutes.

86 STAT. 775

Certification.

advisory committee. The accuracy of all minutes shall be certified to by the chairman of the advisory committee.

81 Stat. 54.

Annual report.

(d) Subsections (a)(1) and (a)(3) of this section shall not apply to any advisory committee meeting which the President, or the head of the agency to which the advisory committee reports, determines is concerned with matters listed in section 552(b) of title 5, United States Code. Any such determination shall be in writing and shall contain the reasons for such determination. If such a determination is made, the advisory committee shall issue a report at least annually setting forth a summary of its activities and such related matters as would be informative to the public consistent with the policy of section 552(b) of title 5, United States Code.

Federal officer or employee, attendance.

(e) There shall be designated an officer or employee of the Federal Government to chair or attend each meeting of each advisory committee. The officer or employee so designated is authorized, whenever he determines it to be in the public interest, to adjourn any such meeting. No advisory committee shall conduct any meeting in the absence of that officer or employee.

(f) Advisory committees shall not hold any meetings except at the call of, or with the advance approval of, a designated officer or employee of the Federal Government, and in the case of advisory committees (other than Presidential advisory committees), with an agenda approved by such officer or employee.

AVAILABILITY OF TRANSCRIPTS

SEC. 11. (a) Except where prohibited by contractual agreements entered into prior to the effective date of this Act, agencies and advisory committees shall make available to any person, at actual cost of duplication, copies of transcripts of agency proceedings or advisory committee meetings.

"Agency proceeding."
80 Stat. 382.

(b) As used in this section "agency proceeding" means any proceeding as defined in section 551(12) of title 5, United States Code.

FISCAL AND ADMINISTRATIVE PROVISIONS

Recordkeeping.

SEC. 12. (a) Each agency shall keep records as will fully disclose the disposition of any funds which may be at the disposal of its advisory committees and the nature and extent of their activities. The General Services Administration, or such other agency as the President may designate, shall maintain financial records with respect to Presidential advisory committees. The Comptroller General of the United States, or any of his authorized representatives, shall have access, for the purpose of audit and examination, to any such records.

Audit.

Agency support services.

(b) Each agency shall be responsible for providing support services for each advisory committee established by or reporting to it unless the establishing authority provides otherwise. Where any such advisory committee reports to more than one agency, only one agency shall be responsible for support services at any one time. In the case of Presidential advisory committees, such services may be provided by the General Services Administration.

RESPONSIBILITIES OF LIBRARY OF CONGRESS

Reports and background papers.

Depository.

SEC. 13. Subject to section 552 of title 5, United States Code, the Director shall provide for the filing with the Library of Congress of at least eight copies of each report made by every advisory committee and, where appropriate, background papers prepared by consultants. The Librarian of Congress shall establish a depository for such reports and papers where they shall be available to public inspection and use.

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TERMINATION OF ADVISORY COMMITTEES

SEC. 14. (a) (1) Each advisory committee which is in existence on the effective date of this Act shall terminate not later than the expiration of the two-year period following such effective date unless—

(A) in the case of an advisory committee established by the President or an officer of the Federal Government, such advisory committee is renewed by the President or that officer by appropriate action prior to the expiration of such two-year period; or

(B) in the case of an advisory committee established by an Act of Congress, its duration is otherwise provided for by law.

(2) Each advisory committee established after such effective date shall terminate not later than the expiration of the two-year period beginning on the date of its establishment unless—

(A) in the case of an advisory committee established by the President or an officer of the Federal Government such advisory committee is renewed by the President or such officer by appropriate action prior to the end of such period; or

(B) in the case of an advisory committee established by an Act of Congress, its duration is otherwise provided for by law.

(b) (1) Upon the renewal of any advisory committee, such advisory committee shall file a charter in accordance with section 9(c). Renewal.

(2) Any advisory committee established by an Act of Congress shall file a charter in accordance with such section upon the expiration of each successive two-year period following the date of enactment of the Act establishing such advisory committee.

(3) No advisory committee required under this subsection to file a charter shall take any action (other than preparation and filing of such charter) prior to the date on which such charter is filed.

(c) Any advisory committee which is renewed by the President or any officer of the Federal Government may be continued only for successive two-year periods by appropriate action taken by the President or such officer prior to the date on which such advisory committee would otherwise terminate. Continuation.

