

MIT

Management Reorganization

Describe how your office's senior management was reorganized in 1993. Have major changes in your office's management structure occurred since then? If so, what was changed and why was it changed?

When James Lee Witt became director of FEMA, he reorganized the agency from the existing programmatic alignment to a functional alignment mirroring the four phases of emergency management, creating the Preparedness, Training, and Exercise Directorate, the Response and Recovery Directorate, and the Mitigation Directorate.

In establishing the Mitigation Directorate, Witt began an eight-year effort to establish mitigation as the cornerstone of emergency management throughout this nation. Now FEMA routinely works with state and local governments, professional groups, and the public to reduce or eliminate the risk to people and property from floods, earthquakes, hurricanes, and other natural forces. Preventive measures include: keeping homes away from floodplains, engineering bridges to withstand earthquakes, and promoting the adoption and enforcement of sound building codes and construction practices.

The 1993 reorganization of FEMA was particularly significant for Mitigation because it pulled together damage prevention programs and activities that previously had been scattered amongst several different offices. For the first time in the history of the agency, the Mitigation Directorate experienced the ability to truly focus on multi-hazard mitigation.

In keeping with the agency-wide objective of removing programmatic stove piping and being a functionally aligned organizational structure, the Mitigation Directorate was organized with three divisions, each with two branches:

Hazard Identification and Risk Assessment Division (HIRA)

Hazard Identification Branch

Risk Assessment Branch

Program Implementation Division (PI)

Program Delivery Branch

Technical Assistance and Compliance Branch

Program Development and Coordination Division (PDC)

Program Development Branch

Program Coordination Branch

The reorganization also included the formation of a personnel unit that provided administrative, accounting, and budgeting support services to the directorate.

In November 1993, Richard Moore, a former state representative in Massachusetts, was confirmed by the U.S. Senate to serve as the associate director for the newly formed Mitigation Directorate. Moore's primary focus was to develop a national mitigation strategy. Initially, the concept was discussed at a series of town hall meetings held in each of the ten FEMA regions, usually with media present. The directorate solicited input from a broad range of stakeholders – including state and local officials as well as members of academia – and incorporated many of their suggestions.

FEMA rolled out the resultant National Mitigation Strategy during a national conference in December 1995. It won widespread praise and acceptance by articulating goals and objectives and providing the first real roadmap to make this nation's communities more disaster resistant.

With the exception of establishing the national earthquake program office, no other changes in organizational structure occurred during Moore's term as associate director. In February 1996, Moore resigned to run for a vacancy in the Massachusetts Senate and was successful in that bid.

Shortly after Moore's departure, Richard Krimm, a career member of the senior executive service, was named to serve as executive associate director for Mitigation, essentially acting as the associate director for Mitigation. Upon his arrival, Krimm initiated an examination of the organizational structure of the directorate through the services of a consultant. No major changes were made, however.

In April 1997, the Senate confirmed Michael J. Armstrong, who had been serving as the regional director for FEMA Region VIII in Denver, as the new associate director for Mitigation. In his first address to the FEMA headquarters staff, Armstrong laid out three priorities:

1. Map Modernization
2. Streamlining the Hazard Mitigation Grant Program
3. *Project Impact*

After becoming familiar with the Mitigation Directorate's organizational structure in place at the time, Armstrong assembled the senior managers to begin exploring changes that would be needed to more fully address his top three priorities, and to emphasize planning and outreach activities. This resulted in the following changes:

The Hazard Identification and Risk Assessment Division was renamed, becoming the Technical Services Division with two branches, the Mapping Support Branch and the Hazards Study Branch.

The Program Implementation Division was renamed to become the Program Support Division (PSD), with two branches, the Program Delivery Branch, and the Program Planning Branch. The programs and functions were rearranged between the two branches with a new emphasis placed on comprehensive, multi-hazard mitigation planning.

The Program Development and Coordination Division was renamed to become the Program Assessment and Outreach Division with two branches, the Program Policy and Assessment Branch, and the Program Outreach Branch. The primary goal in creating the Outreach Branch was to capture and market mitigation success stories and to use them and other tools to educate the nation on preventing and reducing losses.

With these organizational changes, came programmatic changes as well. The risk assessment responsibility, including the ongoing development of HAZUS multi-hazard loss estimation modeling software, was transferred from the former HIRA Division to the new Program Assessment and Outreach Division. The Dam Safety program responsibility was transferred to the TSD from the former PDC Division. The National Earthquake Program Office remained unchanged, as did the Support Services Branch.

In March 1998, responsibility for managing the *Project Impact* Initiative was transferred from the Director's Office and assigned to the Mitigation Directorate. This created another unit called the Project Impact Program Office. (Using public and private partnerships, *Project Impact: Building Disaster Resistant Communities* helps communities protect themselves from the devastating effects of natural disasters by taking actions that dramatically reduce disruption and loss.)

The changes noted above were in place by August 1998.

During 1999, additional changes were made. Most notable was the establishment of the National Dam Safety Program Office in accordance with the Dam Safety Act of 1999.

During 2000, Armstrong placed an emphasis on floodplain management and community compliance with the National Flood Insurance Program. To better focus resources, Armstrong combined the policy and compliance flood program staff into a single branch, transferring responsibility for community compliance from the Program Support Division to the Program Assessment and Outreach Division in May 2000. That division was reorganized to include three branches, the Policy Branch, the Assessment Branch, and the Outreach Branch. In addition, the director transferred responsibility for the agency's environmental function from the Office of Policy and Regional Operations to the Mitigation Directorate, also located in the Policy Branch. In establishing the new Policy Branch, the Program Policy and Assessment Branch was renamed the Assessment Branch.

Customer Service Improvements

How has your office implemented FEMA's customer service policy? Please cite specific examples of research and/or surveys conducted by your office related to customer service. Also, cite specific changes that were made in the way your office does business as a result of the research and surveys that were done. Finally, give examples of specific improvements in the way your office has serviced its customers since 1992.

FEMA Map Assistance Center

Responding to constituent needs, the agency launched the nationwide FEMA Map Assistance Center (FMAC) to answer the public's questions about flood maps. The FMAC, which can be reached through a toll-free number (1-877- FEMA MAP), is staffed with trained map specialists ready to answer any flood map-related question quickly and accurately in English or Spanish. Technical and engineering questions can be forwarded to technical experts as needed. Customer feedback shows that callers give the FMAC

consistently high ratings (usually above 4.5 on a scale of 1 to 5) for promptness, courtesy, degree of knowledge, and materials received.

Flood Hazard Mapping Web Site

In addition to the map assistance center, FEMA established a flood hazard mapping section on its web site (www.fema.gov/mit/tsd) to provide quick and easy access to information on flood maps. The web site has ready answers to more than 80 frequently asked questions, as well as online tutorials, downloadable map change request forms and other documents, and sections tailored to specific constituents — engineers and surveyors, bankers and insurance agents, homeowners, and floodplain managers. The site also provides information on FEMA's Map Modernization initiative, including how communities can let FEMA know about their map update needs and ways they can participate in the flood map update process as a cooperating technical community or cooperating technical state. The web site is continually updated to serve constituents' needs and to reflect the latest developments in flood hazard mapping.

