

his consent to the program by signing up with his health insurance plan, which authorized the collection of his prescription information. Cordes said Steverding's doctor approved the switch. "It's a totally voluntary program," Cordes said.

Officials at benefit managers say they take great care with the information they collect and understand its sensitivity. At PCS, for example, employees must sign a pledge that they will respect the confidentiality of personal records. Patient information also is encrypted or depersonalized whenever PCS transmits it.

"We clearly recognize that by being a part of the health care system we have to abide by this type of ethics," said Nick Schulze-Solce, a vice president for health management services at PCS.

But given the limited oversight by state and federal authorities, there's no way to guarantee information will be used appropriately. In Las Vegas last year, patients who shopped at three independent drug stores later received \$5 coupons and promotional fliers in the mail from a pharmacy chain, American Drug Stores. Among them was Mary Grear, a pharmacist and owner of the independent stores.

Grear wondered why she and so many of her customers received the same flier. By looking in her own computers, she discovered they all had the same pharmacy benefit manager, a company owned by American Drug Stores. She complained to state authorities, who confirmed this spring that a pharmacy benefit manager owned by American Drug Stores had passed along the names and other information from confidential prescription records.

Grear said she was outraged, both as a patient and a pharmacist.

"I mean, it's medical information. That's how it should be used. It isn't for marketing," Grear said. "I believe it's between me and my health professional."

State authorities also were unsettled. "Something like this has never happened before," said Larry L. Pinson, president of the Nevada State Board of Pharmacy, who described the prescription records involved as "very, very private medical histories."

In response, regulatory officials in Nevada recently sent out a stern letter to 275 pharmacy benefit managers and other administrators, warning that many of the companies' activities may be illegal. "You are now on notice," the letter said, "and the board hopes that these illegal practices will now stop."

Dan Zvonek, a spokesman for American Drug Stores, said the sharing of patient records by the companies was a mistake that would not happen again.

He acknowledged that pharmacy benefit companies are struggling with privacy issues, trying to determine what's appropriate as financial matters take an ever larger role in decision making.

"You run this risk of stepping over those boundaries of confidentiality. But no one knows where those boundaries are," Zvonek said. "You running a risk of ignoring the health care aspect and focusing on profit."

One source of profit for the benefit managers is the resale of aggregations of patient data. Although benefit managers remove patient names and other personally identifying information from the records, such data has become increasingly valuable for drug companies and health researchers.

During companies mine the data, for example, to track how much a health plan spends on each specific drug and to try to document whether treatment resulted in the desired outcome. They also use the information to measure the success of direct marketing campaigns and to focus sales forces on doctors who prescribe certain medicines.

Raymond Gilmartin, chief executive of Merck & Co., the giant pharmaceutical company that owns Merck-Medco, said that by monitoring how diabetics take their medication, the firm can save health plans \$260 a year per diabetic by keeping them well—and out of the hospital.

"This is exciting stuff," Gilmartin said. "This is the information everyone is looking for and that everyone wants."

Among the many unresolved questions posed by benefit managers is who has the final say on how personal data is used and maintained. In most cases, according to Schulze-Solce, the health plan that has contracted with a benefit manager to gather the information owns the information.

In many cases that owner is an employer that provides it own health insurance.

"That of course is something that needs to be recognized," said Schulze-Solce. "For society, it is important to get their arms around that because that is a potential source of leak. . . . In theory, [privacy] is depending on the self-discipline of those companies."

In any case, officials at pharmacy benefit managers said patients, doctors and the rest of the medical community might as well get used to them. Not only are they increasingly important to the health care system, but they're not going away anytime soon.

As medical professionals come to rely on a person's genetic history to recommend treatments, even more detailed data will be needed to provide proper care. Schulze-Solce said pharmacy benefit managers will be expected to help fill that need.

He likened the development of pharmacy benefit managers to the evolution of nuclear bombs: "In the case of nuclear weapons, you try to contain the risk," he said. "Trying to go back is moot."

MULTIPLE CHEMICAL SENSITIVITY

HON. BERNARD SANDERS

OF VERMONT

IN THE HOUSE OF REPRESENTATIVES

Tuesday, October 13, 1998

Mr. SANDERS. Mr. Speaker, I rise today to discuss the issue of Multiple Chemical Sensitivity as it relates to both our civilian population and our Gulf War veterans. I continue the submission for the RECORD the latest "Recognition of Multiple Chemical Sensitivity" newsletter which lists the U.S. federal, state and local government authorities, U.S. federal and state courts, U.S. workers' compensation boards, and independent organizations that have adopted policies, made statements, and/or published documents recognizing Multiple Chemical Sensitivity disorders for the benefit of my colleagues.