EFFECTIVE DATE

SEC. 15. Except as provided in section 7(b), this Act shall become effective upon the expiration of ninety days following the date of enactment.

Approved October 6, 1972.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 92-1017 (Comm. on Government Operations) and No. 92-1403 (Comm. of Conference).

SENATE REPORT No. 92-1098 accompanying S. 3529 (Comm. on Government Operations).

CONGRESSIONAL RECORD, Vol. 118 (1972):

May 9, considered and passed House.

Sept. 12, considered and passed Senate, amended, in lieu of S. 3529.

Sept. 19, Senate agreed to conference report.

Sept. 20, House agreed to conference report.



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DEFENSE ENVIRONMENTAL RESPONSE TASK FORCE: ISSUES
Working Draft
June 13, 1991

Congress charged the Defense Environmental Response Task Force with making findings and recommendations on two categories of issues relating to environmental response actions at bases that are being closed: a) ways to improve interagency coordination; and b) ways to consolidate and streamline the practices, policies, and administrative procedures of relevant federal and state agencies in order to expedite response actions. Congress specified that the Task Force make recommendations within existing laws, regulations and administrative policies. The Task Force Charter provides that the Task Force may also recommend changes to those laws, regulations and policies. To assist the Task Force in its deliberations this paper identifies specific issues for potential consideration within the broad framework of the Charter.

ISSUE #1

STATEMENT OF ISSUE

- a) To what extent may facilities on closing bases be used by non-military users while cleanup investigations or other cleanup activities are being undertaken by the Department of Defense (DoD)?
- b) To what extent may DoD transfer a base in parcels that exclude areas where ongoing remediation is necessary? How should such parcels be delineated?
- c) To what extent may existing or proposed land uses be a factor in cleanup decisions:
 - i. if the site is on the National Priorities List (NPL)?
 - ii. if the site is regulated under the Resource Conservation and Recovery Act (RCRA)? or
 - iii. if the site is not on the NPL and is not regulated under RCRA?
- d) To what extent may the practices, policies and procedures for determining allowable uses of the land during and after the completion of remedial action be consolidated and streamlined:
 - i. if the site is on the NPL?
 - ii. if the site is regulated under the RCRA? or
 - iii. if the site is not on the NPL and is not regulated under RCRA?

BACKGROUND

Statutory Requirements

Environmental Restoration

The Comprehensive Environmental Response, Liability, and Compensation Act ("CERCLA"), 42 U.S.C. §§9601-75, and the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA),

§§42 U.S.C. 6901-6992K, are the principal federal statutes governing the cleanup of defense sites contaminated by hazardous substances. CERCLA §120 specifically addresses the responsibilities of federal agencies. Under CERCLA §120(a), federally owned facilities are subject to and must comply with CERCLA to the same extent as nongovernmental entities. In addition, 10 U.S.C. §2701(a)(2), specifically notes that environmental restoration activities must be conducted consistent with and subject to CERCLA §120. Section 120(a) requires EPA to use the same criteria to evaluate federal sites for the National Priorities List (NPL), the list of highest priority sites under CERCLA, as it does for private sites. EPA interprets §120(a) to mean that the criteria to list federal facilities should not be more exclusionary than the criteria to list non-federal sites. See EPA, Listing Policy for Federal Facilities, 54 Fed. Reg. 10520, 10525 (Mar. 13, 1989).

CERCLA also establishes certain minimum procedures that must be followed when federal agencies transfer contaminated property. Section 120(h)(3) of CERCLA provides that when the federal government transfers real property on which any hazardous substance was stored for one year or more, or known to have been released, or disposed of, the federal government must provide a covenant in the deed. The covenant must warrant that all remediation necessary to protect human health or the environment with respect to any hazardous substance remaining on the property has been taken before the date of the transfer, and that the United States will take any additional remedial action found to be necessary after the date of transfer.

Some entire bases are listed on the NPL, including five on the 1988 closure list. In other cases, only a discrete site within the base is listed on the NPL. There are

contaminated sites on other bases, that are not listed on the NPL. CERCLA §120(a)(4) requires response actions on non-NPL sites to comply with state laws to the extent that state laws apply equally to response actions at non-federal facilities. Some bases contain facilities currently regulated under RCRA or state hazardous waste regulatory programs (or both); these facilities will need to be closed in accordance with those statutes. HSWA requires a treatment, storage, or disposal facility (TSDF) that has released hazardous waste into the environment to undertake "corrective action" to clean up the release. Where a base, or portion of a base, is both listed on the NPL and subject to state-delegated RCRA authorities, conflicts may arise regarding a particular proposed remedial action.