Grants Management

The Mitigation Directorate implements several grant programs that provide funding to state and local governments to implement a variety of multi-hazard mitigation projects. The states are responsible for administering these projects and overseeing the implementation of the grants by the local communities. FEMA's customers are the state and local governments and, in many cases, the individual residents who own property that may be part of a mitigation project. To better serve its customers, FEMA has sought continuous process improvements to streamline the provision of funding under these programs and to provide tools to the state and local governments to assist them in carrying out their responsibilities. For example, the agency has produced one easy-to-access reference document that contains all policies and guidance pertaining to the Hazard Mitigation Grant Program. In addition, in October 1998, FEMA produced the "Property Acquisition Handbook for Local Governments" to provide a comprehensive and easy-to-use tool to assist communities in planning and administering voluntary buyout projects that move people out of flood-prone areas.

Managing States

Under the leadership of Director Witt and Associate Director Armstrong, the Mitigation Directorate created and implemented an initiative that gives states more control over the expenditure of federal monies earmarked for damage prevention. This initiative, officially called the Hazard Mitigation Grant Program Managing State Concept, was designed to reward states that had demonstrated a strong capability in implementing the Hazard Mitigation Grant Program (HMGP). Incentives include increased flexibility and greater authority to implement the program in return for an ongoing commitment to maintain high quality capability and to follow standards as set in Memorandum of Understanding negotiated with each state. The development process started with interviews of pertinent state officials to identify their major concerns and solicit suggestions for better serving state mitigation needs through the HMGP. Beginning in 1998, the resultant Managing State Concept was piloted in three states: Florida, North Dakota, and Ohio. A review of the pilot states' experiences indicated that they felt that

this initiative was a success and that improving the federal-state relationship produced better results among all of the customers of the HMGP, including the federal, state, local government agencies and the individual tax payer.

Environmental Function

In 1996, ten regional environmental officer positions were created to support more effective compliance of FEMA activities with the many environmental laws and executive orders. After several years of integrating the environmental function into the program processes and concurrent with the moving of the headquarters environmental officer to the Mitigation Directorate, it was determined appropriate to evaluate the effectiveness of this function in servicing the needs of the organization. Toward this end, an internal customer service survey was developed to determine what the agency-wide environmental compliance team was doing well and to identify those areas where the service could be improved. The survey method used was individual phone interviews. The target audience was mainly regional division directors and program staff requiring environmental services on a regular basis. The sample target size was 100 people, of which 94 interviews were completed.

The results of the survey indicated that the agency's environmental compliance is "very much better than in the past." As cited by respondents, the three most frequently used services of the environmental function were: problem solving, keeping them informed, and technical assistance. Communication and teamwork were two areas that attracted the most comments. While many respondents rated teamwork as good, many felt strongly that it could be improved and to accomplish this would require increased effort from all parties. There was also an indication that there should be greater flexibility in policies and processes to further streamline the processing of projects.

The results of the survey were discussed at the annual environmental officers conference and steps were defined to address some of the areas where improvement would enhance overall customer service. Among the action items discussed were: simplifying the regulations, providing more directed training, and developing better operational procedures for disaster field offices.

Mitigation Directorate Web Site

The Mitigation Directorate also serves its customers through the Mitigation web site, a section of the comprehensive FEMA web site. The mitigation site has grown extensively over the last several years to cover more aspects of damage prevention and risk reduction and to provide information on the Mitigation Directorate's programs and activities.

The site serves a vast spectrum of mitigation customers, from homeowners to builders to engineers. The "Mitigation at Work" section includes a "how to" series that gives homeowners information on protecting their property from flood, wind, fire, and earthquake damage, as well as a "how to" series for business owners. Other sections offer specialized information on different mitigation subjects, including Dam Safety, Tornado Safe Rooms, the Building Performance Assessment Team, the Map Service Center, HAZUS, and Flood Hazard Mapping. Links allow the customer to visit related sites to find additional information, such as Interactive Hazard Maps.

The Success Stories/Lessons Learned site provides customers the opportunity to learn from others who have had success with mitigation practices and techniques and to share

their experiences. An interactive database allows a user to search posted stories by topic, such as hazard, state, or project type. If customers have further questions or comments, they are advised to send a completed FEMA WWW Server Comment Form to Mitigation, to be forwarded to the appropriate office for a timely response.

The Mitigation room of the FEMA Library contains documents and publications of interest to the wide mitigation customer base. As of September 2000, it is being catalogued to make access easier and more convenient. All documents and all sections of the Mitigation site are accessible to persons with disabilities.

Cost Reduction

Give examples of your office's efforts to reduce costs from 1993 to 2000. Highlight specific successful efforts and be specific about where costs were actually reduced.

Since 1993, the Mitigation Directorate, in cooperation with the Regional Offices, has enacted many activities to reduce the cost of operating the Flood Hazard Mapping Program. Some of the more significant measures introduced by the Technical Services Division are summarized below.

Cooperating Technical Communities/States Initiative

Due to a variety of reasons, the majority of FEMA's flood hazard maps depicting 100- and 500-year floodplains are no longer accurate. FEMA estimates that it would cost approximately \$750 million to upgrade existing maps over a 7-year period. Because these maps are used to determine insurance needs as well as to adopt flood mitigation measures, FEMA places a high priority on updating them.

With over 18,000 communities in the National Flood Insurance Program (NFIP), keeping the flood maps up to date proves a daunting challenge for FEMA. The Cooperating Technical Communities (CTC) Initiative, which began in 1999, provides one innovative solution.

The CTC initiative takes advantage of local expertise to speedily update digital Flood Insurance Rate Maps (FIRMs). As part of its Map Modernization Initiative, FEMA actively seeks partners who have the advanced digital mapping technology and the water resources engineering capability needed to maintain up-to-date FIRMs. Partnerships may involve communities, state agencies, and regional agencies.

The CTC and Cooperating Technical State (CTS) initiatives are programs to establish innovative partnerships between FEMA and National Flood Insurance Program (NFIP) communities and state and regional agencies that have the interest and capability to be active partners in FEMA's flood mapping program. CTC and CTS partners enter into an agreement with FEMA that formalizes their contribution and their commitment to flood mapping, and FEMA provides technical guidance, as necessary.

The objectives of the CTC initiative are to fully integrate the contributions of FEMA's state, regional, and community partners into the mapping process. This partnership: provides timely and accurate flood hazard information; maximizes limited funding by combining resources; maintains consistent national standards; provides training and technical assistance; and facilitates mentoring for potential partners willing to develop the capability to adequately maintain flood hazard information.