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

In a letter from HUD Assistant Secretary Timothy Coyle to Senator Frank Lautenberg, confirming HUD recognition of "MCS as a disability entitling those with chemical sensitivities to reasonable accommodation under Section 504 of the Rehabilitation Act of 1973" and also "under Title VIII of the Fair Housing Amendments Act of 1988" [26 October 1990, 2 pages, R-13]. This was followed by a formal guidance memorandum from HUD Deputy General Counsel G.L. Weidenfeller to all regional counsel, detailing HUD's position that MCS and environmental illness "can be handicaps" within the meaning of section 802(h) of the Fair Housing Act and its implementing regulations [1992,

20 pages, R-14]. Also recognized in a HUD Section 811 grant of \$837,000 to develop an EI/MCS-accessible housing complex known as "Ecology House" in San Rafael, CA, consisting of eleven one-bedroom apartments in a two-story complex. This grant was pledged in 1991 and paid in 1993. [2 pages, R-15] (See also Recognition of MCS by Federal Courts, Fair Housing Act, below.)

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

In response to a disability rights complaint filed against the Baltimore County Parks and Recreation Department (BCPRD) by Marian Arminger on behalf of her three children, which the National Park Service (NPS) accepted for review pursuant to both Section 504 of the Rehabilitation Act and Title II of the Americans with Disabilities Act. The Acting Equal Opportunity Program Manager of the NPS ruled that "the BCPRD must accept the determination of disability by the Baltimore County Public Schools [BCPS, see US Department of Education, above] regarding the children and their disability of MCSS [MCS Syndrome]. This will eliminate possible retaliation with a different conclusion by the same public entity." [Case #P4217(2652), 1996, 4 pages, R-102]. The NPS further ruled that "With the determination that these children are individuals with a disability (MCSS), it is necessary to make reasonable modifications to program facilities. It appears that discontinuing, temporarily or permanently, the use of outside or inside pesticide application and toxic cleaning chemicals is the basic reasonable modification necessary in this case. . . . Therefore we believe that steps should be taken by the BCPRD to provide the necessary communication with other affected agencies such as the BCPS and develop, in consultation with the parents and others deemed appropriate, a plan for the reasonable modification of the program environment for these children."

U.S. DEPARTMENT OF JUSTICE

In its enforcement of the Americans with Disabilities Act of 1990, under the terms of which MCS may be considered as a disability on a case-by-case basis, depending—as with most other medical conditions—on whether the impairment substantially limits one or more major life activities. The Office of the Attorney General specifically cites "environmental illness (also known as multiple chemical sensitivity)" in its Final Rules on "Non-Discrimination on the Basis of Disability in State and Local Government Services" (28CFR35) and "Non-Discrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities" (28CFR36), as published in the *Federal Register*, Vol. 56, No. 144, pages 35699 and 35549 respectively [26 July 1991, 2 pages, R-16]. "Environmental illness," also is discussed in the *ADA Handbook*, EEOC-BK-19, 1991, p. III-21 [14 page excerpt, R-17], jointly published by the Department and the U.S. Equal Employment Opportunity Commission. The *ADA Handbook* describes environmental illness as "sensitivity to environmental elements" and, although it "declines to state categorically that these types of allergies or sensitivities are disabilities," it specifically asserts that they may be: "Sometimes respiratory or neurological functioning is so severely affected that an individual will satisfy the requirements to be disabled under the regulations. Such an individual would be entitled to all the protections afforded by the Act."

U.S. DEPARTMENT OF VETERANS AFFAIRS

In recognizing MCS as a medical diagnosis (although not as a "disability") in the case of at least one Persian Gulf War veteran [Gary Zuspann, October 1992, 3 pages, R-18].