Transfer of Land

Other statutory authorities also apply to real estate owned by military departments that must be considered in the context of transferring land at a base that is being closed. Section 204(c) of the Base Closure Act, for example, reiterates that the National Environmental Policy Act (NEPA) applies to the actual closure or realignment of a facility and the transfer of functions of that facility to another military installation. Other statutes impose procedural requirements; 10 U.S.C. §2662(a), for example, provides that the Secretary of a military department may not enter into certain real estate transactions, including leases and other transfers of property where the value exceeds \$200,000, until 30 days after he has submitted a report of the facts surrounding the transaction to Congress. Title 10 of the United States Code, §2668(a), authorizes the Secretary of a military department to grant easements for roads, oil pipelines, utility substations, and other purposes including "any ... purpose that he considers advisable."

Under the Base Closure Act and the Federal Property and Administrative Services Act, a federal agency receiving property from another federal agency must pay the estimated fair market value for available facilities. See Federal Property and Administrative Services Act, 40 U.S.C. §571 et seq.; Section 204(b) of the Base Closure Act, Pub. L. 100-526, 102 Stat. 2627; Federal Property Management Regulations, 41 C.F.R. §§101-42 to -49. Exceptions to this general rule are allowed for intra-DoD transfers of real property and if the Administrator of the General Services Administration and the Director of the Office of Management and Budget both agree. 41 C.F.R. §101-47.203-7. Regulations implementing this exception allow no-cost transfers for certain specified purposes including public parks and recreation areas; historic monuments; public health or educational purposes; public airports; and wildlife conservation. Id. In addition, the McKinney Act, 42 U.S.C. § 11411, requires DoD to give non-profit organizations that assist the homeless priority in leasing unutilized and underutilized property.

Section 204(b) of the Base Closure Act requires the Secretary of the military department contemplating a property transfer to consult with state and local governments to consider any plan for the use of the property that the local community may have. Pub. L. 100-526, 102 Stat. 2627. States and local governments are generally given priority over private individuals in acquiring surplus federal property. 41 C.F.R. §101-47.203-7.

Issues Surrounding Transfers and Conveyances

Some bases identified for closure contain facilities that are in demand for non-military use. DoD may desire to lease, or otherwise transfer use of, such facilities to non-military users before the base is closed. In some cases the facility may be within an "area

of concern" identified by DoD as needing either investigation to determine the need for environmental restoration or actual restoration. The U.S. Environmental Protection Agency (EPA) and state environmental regulatory agencies will have different interests in the site depending on the state of knowledge about the site, the regulatory posture at the site, and the stage of the investigation or restoration. It may be necessary to limit or restrict the non-military use in order to ensure that it does not interfere with the ongoing investigation or cleanup. Differing controls or limitations on interim use of facilities may be appropriate during the phases of investigation and restoration.

The procedures for determining interim and final uses of the affected land are likely to differ depending on whether the cleanup is conducted under CERCLA, RCRA, or some other framework. In addition, the intended interim or final use of the land may or may not be a valid consideration in determining cleanup standards, depending on which of these statutes governs the cleanup decision. The extent to which planned land uses affect cleanup decisions is likely to be highly controversial. If higher levels of residual contamination are allowed after cleanup because, for example, the planned use is industrial, measures must be taken to ensure that future changes in land use do not expose the public to unacceptable risks from the residual contamination.

Contamination on many bases is limited to relatively small discrete areas. One issue raised in such cases is whether the uncontaminated areas may be transferred as separate parcels, with the Department retaining the contaminated areas until remedial action is completed.

A corollary issue is how to define a contaminated area, particularly where groundwater may be contaminated and the extent of that contamination (i.e., size, direction of flow, and speed of the plume) is unknown. It may be difficult to determine precisely the boundaries of an "area of concern" prior to completion of cleanup. Another related question is whether, and under what circumstances, DoD may transfer uncontaminated surface above contaminated groundwater, or contaminated surface above contaminated groundwater for which surface remediation is complete. Also, the issue of defining and transferring uncontaminated areas is complicated by the fact that activities during the remedial design and remedial action could reveal that contamination extends to an area that had already been transferred by easement, lease, or some other land use transfer mechanism.