CTC and CRS partnerships can be established for the following activities:

- Refinement of approximate Zone A floodplain boundaries
- Hydrologic and Hydraulic (H&H) modeling and mapping
- Digital FIRM preparation and/or maintenance
- Re-delineation of floodplains using updated topographic data
- Analysis of community mapping needs
- Compiling an inventory of available base maps
- Digital base map data sharing
- H&H review
- Adaptation of technical standards specific for a locality
- Digital elevation model/topographic data development

Through the CTC and CTS, FEMA maintains its national standards for NFIP mapping while building on local, state, and regional mapping knowledge and capabilities. This collaboration makes more resources—financial and otherwise—available for flood data collection and mapping efforts nationwide.

Digital Flood Insurance Rate Maps

The Technical Services Division has undertaken the development of a new Digital Flood Insurance Rate Map (DFIRM) product. The new DFIRM product will allow for the creation of interactive, multi-hazard digital maps. Linkages will be built into a database to allow users options to access the engineering backup material used to develop the map and structure-specific data. Complete implementation of these maps, an integral part of the FEMA Map Modernization Program, will reduce map production and revision costs.

E-Mail Responses to Public Inquiries

By providing an e-mail option to its customers through the "E-Mail a Map Specialist" button on the Flood Hazard Mapping website, the Technical Services Division has reduced the processing time and costs for answering property-specific and general programmatic questions, which otherwise would have been handled by traditional correspondence processes. For standard letter queries, which must be routed through several FEMA headquarters offices and contractors, writers frequently wait three to four weeks for a response. For e-mail responses, depending on work volume, customers receive responses within five to seven days, sometimes almost immediately. Besides reduced handling and response time, email responses save costs — cutting as much as 75 percent off the cost of traditional correspondence processes.

Flood Hazard Mapping Site on the Internet

Brought online by the Technical Services Division in October 1998, the Flood Hazard Mapping website (<http://www.fema.gov/mit/tsd>) has grown to include more than 1,400 files. The development and launching of the site has dramatically improved the dissemination of information to all FEMA constituent groups. The material is targeted to various segments of the National Flood Insurance Program (NFIP) customer population, including homeowners, insurers and lenders, engineers and surveyors, floodplain managers, and the general public. By enabling NFIP customers to readily access standard publications, the printing and processing time are reduced significantly. By offering tailored guidance documents and online tutorials, the information submitted to FEMA is more complete and better documented. As a result, the review and processing costs for certain types of map changes are also reduced. By allowing its customers to access status information on conditional and final map amendments, conditional and final map revisions, and studies, the number of time-intensive (and expensive) phone inquiries to regional, headquarters, and contractor staff is reduced significantly. By allowing customers to order technical and administrative support data online, at any time of day, the cost of responding to such requests is reduced and the response time is improved significantly.

Guidelines for Mapping Alluvial Fans Available on the Web

Taking into account the multiple variables that can affect alluvial fans and flooding on alluvial fans—such as climate, fan history, vegetation and land use—the Technical Services Division developed an approach to identify and map flood hazards on alluvial fans that takes into account site-specific conditions. This approach is detailed in FEMA's "Guidelines for Determining Flood Hazards on Alluvial Fans." The approach will substantially reduce coordination and review costs for studies and map revisions involving alluvial fan flood hazards.

Improved Letter of Map Revision Product

The Technical Services Division is developing a new Letter of Map Revision (LOMR) product. Their objective is to improve the LOMR process by developing technical and administrative enclosures that succinctly describe map changes and outline community responsibilities that result from LOMRs. The LOMR is a lengthy, complex letter that includes technical, regulatory, and general information. Because of its length and format, recipients often must search for the information most important to them, which is, most typically, how the LOMR revises the map. When fully implemented, the new product will significantly reduce the review and production time for these products.

Improved Scoping Process

The Technical Services Division, in cooperation with other headquarters staff and regional office personnel, is developing guidance and identifying tools to be used by FEMA's study managers during the scope phase of the flood map development and production process. This phase involves identifying the community's mapping needs (restudy and map maintenance), determining study methodologies, identifying the available data and their source and format, determining which optional data layers will be included in the DFIRM product, and collecting the necessary data. It also includes

assigning tasks to the various entities involved in the flood map development process (such as FEMA headquarters and regional office staff, FEMA contractors, communities, federal agencies, state NFIP coordinators, other agencies), establishing schedules for reviews and deliverables, assigning budgets, and identifying deliverable requirements and information management and reporting needs. Based on initial trials of this process, improved coordination results in substantial cost savings.

Letter of Map Amendment (LOMA) 2000

The Technical Service Division has developed and begun implementing LOMA 2000, which is a new software package that automates production of LOMAs and Letter of Map Revision Based on Fill (LOMR-F). Using this software, FEMA and contractor staff can more efficiently and cost-effectively generate and track LOMAs and LOMR-Fs, generating a product that is free of transcription errors and ready for distribution over the Internet.

Map Assistance Center

In an effort to improve responsiveness, the Technical Services Division set up the FEMA Map Assistance Center (FMAC) and initiated the use of trained map specialists to answer calls from the public. Begun first as a direct-line connection to the Regional Office in Denton in November 1997, FMAC staff now respond to calls nationwide through its easy-to-remember, toll-free hotline: 1-877-FEMA MAP. The FMAC offers technical support to homeowners, lenders and engineers and surveyors requesting LOMAs, LOMR-Fs, and Letters of Determination Review. The specialists, trained in reading NFIP maps and explaining map change processes and policies, provide consistent and correct information and send out requested information and forms in a timely manner (immediately, if the caller has the required technology). As part of FMAC's appeal, long distance costs are borne by FEMA rather than by the customer. Program and technical specialists in the regional and headquarters offices are free to work on NFIP compliance matters and other important initiatives, including *Project Impact*, the Cooperating Technical Communities Initiative, and the Map Modernization Program.

The map specialists also know when it is vital to involve FEMA staff directly in responding to a caller's concerns. If a call must be "bumped up," the specialist identifies the appropriate contractor or FEMA staff person, transfers the call to that person after giving an upfront briefing on the caller's questions, and provides the name and direct dial phone number to the caller in case of disconnection. It is rare for a caller to talk to more than two people; in more than 80 percent of the calls, the specialist is equipped with the information needed to answer a question.

Since full implementation of the FMAC in August 1998, the map specialists have answered nearly 80,000 calls, and the volume of calls continues to grow. The FMAC responds to approximately 6,000 calls per month (200 per day). These calls are answered in about 20 seconds on average, and the calls last about four minutes on average. Besides cutting staff time and caller phone bills, the FMAC realized additional savings with the implementation of the "Easy Call" call tracking database software, costing \$80,000 less than other commercial systems.