It is impossible to know exactly how many other Persian Gulf veterans may have been diagnosed with MCS as the diagnostic data recorded in the VA's Persian Gulf Registry are based on the International Classification of Diseases (ICD-9CM), which does not yet include a specific code for MCS. In June 1997, VA released its "Environmental Hazards Research Centers' Annual Reports for 1996." These included preliminary data from the New Jersey EHRC showing that, of the 1161 veterans randomly selected from the VA's Persian Gulf Registry (living in NJ, NY, CT, MA, MD, DE, IL, VA, OH or NC) who completed the center's questionnaire, 12.5% "endorsed symptoms compatible with a conservative definition of MCS" [1997, 5 page excerpt, R-144]. When the NJ EHRC published its first report on this study, however, in an abstract entitled "Preliminary prevalence data on Chronic Fatigue Syndrome and Multiple Chemical Sensitivity," it said 26% of 104 veterans randomly selected from the VA Register "were especially sensitive to certain chemicals, and 4% reported that this sensitivity produced at least 3 of 4 lifestyle changes . . . suggesting that something about serving in the Gulf substantially increased the risk of developing CFS and MCS" [1996, Journal of CFS, 2(2/3): 136-137; R-177].

U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF POLLUTION, PREVENTION AND TOXINS, HEALTH EFFECTS DIVISION, OCCUPATIONAL AND RESIDENTIAL EXPOSURE BRANCH, SPECIAL REVIEW AND REGISTRATION SECTION

In a peer-reviewed memorandum entitled "Review of Chlorpyrifos Poisoning Data" from EPA's Jerome Blondell, PhD, MPH, and Virginia Dobozy, VMD, MPH, and Linda Propst, Section Head, Reregistration Branch. The memo discusses data from several sources on acute and chronic health effects, including MCS, associated with exposure to Dursban and other chlorpyrifos-containing pesticides, and recommends many changes (subsequently agreed to by DowElanco, the manufacturer) in the use and marketing of these products, including the phase out of all indoor sprays and foggers, consumer concentrates, and all pet care products except flea collars. Most significantly, the memo documents that of 101 cases of unambiguous chlorpyrifos poisoning reportedly directly to EPA in 1995, 38 had chronic neurobehavioral effects (including 4 who also had peripheral neuropathy), while 50 "reported symptoms consistent with multiple chemical sensitivity" [1977, 70 pages, R-145].

U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF RADIATION & INDOOR AIR, INDOOR AIR DIVISION

In its August 1989 *Report to Congress on Indoor Air Quality*, entitled *Assessment and Control of Indoor Air Pollution* (EPA/400/1-89/001C), the Environmental Protection Agency's Indoor Air Division describes MCS as "a subject of considerable intra professional disagreement and concern (Cullen, 1987). While no widely accepted test of physiologic function has been shown to correlate with the symptoms, the sheer mass of anecdotal data is cause of concern." [14 page excerpt from Vol. 2, R-19]. In 1991, the Indoor Air Division asked the National Research Council to sponsor a scientific workshop on "Multiple Chemical Hypersensitivity Syndrome" the proceedings of which are published in *Multiple Chemical Sensitivities: Addendum to Biologic Markers in Immunotoxicology* [National Academy Press, 1992].

U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF RESEARCH & DEVELOPMENT

Describes "chemical sensitivity" as an "ill-defined condition marked by progressively more debilitating severe reactions to various

consumer products such as perfumes, soaps, tobacco smoke, plastics, etc." in *The Total Exposure Assessment Methodology (TEAM) Study, Summary and Analysis: Volume 1*, by L. Wallace, Project Officer, Environmental Monitoring Systems Division, EPA Office of Research and Development [1987, 2 page excerpt, R-20]. The Office of Research and Development (ORD) began conducting human subjects chamber research at its Health Effects Research Branch in Chapel Hill (NC) in 1992 to identify possible diagnostic markers of MCS. (See also joint entry under U.S. Consumer Product Safety Commission, above.) In the justification for its fiscal year 1998 budget, ORD devotes one paragraph to MCS in the section on Air Toxins, saying that it plans to release "information comparing individuals who identify themselves as belonging to a particular subgroup (multiple chemical sensitivity) against established norms for a variety of health-related endpoints," and will make "recommendations for follow up to evaluate the potential relationship between the signs/symptoms reported by these individuals and objective/quantitative health endpoints" [1997, 3 page excerpt, R-160].

U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION

In the *ADA Handbook EEOC-BK-19* [1991], 14 page excerpt, R-17], jointly published by the EEOC and the Department of Justice (see above) and in a Determination Letter signed by Issie L. Jenkins, the director of the Baltimore District Office, recognizing MCS as a disability under the Americans with Disabilities Act requiring workplace accommodation, consisting in this case of a private office with an air filter, *Mary Helinski v. Bell Atlantic*, No. 120 93 0152, 17 May 1994 [2 pages, R-22].

FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY, SUBCOMMITTEE ON RISK ASSESSMENT, WORKING PARTY ON NEUROTOXICOLOGY

In its *Final Report: Principles of Neurotoxicology Risk Assessment*, published in the Federal Register by the US EPA's Office of Health Research [17 August 1994, 45 pages for entire report, R-161, or 3 page excerpt, R-162], which says in Section 2.5.1 on "Susceptible Populations" that: "Although controversial [Waddell 1993], recent evidence suggests that there may be a subpopulation of people who have become sensitive to chemicals and experience adverse reactions to low-level exposures to environmental chemicals [Bell et al 1992]." The report is "the result of the combined efforts of 13 Federal agencies comprising the ad hoc Interagency Committee on Neurotoxicology," including ATSDR, the Center for Food Safety and Applied Nutrition, Center for Biologies Evaluation and Research, Center for Drug Evaluation and Research, Consumer Product Safety Commission, Dept of Agriculture, Dept. of Defense, Environmental Protection Agency, National Center for Toxicological Research, National Institutes of Health, National Institute of Occupational Safety and Health, and the National Toxicology Program.

FEDERAL INTERAGENCY WORKGROUP ON MULTIPLE CHEMICAL SENSITIVITY

Formed in 1994 to review and coordinate the role of federal agencies involved in research on multiple chemical sensitivity [1 page agenda from 9/14/94 meeting, R-91]. The Work Group is so-chaired by Dr. Barry Johnson, Assistant Surgeon General and Assistant Administrator of the Agency for Toxic Substances and Disease Registry (ATSDR) and Dr. Richard Jackson, Director of the National Center for Environmental Health at the Centers for Disease Control and Prevention. Other agencies represented include the

Departments of Energy, Defense, and Veterans' Affairs, the Environmental Protection Agency and two other institutes within the Department of Health and Human Services: the National Institute for Occupational Safety and Health, and the National Institute of Environmental Health Sciences. Draft report is expected to be released by ATSDR in September 1998 for a 60-day public comment period.

NATIONAL COUNCIL ON DISABILITY (AN INDEPENDENT FEDERAL AGENCY)

In ADA Watch—Year One, its "Report to the President and Congress on Progress in Implementing the Americans with Disabilities Act," which recommends that Congress and the Administration "should consider legislation to address the needs of people with "emerging disabilities," such as those . . . "with environmental illness who are severely adversely affected by secondary smoke or other pollutants in public places" [5 April 1993, 8 pages, R-23].

PRESIDENT'S COMMITTEE ON EMPLOYMENT OF PEOPLE WITH DISABILITIES

In its report to the President, entitled *Operation People First: Toward a National Disability Policy*, which recommends that the federal government "develop, refine and better communicate methods of 'reasonable accommodation,' in particular, the accommodation needs of people with . . . chronic fatigue syndrome and multiple chemical sensitivity" [1994, 5 pages, R-24] encouraging the Deputy Ministers of Housing, Health Community and Social Services "to begin a consultative process and help to establish some guidelines" spelling out exactly what services and benefits are available to provincial residents with MCS, including possible admission to treatment facilities in the United States [27 October 1989, 2 page letter and 2 pages of press coverage from the *Globe & Mail*, R-158].

RECOGNITION OF MCS BY 28 U.S. STATE AUTHORITIES

ARIZONA TECHNOLOGY ACCESS PROGRAM, INSTITUTE FOR HUMAN DEVELOPMENT, NORTHERN ARIZONA UNIVERSITY

In a report written for the general public entitled *Topics: Multiple Chemical Sensitivity* with sections on What is MCS, Symptoms of MCS, People Diagnosed with MCS, What Can Cause MCS, Treatments, MCS and the Medical Community, MCS is Now Recognized as a Disability, Accommodating Individuals with MCS in the Workplace, MCS is Preventable, and a list organizations and government agencies to contract for Help and Information. Funding for this document was provided by the US Dept of Education National Institute on Disability and Rehabilitation Research (NIDRR), grant #H224A40002, but a disclaimer notes that the content does not necessarily reflect the views of the US government [October 1996, 11pages, R-129].