Restrictions such as prohibitions on well drilling or other subsurface activity (if subsurface contamination is an issue) may be appropriate. DoD could also sell or otherwise transfer parcels of property with a right of entry for monitoring or with other use restrictions. How restrictions are implemented will be critical to the protection of public health and safety, success of the cleanup, and resolution of future conflicts between the military department and its transferees. Restrictions on use are effective if they are made a part of the deed and "run with the land" so that later owners cannot extinguish or ignore them. Such restrictions also decrease the marketability of the land, making it more difficult to obtain purchasers. Lenders may be hesitant to lend money to purchase land which has had use restrictions placed on it.

Impediments to transfer resulting from threats of liability under CERCLA §§106 and 107 cannot be ignored. Potential transferees (including lessees) of property from DoD could be considered "owners or operators" of a CERCLA site liable for the costs of response at the site. At Pease Air Force Base in New Hampshire, this problem was resolved by legislation providing complete indemnification to the State of New Hampshire and lenders for any liability associated with releases caused by the Air Force at the base. Indemnification will likely be a recurring issue, since agencies do not have the authority to indemnify a purchaser themselves.

DoD has noted that bases may not be "nearly as valuable to the private sector" as they are to DoD. (See Statement of James F. Boatright, Deputy Assistant Secretary of the Air Force, before the Defense Base Closure and Realignment Commission, at 3 (May 10, 1991)). Moreover, the commercial real estate market is still in a slump, id. at 4, which will likely impede any large-scale transfers of property for some time. Factors that could affect the value of a particular piece of property at a military installation include:

- (1) impact of closure on local economy
- (2) ability of local market to absorb a large tract of land in a short time period
- (3) age and possible negative value of improvements on land
- (4) availability of public benefit conveyances
- (5) set asides for wetlands, critical habitats, or contaminated areas

Id. at 9.

Other factors that may affect land values include the degree of encroachment of non-military uses upon the base (e.g., military flight paths, weapons uses, training needs that affect local communities); the condition of the base facilities and its improvements; the facility's suitability for other uses without significant expenditures; and the value of existing improvements that can add to a property's marketability.

OPTIONS

a) Identify the circumstances in which, and the criteria and restrictions under which, facilities on closing bases may be leased or otherwise transferred for use by non-military users while cleanup investigations or other cleanup activities are being undertaken.

b) Clarify applicable statutes, regulations and policies to indicate that portions of bases for which there is no contamination or likelihood of contamination may be transferred independent of contaminated parcels.

c) Identify the differences in the policies, practices and procedures for determining allowable uses of land during and after cleanup when the site is on the NPL, a RCRA regulated site, or neither. Reconcile those differences.

d) Reconcile and combine oversight and regulatory responsibilities under CERCLA and RCRA at bases being closed or realigned.

e) Identify and develop criteria for the use of innovative real estate transactions.

f) Identify and develop criteria for the use of conservation easements or other protections for ecological resources for certain properties being sold or transferred.

DOD

g) Develop a policy to govern the use of parcels within an "area of concern" during the time investigation and remediation is ongoing, including provisions regarding access rights, compliance with applicable health and safety plans, and subsequent transfers.

ISSUE #2

STATEMENT OF ISSUE

- a) **To what extent may the practices, policies and procedures for determining cleanup standards be consolidated and streamlined:**
 - i. **if the site is on the NPL?**
 - ii. **if the site is regulated under the RCRA? or**
 - iii. **if the site is not on the NPL and is not regulated under RCRA?**

- b) **To what extent may the practices, policies and procedures for executing the cleanup be consolidated and streamlined?**
 - i. **if the site is on the NPL?**
 - ii. **if the site is regulated under the RCRA? or**
 - iii. **if the site is not on the NPL and is not regulated under RCRA?**

BACKGROUND

The roles and responsibilities of state environmental regulatory agencies and EPA vary depending on whether a site is on the NPL, is regulated under RCRA, or neither. Each of these three legal categories provide distinct opportunities for consolidating and streamlining the cleanup process. In particular, the procedures for determining the cleanup standards for an NPL site will likely differ from the procedures for determining the cleanup standards for a TSDF regulated by a state that has received RCRA corrective action authorization from EPA. Similarly, the procedures for implementing a remedial action at an NPL site differ from the procedures for carrying out a corrective action at a TSDF in a state that has a fully delegated RCRA/HSWA hazardous waste regulatory program. Moreover, the procedures for determining and implementing cleanup decisions at non-NPL, non-RCRA sites may differ from both of these systems.