Mapping Needs Assessment Process

To develop flood hazard map update priorities and ensure the flood-mapping budget is expended in the most cost-efficient manner, FEMA must conduct a cost-benefit analysis and make a complete and accurate assessment of flood hazard mapping needs. The Technical Services Division developed and implemented the Mapping Needs Assessment Process and related database management tool—the Mapping Needs Update Support System (MNUSS). Through the Mapping Needs Assessment Process, Technical Services Division staff contacted all mapped communities participating in the NFIP and documented the identified needs in MNUSS. Mitigation is refining MNUSS to rank and prioritize the identified mapping needs. This ranking and prioritization list will then be used in conjunction with the fiscal year budget to determine which map updates to initiate in that fiscal year.

Multiyear Study Contracts

The Technical Services Division, in unison with other FEMA staff, has implemented multiyear contracts and task ordered contracts for procuring flood studies, transferring the procurement process to the three FEMA territories. This approach results in a net reduction of processing time for flood studies, and the reduced paperwork for contracts reduces the administrative costs inherent in the contracting process.

Optimized Study Process

The Technical Services Division, in unison with the regions and other FEMA staff, has developed an “optimized study process” so that flood maps for each community may be created, revised, distributed, and stored more efficiently and effectively. To accomplish this objective, each task, from study initiation to map publication and storage, was scrutinized. Only the specialized skills and abilities from both the public and private sectors that are necessary to accomplish each task are brought in as needed, resulting in the highest quality mapping possible and reductions of nearly 50 percent in processing time and costs. FEMA headquarters and regional staff and contractors have already begun implementing the process on a study-specific basis, especially the up-front (pre-submittal) review of study contractor work (primarily hydrologic and hydraulic models and digital mapping) by FEMA and Mapping Coordination Contractor staff. From these initial implementation activities, it is apparent that much of the rework that was inherent in the earlier submittal and review process can be eliminated and significant reductions in processing costs are to be realized as full implementation occurs.

Streamlined Document Processing

In addition to LOMA 2000, the Technical Services Division has significantly reduced the processing time and cost for most standard documents through many process improvements, including:

- wider use of digitized signatures
- electronic docket review and processing (lists of standard documents that are ready to be mailed, under digitized signature)
- assignment of signature authority to non-management and contractor staff

- increased use of e-mail and Internet/Extranet posting tools to facilitate the review and concurrence process
- implementation of a published "Document Control Procedures Manual" (soon to be online for easy updates).

During this period, division staff also substantially reduced the length of many letters and reduced paper usage by eliminating unnecessary file and concurrence copies. While it is difficult to place an exact value on the savings realized as a result of these efforts, it is reasonable to estimate savings of \$20,000 to \$30,000 annually. In the processing of conditional and final map amendments and conditional and final map revisions, unit costs were reduced by 20 percent.

Technical Evaluation Automation Efforts

Under the oversight of the Technical Services Division, Mapping Coordination Contractors implemented the use of automated plotting and quality review software, such as FIS-PLOT, CHECK-2, and QUICK-2, in their technical evaluation of flood studies.

Training Workshops

The Technical Services Division has supported, and will continue to support, Regional Offices by conducting formal training workshops on study processing, digital mapping submissions, and map revision requirements at region-designated locations. These sessions—involving, at different times, study contractors, state NFIP coordinators, and community officials—improve the understanding of study processing, map preparation, and map revision requirements, thereby reducing the overall mapping review and processing and map revision costs.

Results-Oriented Incentives

How has your office adapted new ways of motivating employees and improving program performance? Specifically, which methods of reward or accountability practices have been implemented? Cite specific criticism and praise that prompted such changes in your office, if applicable.

Results-oriented incentives to achieve mitigation objectives include three projects in particular. The first, the Cooperating Technical Community (CTC)/Cooperating Technical State (CTS) program, fosters more community involvement in flood hazard mapping and helps stretch FEMA's mapping budget. The second, *Project Impact*, facilitates proactive community involvement in multi-hazard mitigation. Finally, the Hazard Mitigation Grant Program (HMGP) Managing State Concept give select states more flexibility and control over the expenditure of federal monies earmarked for damage prevention in their geographic area.

CTC/CTS Program

The CTC/CTS Program is a new approach to FEMA's flood hazard mapping program and is based on the idea of leveraging the technical and financial resources of communities and states to mutual benefit. Because the flood hazard mapping program

does not have adequate funding to restudy each community as often as optimal, and because many communities have expressed dissatisfaction with the flood hazard mapping, the CTC/CTS Program was developed to leverage funding for mapping from the communities/states themselves. By having communities and states provide assistance in obtaining data and analyzing flood hazards, FEMA can update the flood maps more quickly. In this way, FEMA's limited mapping budget can be extended, and more communities can have up-to-date mapping to enact sound floodplain management practices. This partnership thereby benefits both FEMA and the communities.

Typical CTC/CTS activities include hydrologic and hydraulic modeling, digital topographic data development, digital base map sharing, and refinement of approximate Zone A boundaries. CTC/CTS Program participation is coordinated through FEMA's regional offices, which is in keeping with the localized emphasis of this program. Eligibility criteria include the experience and capability of the potential CTC/CTS, the existence of ongoing data collection and mapping efforts that may dovetail with a CTC/CTS agreement, and, of course, participation in the NFIP.

The CTC/CTS and FEMA coordinate to identify the mapping needs and the final deliverable of the agreement. FEMA supports the CTC/CTS through training, providing technical support via FEMA's Flood Map Production Coordination Contractors, and through FEMA's flood hazard mapping web site. The CTC/CTS is an exciting program because of its potential for stretching FEMA's mapping budget, but more importantly, because it fosters community/state ownership of flood hazard mapping—a related goal of *Project Impact*.

Project Impact: Building Disaster Resistant Communities

Before the advent of the *Project Impact* Initiative, many communities saw hazard mitigation as an activity that the federal and/or state government performed for the community. There was little encouragement for the community to take responsibility for hazard mitigation. FEMA recognized this lack of local commitment to hazard mitigation and established *Project Impact* to foster more community involvement. With *Project Impact*, FEMA is changing the way America deals with disasters. The philosophy behind *Project Impact* has been succinctly stated by Director Witt, "We can accomplish more together as a group than as individuals."

Project Impact operates on a common-sense, damage-reduction approach, basing its work and planning on three simple principles: preventive actions must be implemented at the local level, using community leaders' knowledge of unique localized hazards; participation of the private sector is vital; and long-term efforts and investments in prevention measures are essential. The incentive is clear—a disaster-resistant community is able to quickly bounce back from a natural disaster with far less loss of property and, consequently, much less cost for repairs. Moreover, the time lost from productive activity is minimized for both businesses and their employees. Indeed, FEMA estimates that for every \$1 spent in damage prevention, \$2 are saved in repairs and loss of productivity.