ARIZONA DEPARTMENT OF ECONOMIC SECURITY, REHABILITATION SERVICES ADMINISTRATION, AND STATEWIDE INDEPENDENT LIVING COUNCIL

In RSA's Interim Fiscal Year 1995 State Plan for Independent Living, specifying that "Services Related to Housing" include "modifications to accommodate people with EI/MCS" [Attachment 12, 1 October 1994, 7 pages, R-31] and in an administrative review decisions issued 22 June 1992 in the case of a vocational rehabilitation client determined to be "severely disabled" by "environmental illness, allergies." In addition, training on MCS was presented to both Vocational Rehabilitation and ILRS counselors at the 1994 state staff conference.

ATTORNEY GENERAL OF CALIFORNIA

In the final report of the *Attorney General's Commission on Disability*, recognizing environmental illness as a disabling condition [1989, 8 page excerpt, R-33].

ATTORNEYS GENERAL OF NEW YORK

Backed by 25 other Attorneys General from AL, AZ, CT, FL, IA, KS, MA, MN, MO, ND, NJ, NM, NV, OH, OK, OR, PA, SD, TN, TX, UT, VT, WA, WI, WV.)

In a thoroughly documented petition to the U.S. Consumer Product Safety Commission, requesting the issuance of safety standards and warning labels governing the sale of carpets, carpet adhesives and paddings suspected of causing MCS and other illness [1991, 1 page excerpt, R-32a, 350 pages total].

CALIFORNIA DEPARTMENT OF HEALTH SERVICES,
ENVIRONMENTAL HEALTH INVESTIGATIONS
BRANCH

In its extensive final report on "Evaluating Individuals Reporting Sensitivities To Multiple Chemicals," funded by the federal Agency for Toxic Substances and Disease Registry under Cooperative Agreement No. U61/ATU999794-01 [September 1995, 6 page excerpt including abstract, advisory panel members, and table of contents, R-34]. A cover letter sent by the EHIB to the project's Advisory Panel members notes the extraordinary preliminary results obtained from an annual survey of random Californians to which questions about MCS were added for the first time in 1995. Of the first 2,000 people surveyed, 16% reported suffering from MCS symptoms while 7% ("certainly far higher than any of us may have expected") claim they have been diagnosed with MCS by a physician. [3 October 1995, 2 pages, R-100]. Citing personal communication with Dr. R. Kreutzer, the acting chief of the EHIB (also confirmed with Dr. Kreutzer by MCS R&R), Dr. Ann McCampbell reported the study's final results in a letter to the editor published by *Psychosomatics* (38(3): 300-301, May-June 1997): of 4,000 people surveyed, 15.9% reported chemical sensitivity and 6.3% said they had been given the diagnosis of MCS by a physician [1997, 1 page, R-141].

CALIFORNIA ENERGY COMMISSION

In its report on *California's Energy Efficiency Standards and Indoor Air Quality* (#P400-94-003), which says of MCS that "Its increasing incidence is suggested as accompanying the increasingly wide-spread use of products manufactured with potentially toxic chemical constituents. Available information points to this condition as an acquired disorder usually resulting from prior sensitization to chemicals in the environment" [1994, 2 page excerpt, R-35].

CALIFORNIA LEGISLATURE, SENATE SUBCOMMITTEE ON THE RIGHTS OF THE DISABLED

In its final report on *Access for People with Environmental Illness/Multiple Chemical Sensitivity and Other Related Conditions*, chaired by Senator Milton Marks, that summarizes four years of investigations by the subcommittee, [30 September 1996, 26 pages, R-109]. The report addresses common barriers to access in public buildings, transportation, institutions, employment, housing, and present detailed suggested solutions, both those required under law and others recommended. It covers the work of the subcommittee, its outside Advisory Panel, and its MCS Task Forces (on Building Standards and Construction, Environmental Illness, Industry, Medicine and Health).

FLORIDA STATE LEGISLATURE

In legislation that created a voluntary Pesticide Notification Registry for persons with pesticide sensitivity or chemical hypersensitivity, as long as their medical condition is certified by a physician specializing

in occupational medicine, allergy/immunology or toxicology [Florida Statute 482.2265(3)(c), 1989, 7 pages, R-38]. The legislation requires lawn-care companies to alert registry members 24 hours in advance of applying chemicals within a half-mile of their home. Note that pesticide sensitivity registries also have been adopted in CO, CT, LA, MD, MI, NJ, PA, WA [1992, 6 pages, R-149], WV and WI, but these do not refer specifically (by any name) to MCS-type illness, and most require notification only of adjacent properties.