Two sections of CERCLA are directly applicable to the questions of determining and implementing cleanup standards at federal facilities. Section 121 of CERCLA, addressing cleanup standards, is the primary statutory authority for determining cleanup standards at all sites listed on the NPL. Section 121 delineates the nature of the remedy to be chosen and requires that a chosen remedy protect human health and the environment. Section 121 also provides that legally applicable or relevant and appropriate more stringent state standards (ARARs) may apply in determining the proper level of cleanup.

As already noted, CERCLA §120 specifically addresses the responsibilities of federal agencies for cleanup of hazardous substances. CERCLA §120(a) requires federally owned facilities to comply with CERCLA to the same extent as nongovernmental entities. CERCLA §120(e)(2) provides that for federal sites that are listed on the NPL, EPA plays a significant role in remedy selection. The section directs the federal agency concerned to enter into an IAG with EPA for the "expeditious completion . . . of all necessary remedial actions" at the facility. Executive Order 12580 specifies the procedures to be followed prior to the selection of the remedy by EPA. Exec. Order 12580, §10, 52 Fed. Reg. 2923, 2928 (1987).

For federal sites not on the NPL, CERCLA §120(a)(4) mandates that state laws concerning response actions apply. Arguably, all of the procedures contained in the NCP may apply even to federal sites not on the NPL. Section 120(a)(4) raises the possibility that §121 guidelines on state standards must be followed even for those federal facilities listed on the NPL.

Section 120(i) of CERCLA states that nothing in CERCLA §120 "shall affect or impair the obligation of any department, agency, or instrumentality of the United States to comply with any requirement of [RCRA] (including corrective action requirements)." Section 120(i) states only that corrective action authorities apply to federal facilities; it does not specify the extent to which those authorities, found in RCRA §3004(u), will apply if CERCLA response activities are being conducted at the same time as corrective action activities at a federal facility.

OPTIONS

- a) Identify the differences in practices, policies and procedures for determining cleanup standards under CERCLA, RCRA and other applicable laws, including state laws; reconcile those differences.
- b) Identify the differences in practices, policies and procedures for executing cleanups under CERCLA, RCRA and other applicable laws, including state laws; reconcile those differences.
- c) Interpret CERCLA §120(i) in conjunction with §121 so that RCRA §3004(u) requirements do not delay CERCLA cleanup actions.
- d) Reconcile and combine oversight and regulatory responsibilities under CERCLA and RCRA at bases being closed or realigned.

ISSUE #3

STATEMENT OF ISSUE

Are there sites for which remediation is not technologically feasible, or for which the cost of remediation is simply prohibitive? If so, what uses, if any, can be made of such sites, and what mechanisms are needed to protect the public in perpetuity from the risks associated with such sites?

BACKGROUND

This issue most frequently arises at military installations or former military installations that are contaminated by munitions residue. There are many such sites around the country with some degree of contamination. Two installations scheduled for closure under the 1988 Base Closure Commission report, Jefferson Proving Ground and Fort George G. Meade, have significant amounts of munitions residue. For example, at Jefferson Proving Ground alone, it is estimated that more than 23 million rounds of munitions have been fired, and over 1.5 million rounds remain as high-explosive duds.

Munitions residue that contaminates military installations exists in many forms. The simplest form is the inert fragmentation/casing which remains after the high explosive fill has detonated. On the other end of the spectrum are munitions containing high explosives that malfunction (duds) and may be on the surface or (most probably) many feet underground. Some munitions have been recovered as deep as 30 feet beneath the surface. With the proper stimulus, these duds may detonate. In addition to these two types of munitions are many other practice/training devices that may or may not contain an explosive charge.

The regulatory status of unexploded ordnance under RCRA and CERCLA is not clear. In fact, there are differing interpretations among EPA and the States of RCRA storage, treatment and disposal requirements for the manufacture, testing, handling and disposal of ordnance, munitions, and other weapons. DoD is currently pursuing an amendment to the U.S. Senate Federal Facilities Compliance Bill (S. 596) that would allow the development of alternative regulations to address the RCRA issue.