To facilitate participation in *Project Impact*, FEMA provides technical assistance and a small amount of seed money to *Project Impact* communities to give them the tools to make themselves disaster-resistant. FEMA encourages the participation of business partners, as well. The program entails building partnerships, identifying risks, prioritizing needs, and implementing long-term hazard mitigation plans. FEMA has offered expertise and technical assistance from the national and regional levels and has included states and other federal agencies in the equation. The program started in 1997 with seven *Project Impact* pilot communities to demonstrate the economic benefits to local governments and businesses of implementing hazard mitigation measures. By September 1998, FEMA had recruited at least one *Project Impact* community in each state. By September 2000, there were nearly 200 *Project Impact* communities, as well as over 1,100 businesses, that have joined as *Project Impact* partners.

The first *Project Impact* community pilot partner was the city of Deerfield Beach, Florida. The city took steps to ensure that its infrastructure was more resistant to disasters and examined its services to determine actions that could be taken to minimize disruption of services during and after a disaster. The city also conducted training/education programs and created an incentive package to encourage residents to participate. In April 1998, students participating in a Spring Break project installed new and/or secured existing storm shutters, strengthened windows, and conducted minor repairs to homes of the elderly to help them mitigate wind and flood damage. The city continues to take steps as part of *Project Impact* to mitigate disaster damage.

An example of a business partner using the *Project Impact* approach is provided by Anheuser-Busch, which operates a large brewery just a few miles from what became the epicenter of the Northridge Earthquake on January 17, 1994. In the early 1980s, the company invested \$15 million to protect its facilities from a quake. The retrofitting was put to a severe test in 1994 when a quake whose epicenter was only 12 miles from the brewery rumbled through the area. The retrofitting was a success, as operations never stopped, and repair costs were minimal. Anheuser-Busch estimates it saved \$300 million in damages and lost production, which was more than 15 times the actual cost of the loss control program. The experience of Anheuser-Busch became a model for business participation in *Project Impact*.

HMGP Managing State Concept

Under the leadership of FEMA Director James Lee Witt, Associate Director for the Mitigation Directorate Michael J. Armstrong created an initiative, called the Hazard Mitigation Grant Program Managing State Concept, that gives select states more flexibility and greater control over the expenditure of federal monies earmarked for damage prevention in their geographic area.

Beginning in 1998, the HMGP Managing State Concept was piloted in three States: Florida, North Dakota, and Ohio. These states were given more flexibility and authority to implement the HMGP in exchange for their ongoing commitment to follow standards set forth in a Memorandum of Understanding negotiated with each state. By providing this incentive, the Mitigation Directorate sought to show improved results in the

timeliness of project approval and the quality of projects approved under the HMGP. A review of the pilot states' implementation of this concept demonstrated that improved results were obtained. FEMA decided to expand the concept further into the next pilot phase by establishing managing states in each of the ten FEMA regions. This initiative has been a success — it has improved the HMGP and federal/state relationships through a results-based incentive process.

Use of Technological Innovations

Describe how your office has employed the use of new technology since 1992. Also describe ways in which old technology has been used in a new way, if applicable. How have these technological innovations affected your office's performance?

As the distribution arm of the National Flood Insurance Program (NFIP), the Map Service Center (MSC) has been working closely with the other NFIP team members to streamline new product creation and to use new technologies to improve distribution and to reduce costs. In 1995, the MSC was designated a "Reinvention Laboratory" under Vice President Gore's National Performance Review (NPR). Under NPR, every federal agency was tasked to re-examine the way it does business, and to implement changes that would streamline procedures, reduce bureaucracy, cut costs, and produce greater efficiencies in government operations. The Mitigation Directorate sought to introduce broad-based changes and employ innovative strategies that would ultimately improve the quality and delivery of services to customers. The intent was to transform the MSC into a more customer-oriented, cost-effective, and streamlined operation.

The initial transformation included a reduction in warehouse space. This was achieved through the successful transition from the MSC facility that occupied 103,000 square feet to the new facility that occupies 52,500 square feet. The reduction in space was achieved by stacking material in the new building to the maximum height allowable under the fire code, which was 18.5 feet high for a 20-foot ceiling. This required the use of electric lifting equipment to replace the former use of ladders, but resulted in higher worker productivity.

To better service its customers, Mitigation upgraded its MSC telephone system in September 1997, adding many new telecommunication features. New features included: an interactive voice response (IVR) system to direct callers to an available customer service representative; a pre-recorded informational message giving customers several options to better direct their calls, as well as the option to leave a message, or to transfer calls to the telephone response center or to the FEMA publications warehouse. With these new features, the percentage of abandoned calls decreased from 16.4 percent in June 1997 to five percent in June 1998.

Informational documents about the MSC (such as background information, a list of products and services, deposit account applications, and product order forms) were then created in a digital format and made available via the FEMA fax-on-demand service, operated by FEMA's Office of Public Affairs.

Also in 1997, the MSC became a very important part of the Mitigation Mapping Modernization Program. The modernization plan emphasizes customer service and the ability to provide the most accurate flood hazard information available in the most

accessible format possible. The plan calls for turning the MSC into a state-of-the-art digital distribution warehouse. The ultimate Internet solution would include:

- e-commerce (on-line order processing for existing and future available products)
- e-maps (the ability to select products textually and geographically)
- e-products (delivering digital products via CD & Internet download)
- e-enterprise (building an Enterprise Resource Planning (ERP) System - fully integrated BackOffice foundation)

First, Mitigation staff completed an analysis of the existing Inventory Management System (IMS), and a long-term evaluation of the MSC and the functionality required to support the Internet environment. A fully detailed cost-benefit analysis (Gap Analysis) report was prepared, which included a recommendation for a new IMS. The new system was purchased and installed and is a fully integrated Financial Accounting Management Information System (FAMIS). (FAMIS provides for the storing and reporting of inventory and customer account information.) The new system is integrated with a complete general ledger accounting system to permit accurate and timely accumulation and reporting of fee charge and inventory cost data. The system provides the foundation for total integration of the MSC's proposed e-commerce solution — permitting automatic, real-time accumulation and verification of customer account information, credit card authorization, customer orders, inventory status and availability, and inventory disposition (regardless of whether orders are filled via physical map distribution, Internet distribution, or print-on-demand).

The Internet shopping experience will parallel the "shopping cart" concept. The customer identifies all available products in their areas of interest. The system will generate a list, and the client will pick and choose any wanted products. The system will then calculate the total cost, including shipping and handling fees, and process payment approval following final order submission by the client. A tracking number for each order will be provided to the customer for order status tracking.