INTRODUCTION OF RESOLUTION
SUPPORTING THE HAN YOUNG
WORKERS

HON. ZOE LOFGREN

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, October 13, 1998

Ms. LOFGREN. Mr. Speaker, I rise today to introduce a resolution on behalf of workers who are on strike to improve conditions at the Han Young truck factory in Tijuana, Mexico. Congress has a moral obligation to support these workers, who are fighting for their basic democratic rights.

The Han Young factory is a contract factory that assembles truck trailer chassis for the Hyundai Corporation. The workers of the Han Young factory, consistent with their rights under Mexican law, formed a union to address issues like low wages and worker safety. However, the management of the Han young factory has refused to bargain with the union and local officials failed to recognize the union. Since May of 1998, eighty Han Young workers have been on strike to protect their basic right to organize.

Under the procedures outlined in the North American Free Trade Agreement, the United States National Administrative Office (NAO) in the Department of Labor has conducted a review of the conditions at the Han Young factory. The NAO found consistent and credible reports of a workplace polluted with toxic airborne contaminants, operating with unsafe machinery, and numerous violations of health and safety standards. The workplace of the Han Young workers lacked even "adequate sanitation facilities for workers to relieve themselves" or even "get a drink of water."

Our trading partners must address the issue of worker's democratic rights. In the case of Mexico this means enforcing already existing labor laws. It is vital that we in Congress send a strong message in support of the Han Young workers. I hope that you will join me in support of the Han Young workers.

COLONEL JAMES R. MARSHALL

HON. NORMAN SISISKY

OF VIRGINIA

IN THE HOUSE OF REPRESENTATIVES

Tuesday, October 13, 1998

Mr. SISISKY. Mr. Speaker, I want to recognize the honorable, selfless, and dedicated service to this country by Colonel James R. Marshall, who will be retiring from the U.S. Air Force on January 1, 1999 after over 28 years of military service. Colonel Marshall began active duty in the Air Force on August 22, 1970,

after graduating from the Virginia Military Institute.

Colonel James R. Marshall distinguished himself by performing exceptionally meritorious services to the United States while serving in positions of increasing responsibility culminating as the Director, Environmental Restoration Program and Acting Assistant Deputy Under Secretary of Defense for Environmental Cleanup. During this period, his outstanding leadership and devoted service to the Office of the Secretary of Defense, the Department of Defense, the Services and the United States of America have been of the highest tradition of senior members of the United States Armed Forces.

From his first assignment as a Communications Maintenance Officer in Montana to his last in the Pentagon, Colonel Marshall distinguished himself by his ability, diligence and selfless devotion to duty. His assignments took him to across the U.S. to Montana, New Jersey, Ohio, California, Hawaii, Georgia and Virginia as well as overseas to the Philippines and England.

The exemplary ability, diligence, and devotion to duty of Colonel Marshall were instrumental factors in the resolution of many complex problems of major importance to the Air Force and the Department of Defense. As Commander of the Civil Engineer Squadron and the Base Civil Engineer at Mather AFB, from July 1987 to August 1990, he superbly provided direct, day-to-day management of installation engineer projects and programs and well as ensured that his personnel were trained and ready to meet mission requirements. The fact that he guided his unit to earn the Installation's Heating, Ventilation and Air Conditioning Award attested his keen sense of environmental awareness as well as his interest in conserving resources.

In 1990, Colonel Marshall became the first Director for Environmental Management for the U.S. Pacific Air Force. While serving as the Director, from August 1990 to August 1993, he developed and established a program to oversee the closure of Clark Air Force Base in the Philippines. He readily identified environmental work that needed to be accomplished and successfully obtained a 70 percent increase in funding for the Environmental Program. Of particular note, Colonel Marshall ensured that hazardous material and hazardous waste was accounted for and properly disposed of, to include proper annotation of PCB's on the installation prior to base closure.

Following his assignment in the Philippines, he served as the Director of Environmental Management at Warner Robbins Air Force Base, GA from August 1993 to June 1995. Under his superb leadership and environmental stewardship, Warner Robbins Air Force Base won the coveted Department of Defense Environmental Award for the best Environmental Program in 1994. He was also instrumental in obtaining funding to repair damage following the severe flooding caused by Hurricane Andrew in 1994. In addition to the providing oversight for repair of flood damaged facilities and proper disposal of hazardous materials, he identified requirements for, successfully designed, and found funding for a new state of the art hazardous materials storage facility which serves the base today.

Colonel Marshall's superior performance as a Director of Air Force Environmental Management Programs resulted in his selection to