Not every military installation, or part of an installation, creates a munitions contaminated area to the same degree. For example, several bases may all use one bombing range. At other bases, only small arms ammunition may have ever been used. Therefore, the scope of contamination may not be easy to determine, and a records search by the services may be needed in order to determine the location and extent of unexploded ordnance. However, records may be inaccurate or non-existent, especially for actions that occurred years ago.

The feasibility and cost of remediation depends on the future intended use of the property and the level of cleanup necessary for the intended use. Surface clearing may be adequate for pastures or wildlife preserves. (Surface clearing has been proposed at Ft. Meade where munitions contaminated property is being considered for use by the Department of the Interior as a wildlife refuge. However, strict controls on human access will also be required.) DoD safety standards do not permit custody transfer of lands contaminated with explosives that may endanger the public, when the contamination cannot be remediated with existing technology and resources. Cleanup of the same property for residential or commercial use may be prohibitively costly, if not technologically infeasible.

This is because more land must be excavated to recover dud munitions buried beneath the surface that may be detonated by construction and excavation. Clearing land of ordnance not only requires specialized equipment, it can also be very dangerous and extremely labor intensive.

Where adequate clean-up for residential or commercial use is not feasible, DoD needs mechanisms to protect the public from residual risks on sites which are transferred. First, past land use (and potential hazards) must be clearly identified to future owners. Second, restrictions on future land use must be clearly identified to future owners and somehow retained with title for all subsequent transactions. Restrictions should be commensurate with the residual unexploded ordnance hazard.

Even with restrictions on future use, liability questions remain. DoD is still liable for cleanup resulting from DoD activities prior to transfer. In cases where public access is restricted, what happens if there are trespassers or access is required for legitimate reasons, e.g., firefighting? Can DoD ensure that it will not be liable for contamination created by future users?

Remediation costs are proportional to the depth of cleanup. This variability of cost is best illustrated by the estimated remediation costs for Jefferson Proving Ground (95 square miles near Madison, Indiana) according to various levels of cleanup.

**ESTIMATED COSTS FOR VARYING LEVELS OF
EXPLOSIVE REMEDIATION**

(Estimates provided by Jefferson Proving Ground)

<u>CLEANUP LEVEL</u>	<u>COSTS</u>
Surface Cleanup	\$550 Million
Restricted Cleanup	
3 Feet Deep	\$2.8 Billion
6 Feet Deep	\$3.8 Billion
10 Feet Deep	\$5.0 Billion
Unrestricted Cleanup (Technology for unrestricted cleanup is currently not available)	>\$5.0 Billion

Special Concerns and Considerations

Present DoD policy requires that plans for leasing, transferring or disposing of DoD real property where ammunition or explosives exists, or is suspected to exist, be submitted to the DoD Explosives Safety Board for review and approval. DoD regulations (DoD 6055.9-510) specify that contaminated property cannot be transferred until "rendered innocuous."

Restricting a cleanup to surface contamination may not ensure that the surface remains uncontaminated over time. Freezing and thawing of the soil and other physical factors may result in subsurface ordnance migrating to the surface. Therefore continuing remediation may be necessary, since all remediation tends to be temporary in lands which have been heavily contaminated by penetrating ordnance like aircraft bombs and artillery.

The location of buried ordnance may not be known. Therefore, it may be difficult to certify that "clean" sites are in fact really clean. This has occurred at Jefferson Proving Ground where large amounts of World War II munitions were found in the course of excavating a supposedly clean area.

Ordnance cleanup is inherently dangerous. The need to characterize and remediate a site may conflict with requirements to minimize health and safety risks to cleanup personnel.

In addition to lack of technologies to remediate the site, technologies may also not be available for conducting investigations of the site. For example, detectors may not be capable of detecting ordnance buried deep beneath the surface or in wetlands.

The excavation required for a complete cleanup would likely generate significant undesirable environmental impacts. Removing 10+ feet of soil over a large area would generate impacts similar to strip mining. However, in areas heavily contaminated by penetrating ordnance, even this level of cleanup might yield temporary results, as ordnance items later work their way to the surface.

In most cases, installations contaminated with high explosive munitions residue will not be suitable for commercial or residential use, not only because of the cost or lack of cleanup technologies, but also because it may be impossible to guarantee that a site is in fact "clean."