The Internet interface will also provide:

- Intranet access amongst the MSC customer service representatives, FEMA headquarters, and the Mapping Coordination Contractors (MCCs)
- automation of new products submitted by the MCCs and or/Study Contractors (SCs)
- access to Flood Map Status Information System (FMSIS)
- frequently asked questions (FAQ) about the flood program and its products

The ultimate in customer service will include: 1) access to all product types, item costs and availability, back orders; shipping cost/method, and credit card processing; 2) an e-mail response to clients, confirming their orders, back orders, deposit accounts, etc.; 3) support for product identification for a customer's area of interest; and 3) viewing of digital information. All of this will be accomplished via the creation of a geo-index for all panels, and providing geo-referencing capability to identify panels of interest, simply by entering street address, zip code, and/or community name. Creation of a geo-index for all panels will provide geo-referencing capability, allowing the customer to identify their region of interest by zooming in to its approximate location. An interface will be

developed to provide search capability for all available map products. The customer will provide his or her address and the system will geo-code the provided address and will assign a latitude and longitude. The X and Y coordinates will then be compared to the available spatial index to the panels and the panel will be identified to the user. This capability will eliminate the requirement for first forwarding panel indexes to the customers for view and selection of appropriate panels. Customers can immediately identify individual panels if needed.

The Map Service Center continues to explore and employ new technologies to improve service and enhance performance when available and accessible. As of September 2000, MSC orders are placed by phone, mail and fax. By the end of the year 2000, these methods will continue and, in addition, customers will be able to order via e-commerce on the MSC web site. Today, if customers are unsure of the exact map panel they need, they have to identify the required panel by the map index. By the end of 2000, products will be identified by textual or geographic query. Today, maps are printed by traditional print press method. In the future, maps will be printed using the traditional print press method plus print-on-demand and computer-to-plate technology. Today, Mitigation produces paper products. In the future, the division will have paper products plus digital products. Today, Mitigation uses mail delivery. In the future, the division will use mail delivery plus Internet delivery.

Partnerships

What groups, organizations, companies or contractors are you now working with outside of FEMA? Summarize these partnerships and cite when and why each partnership began and how the working relationships have evolved. Provide insights about the partnerships in terms of how they have assisted your office in carrying out its functions and/or how they have contributed to FEMA's overall mission.

Comprehensive Mitigation Partnerships

One of FEMA's top priorities is to collaborate with federal agencies, nonprofit groups, and the private sector to develop, implement and support local hazard mitigation activity. Since 1997, the agency has been heavily involved in numerous cooperative efforts related to mitigation, and the Mitigation Directorate continues to address this important priority both inside and outside the agency.

An effective tool that FEMA uses to develop and strengthen effective partnerships with other groups is the Memorandum of Understanding, or MOU. Commonly used throughout the federal government, an MOU is a formal, non-binding agreement between two entities that clarifies the missions of the parties involved and discusses ways to coordinate and develop mutually beneficial partnerships.

FEMA's MOU strategy, which places special emphasis on *Project Impact: Building Disaster Resistant Communities*, helps FEMA's regional offices coordinate their mitigation and *Project Impact* activities with their regional counterparts. More importantly, the MOU process is designed to assist FEMA and its partners in their efforts to help communities incorporate mitigation into their daily decision-making processes. Overall, the Mitigation Directorate's MOUs reflect the mutual desire of the involved

parties to utilize, coordinate, develop, and enhance programs, initiatives, networks, and technical resources in order to help communities reduce their vulnerability to natural hazard events.

FEMA works closely with other federal agencies and departments to coordinate similar federal initiatives and programs at the community level. Specifically, FEMA's federal MOUs are designed to foster local *Project Impact* activities and similar community-level activities. Presently, the agency is implementing MOUs with the following federal entities:

- Economic Development Administration
- Department of Energy
- Department of Transportation
- Natural Resource Conservation and Development Service
- National Oceanic and Atmospheric Administration

Additionally, draft agreements are in their final stages of review with the Environmental Protection Agency, the U.S. Forest Service, the U.S. Geological Survey, the National Aeronautic and Space Administration, and the Government Services Administration. In addition to collaborating with other federal entities, FEMA's Mitigation Directorate works closely with certain nonprofit groups that embrace the concepts of "disaster resistance," "sustainability," and "livability." Over the past four years, FEMA has developed agreements with the American Society of Floodplain Managers, the National Emergency Management Association, and the National Fire Protection Association — groups that have been long associated with FEMA and its efforts to help communities reduce their risk to natural hazard events, and, in turn, improve the "quality of life" at the community level.

Finally, FEMA's collaborative efforts with the private sector play a pivotal role in the success of *Project Impact*, as well as the agency's other important mitigation efforts. FEMA's public-private partnerships are designed to encourage business and industry to look "beyond their walls" to help their communities become disaster resistant. Since *Project Impact*'s inception in 1997, FEMA has developed numerous partnerships with the private sector at the national, state, and community levels. The Mitigation Directorate, for example, has developed *Project Impact* partnerships with the Portland Cement Association and KeepSafe Industries. These businesses promote safety by donating models of tornado Safe Rooms (mainly in-house shelters designed to withstand extreme wind storms and flying debris) and by conducting seminars, workshops, and conferences in *Project Impact* communities.

Working closely with other federal agencies, nonprofit organizations, and the private sector has allowed FEMA to effectively help communities reduce their vulnerability to natural hazard events. Overall, the cooperative agreements that the agency has developed with these entities will go a long way towards helping community leaders incorporate mitigation into their daily decision-making processes — a critically important factor in the overall success of *Project Impact*.

Flood Hazard Partnerships

The FEMA Flood Hazard Mapping Program has specific mandates within the Housing and Urban Development Acts of 1968 and 1969, the Flood Disaster Protection Act of 1973, and the National Flood Insurance Reform Act of 1994. These acts authorize FEMA to identify, publish, and update information with respect to all floodplain areas in the nation. Since the inception of the National Flood Insurance Program (NFIP), FEMA has produced approximately 100,000 maps — namely Flood Hazard Boundary Maps, Flood Boundary and Floodway Maps, and Flood Insurance Rate Maps. The program is now considered one of the nation's most valuable resources for flood hazard mitigation. The maps serve as the basis for floodplain management regulations as well as the purchase of flood insurance for structures at risk of flooding. Deemed vital to FEMA's strategic goals, the mapping project is an important part of *Project Impact: Building Disaster Resistant Communities*. Of the almost 20,000 communities participating in the NFIP, FEMA has created flood hazard maps for approximately 14,000 communities. Because flood conditions change over time due to natural and manmade changes in watersheds and floodplains, FEMA has an ongoing program to update the flood maps for flood-prone communities, however, flood map update needs are increasing and federal funding is limited. This has resulted in a significant portion of the 100,000-panel flood map inventory becoming outdated. Therefore, in 1997 FEMA designed the Map Modernization plan to modernize the inventory over time, eliminating the existing backlog of outdated maps and to convert all the maps to a digital format. One of the key components of the plan is to establish partnerships in order to stretch the limited funding available for the updating of the inventory of flood maps. Some of the most notable partnerships are listed below:

Map Coordination Contractors

Since 1974, the agency has relied on the technical expertise and experience of contractors, known as Map Coordination Contractors (MCCs), to complete much of the flood hazard map production and revision work, with guidance from FEMA staff, to support the flood mapping activities of the NFIP. FEMA selects private-sector engineering firms to review floodplain studies that have been produced by communities, private individuals, and other FEMA contractors to ensure they are accurate, making sure the flood risk is neither overstated nor understated. Through the years of working with specific contractors, strong partnerships have developed that have allowed FEMA to fulfill the goals of the NFIP flood hazard mapping program. FEMA heavily relies on the partnerships that have been created through working with the MCCs.