OPTIONS

- a) Separate highly-contaminated areas from "clean" areas (known as "parceling"), so that part of the land that experienced little or no contamination might be easily cleaned, verified and released.
- b) Perform surface cleanups sufficient to allow activities where both cleanup and human access and exposure is limited, e.g., wildlife refuges or certain types of industrial activities not involving construction or excavation.

- c). Establish mechanisms to protect the public in perpetuity from residual risks at sites where remediation is at a lesser level.
- d). Retain title in DoD and designate the area as a wildlife refuge, bird sanctuary or similar use not involving public access.
- e). Use funds from the Base Closure Account to research and develop technology for explosive ordnance disposal.

ISSUE #4

STATEMENT OF ISSUE

To what extent can overlapping or duplicative regulatory responsibilities and functions be combined or delegated to a single regulatory authority?

BACKGROUND

Existing law allows EPA to delegate to states the primary responsibility under RCRA/HSWA for overseeing corrective action at TSDFs, but does not allow similar delegation of responsibility under CERCLA to oversee remedial actions at NPL sites. The potential for delegation of corrective action oversight under RCRA is largely unrealized, since few states have met EPA's criteria for authorization.

Although CERCLA does not provide for delegation of that program to individual states, CERCLA §121(f) calls for "substantial and meaningful involvement by each state in initiation, developments and selection of remedial actions to be undertaken in that State." EPA's proposed revisions to the National Contingency Plan (NCP) in 1988 included policy options to allow NPL sites to be "deferred" to states to facilitate more rapid cleanup and to conserve the federal fund. Amidst growing controversy over this proposed expansion of states' role at NPL sites, the EPA Administrator informed a Senate committee in June 1989 that EPA would defer action on this proposal, and the new NCP includes no such option for states. Nevertheless, many states take an active role in federal cleanups of NPL sites, often assuming "state lead" under cooperative agreements with EPA. Most states also now operate their own cleanup programs for remediating non-NPL, non-RCRA sites.

Delegation of the RCRA regulatory program to the states is intended to eliminate duplication of effort by agencies that have overlapping areas of responsibility. The argument is that delegation will expedite cleanups at TSDFs, including those located on bases that will be closed. Delegation of RCRA corrective action authority to more states might expedite cleanups at a significant number of bases subject to closure. When EPA delegates RCRA §3004(u) authority to individual states, it could perhaps adjust the delegated authorities to account for the special circumstances encountered at federal facilities.

OPTIONS

- a) Determine why more states have not satisfied the criteria for delegation of RCRA/HSWA corrective action authority. If delegation is being delayed for reasons unrelated to the established criteria, remove those impediments. Assist states to meet the criteria.
- b) Consider the benefits of a single environmental agency (federal or state) having regulatory responsibility for all hazardous substance cleanups at closing bases.
- c) Authorize delegation to states of authority to oversee cleanup actions at NPL sites where the state demonstrates capability to do so.
- d) Reconcile and combine oversight and regulatory responsibilities under CERCLA and RCRA at bases being closed or realigned.

ISSUE #5

STATEMENT OF ISSUE

To what extent may proceeds from property transactions be used to fund cleanups?

BACKGROUND

The 1988 Base Closure Act (P.L. 100-526) authorized closures to begin in January 1990 and end by October 1995. The statute allows DoD to use the proceeds from the sale of land at these closing bases to offset the costs of such closings if the sale occurs by October 1995.

Cleanup of many closing bases will extend beyond five years and final transfer of some portions of those bases, therefore, may not occur until after the five year deadline passes. Moreover, funds currently budgeted for cleanup of contaminated sites at closing bases are insufficient to clean up all such sites. Until fiscal year 1991, cleanup of contaminated sites at bases slated for closure was primarily funded under the Defense Environmental Restoration Account (DERA), DoD's overall account for environmental restoration at all bases. DERA has \$1.1 billion authorized for Fiscal Year 1991. In the National Defense Authorization Act for Fiscal Year 1991, P.L. 101-510, Congress moved all funding for cleanup activities at closing bases from the Defense Environmental Restoration Program (DERP) at active bases to the Base Closure Account, which was provided with \$100 million to fund the costs of cleanup at the bases on the 1988 closure list. Congress took this action because of its concern that cleanup at closing bases should not compete with cleanup activities at active bases for DERA funds under DoD's worst-first priority system.