Technical Mapping Advisory Council

The Technical Mapping Advisory Council is an organization that works with FEMA's Flood Hazard Mapping Program within the Mitigation Directorate. The council was established by Congress in the National Flood Insurance Reform Act (NFIRA) of 1994 to provide recommendations to FEMA on how to improve the accuracy, quality, distribution, and use of Flood Insurance Rate Maps (FIRMs). NFIRA mandated specific individuals and organizations to be members of the council. Several technical advisors have been added over the past several years to assist the council in making recommendations. Over the past five years of its existence, the council has become

active partners with FEMA's Technical Services Division in the Mitigation Directorate, by providing sound advice on methods to improve its flood hazard mapping program.

The council's charter was based on the provisions of NFIRA and includes the following objectives and duties:

- Evaluation of the production, distribution, and use of Flood Insurance Rate Maps (FIRMs) and other mapping products prepared by FEMA in support of the National Flood Insurance Program (NFIP).
- Presentation of recommendations to the director in the following areas: cost-effective improvement in the accuracy, quality, utility, and distribution of FIRMs and other mapping products; and standards and guidelines for use in preparing and revising FIRMs and other mapping products.
- Submission of an annual report to the director containing the following: a description of the council's activities; an evaluation of the status and performance of FEMA's mapping products and activities to revise and update these products; and a summary of the Council's recommendations.

The Council generally meets eight times per year, four times face-to-face and four times via teleconference. Members have been instrumental in providing guidance to FEMA and important suggestions on how to improve its Flood Hazard Mapping Program. Because the council consists of representatives of FEMA's major constituency groups, the council's advice and ideas have been invaluable to FEMA, especially in assisting with the development of the Map Modernization Plan. Many of the recommendations made by the council have been incorporated into the plan, demonstrating a true partnership between the council and FEMA.

Cooperating Technical Communities/States

Mapping a community's flood hazards cannot be successful without community input, and in a time of limited funding resources, partnerships are the most effective way to maximize those limited resources. One of the key objectives of the map modernization plan is to increase local involvement in, and ownership of, the flood hazard mapping process. As technologies have increased dramatically, many states, regional agencies, and local communities have become increasingly sophisticated and have invested significant resources in flood hazard identification. Therefore, the Cooperating Technical Community (CTC)/Cooperating Technical State (CTS) initiative was developed to formalize and capitalize upon partnerships with local, state and regional agencies that have flood hazard mapping capabilities in order to more effectively and efficiently update the inventory of flood maps.

The CTC/CTS is not a separate or different flood mapping process, but rather a way to incorporate local, state or regional mapping capabilities into the existing map production process. FEMA will provide technical assistance, experience, standards and funding in order to assist communities in enhancing local capabilities in hazard identification and risk assessment, which are the building blocks for disaster resistance. By incorporating local knowledge and expertise, flood hazard maps will be more accurate and able to be updated more efficiently. The CTC/CTS initiative facilitates maximized use of all partner contributions so that limited federal funding available for mapping can be leveraged to the fullest extent possible while maintaining consistent national standards. It

also provides opportunities for communities to mentor with each other, building a stronger partnership foundation.

There are two components of a CTC/CTS partnership:

- Partnership Agreement
- All CTC partners enter into an overall partnership agreement with the appropriate FEMA regional mitigation division. The partnership agreement is a broad statement of principle, emphasizing the value of the NFIP's three components of insurance, floodplain management, and mapping. It recognizes the fundamental importance of flood hazard identification in the successful reduction of future flood losses, and the partner's commitment to the effort. The agreement is a prerequisite to any further CTC activities. As the CTC partner and FEMA identify specific tasks to undertake, mapping activity agreements will be developed and entered into under the umbrella of the overall CTC partnership agreement.
- Mapping Activity Statements
Mapping Activity Statements will be collaborative efforts where both the CTC/CTS partner and FEMA contribute data and units of work to maximize the extent, accuracy, and utility of flood studies to best meet local, state and federal needs, while minimizing costs for all parties. Unless Congress allocates supplemental map modernization funding, federal funding will be limited. In any event, FEMA funding may be allocated through a cooperative agreement and within the context of FEMA's flood study prioritization process. The Mapping Activity Statements may also transfer certain responsibilities to the partner. The work addressed by the statements may be locally funded, state funded, and/or FEMA funded.

Clearly, not every NFIP community, state or regional entity will have the in-house technical capabilities needed to participate in CTC/CTS; however, the initiative is expected to grow and evolve as technologies and local capabilities grow.

FEMA has also entered into partnerships with other federal agencies to improve and maximize mapping capabilities:

U.S. Geological Survey (USGS) National Digital Orthophoto Partnership Program (NDOP)

The objective of this partnership with the USGS through the National Digital Orthophoto Partnership (NDOP) program is the production of Digital Orthophoto Quadrangle (DOQ) maps for those communities where no digital community base map exists that meets FEMA's base map specifications. While community-generated base map data are FEMA's first choice for use in creating Digital Flood Insurance Rate Maps (DFIRMs), the DOQs are the default base map when no acceptable community base map exists. The DOQs provide a digital product that already meets FEMA specifications for digital map production. In addition, because the DOQ is a photographic image of the community, it can facilitate clear identification of specific features on the ground.

For some areas, however, the existing DOQ may be too old for use as a base map. In such instances, a second-generation DOQ will be produced through the NDOP program. Through NDOP, participating members share the cost for the development of a new DOQ

with the USGS. FEMA joined the NDOP program in 1999. The program counts several other federal agencies as members, including the Natural Resources Conservation Service and the Environmental Protection Agency, that cost share with the USGS to produce DOQs to meet programmatic needs.

U.S. Fish & Wildlife Service (USF&WS) Partnership

One of the objectives of the Map Modernization Plan is to establish a partnership with the USF&WS to improve the mapping of the Coastal Barrier Resources System (CBRS) and Otherwise Protected Areas (OPAs) to ultimately improve the implementation of the CBRS and OPA programs. The primary goal of the objective is to provide technical assistance to the USF&WS in producing accurate mapping of CBRS and OPA boundaries suitable for direct incorporation as a thematic layer in DFIRMs. FEMA, its contractors, and the USF&WS regularly meet to work toward this objective.

An important improvement of the mapping of the CBRS and OPAs is the use of Letters of Map Revision (LOMRs) to reflect CBRS and OPA boundary additions and/or revisions on the FIRMs. A LOMR is a timely way of providing revised information to the affected community. Other initiatives that have taken place include the mapping of all previously unmapped CBRS and OPA units, the posting of CBRS and OPA data on the World Wide Web and the development of protocols for maintenance and update of these data, and the production of CD ROMs containing approximate delineation of the CBRS and OPAs. Currently, there is an initiative underway involving the mapping of CBRS and OPA units onto Digital Orthophoto Quadrangles (DOQs). Plans are to make these DOQs the foundation for the USF&WS's five-year review and re-mapping initiative whereby each source map of CBRS units is reviewed (and revised, if necessary) at least once every five years to ensure that the data are current and accurate. Lastly, there are several ongoing initiatives underway to investigate and re-map OPA boundaries to ensure that the subject boundaries mirror the protected areas by which they are defined. The plan for this initiative is to use community-based Geographic Information Systems (GISs) as the base map of choice with the default being DOQs, which is consistent with other FEMA Map Modernization objectives.

Of note is a pilot project in Dare County, North Carolina, in which CBRS boundaries were added to the Dare County GIS. The introduction of the Dare County CBRS maps into congressional legislation resulted in the first set of horizontally controlled, digitally produced CBRS source maps being formally adopted into public law by an Act of Congress. This pilot project served as an important first step toward modernizing the mapping of CBRS. As indicated above, several other mapping projects have since been initiated or are being planned, and all such projects are in complete harmony with the objectives and protocols associated with FEMA's Map Modernization Plan.

National Geodetic Survey Partnership

The purpose of this partnership is to improve coordination and cooperation with the National Geodetic Survey (NGS). The NGS, which is a part of the National Oceanic and Atmospheric Administration (NOAA), maintains the National Spatial Reference System (NSRS), which gives the precise location of more than 750,000 monuments in the United States. These monuments provide stable and pinpoint accurate reference points, making the NSRS ideal for use in FEMA's mapping program. When NSRS monuments are used

as the basic control network for FEMA's flood hazard maps, those maps can be produced in compliance with the new National Standard for Spatial Data Accuracy, ensuring that flood hazard maps are accurate and functional.

As part of the FEMA/NGS partnership, NGS recommends technical procedures for FEMA contractors to use in performing Global Positioning System surveys needed for control of flood insurance studies and other FEMA projects. The NGS director personally serves as a member of FEMA's Technical Mapping Advisory Council, which advises FEMA on ways to modernize the NFIP mapping.

Earthquake Hazard Partnerships

The Earthquake Hazard Reduction Act of 1977 created the National Earthquake Hazard Reduction Program (NEHRP), with FEMA receiving the role of lead coordinator at the agency's inception in 1979. The member partners of the NEHRP are: FEMA, the U.S. Geological Survey (USGS), the National Science Foundation (NSF), and the National Institute of Standards and Technology (NIST). The partners work together to advance the four basic goals directly related to the mitigation of hazards caused by earthquake. They are to:

- promote understanding of earthquakes and their effects
- work to better identify earthquake risk
- improve earthquake resistant design and construction techniques
- encourage the use of earthquake-safe policies and planning practices

Deregulation

What was your office's role, if any, in helping to get rid of unhelpful regulations within FEMA? How has deregulation efforts at FEMA resulted in the development of new innovations by employees in your office? How did deregulation improve your office's ability to respond more effectively during disasters?

In 1997, the Mitigation Directorate rescinded the regulations for the 1362 property acquisition program, which had been funded through the National Flood Insurance Program (NFIP). This program was repealed by the passage of the National Flood Insurance Reform Act of 1994. The act also created the Flood Mitigation Assistance program (FMA). New regulations for FMA were written based on experience from implementing the 1362 program as well as the post-disaster Hazard Mitigation Grant Program (HMGP). These regulations provide for streamlined program implementation. The Mitigation Directorate published a final rule in April 1998, which reduced the number of HMGP appeal levels from three to two. This reduced the average time for reviewing and resolving appeals significantly, resulting in better service to grant recipients and reduced burden on FEMA and state mitigation staff.

Organizational Culture

How did FEMA's mission shift change the agency's organizational culture? (This question refers to FEMA's shift from a focus on National Preparedness to a focus on Emergency Management.)

Since the reorganization of the Federal Emergency Management Agency and the establishment of the Mitigation Directorate on November 28, 1993, a fundamental change occurred in the nation's system of emergency management. Mitigation – sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects – became the cornerstone of emergency management, for the first time in the history of federal disaster assistance.

The mission of the agency has shifted significantly since 1993, most notably through the creation of a separate and distinct Mitigation Directorate. The creation of the Mitigation Directorate brought together, into one cohesive and strong unit, the collection of mitigation functions that previously were scattered within programs and offices throughout the agency. The mission of the agency grew to encompass not just its traditional role of responding to disasters, but also a new emphasis on the prevention of disasters. This new emphasis on prevention was brought to life through a concerted and organized effort integrating mitigation into all of emergency management and through outreach to other federal agencies, communities, the public and the business sector. Over the past seven years, FEMA Director Witt, with the support of President Clinton, Vice President Gore, Congress, states, and other federal agencies, has provided leadership and resources to develop and implement a National Mitigation Strategy. The Strategy – “Partnerships for Building Safer Communities” – raises hazard risk reduction to the level of a national priority. It provides the framework for a coordinated effort involving government at all levels, the business and academic communities, and individual citizens to reduce the risk from hazards affecting the United States and its territories.

FEMA's National Mitigation Strategy states: “Local, state, and federal governments, private sector organizations, businesses, and individuals each have important roles to play in mitigating the impacts of natural hazards. The federal government must support and encourage mitigation actions at the state and local levels by providing leadership and coordination. It must lead by example, adopting and practicing the best mitigation techniques for all actions affecting its facilities and employees. Federal programs that influence where and how development occurs or that can be used to increase awareness of natural hazards must take full advantage of mitigation opportunities.”

Soon after the creation of the Mitigation Directorate, Director Witt sought help from Congress to increase the visibility and resources for mitigation following federal disasters. Witt proposed a five-fold increase in funding for FEMA's post disaster Hazard Mitigation Grant Program. For FEMA Mitigation, this increased funding signaled an increased role and respect for the importance of mitigation at FEMA, among the states, and in the field of emergency management.

Under the leadership of Director Witt and Associate Director for Mitigation Armstrong, the agency increased its emphasis on earthquake mitigation through the creation of the National Earthquake Program Office under the associate director's office. The National Earthquake Program Office has been highly successful in building partnerships with other federal agencies involved with the National Earthquake Hazards Reduction Program.

The National Dam Safety Program (NDSP) also became part of the new Mitigation Directorate. This program was moved to the Mitigation Directorate and now reports directly to the associate director for Mitigation. This organizational move was done (1) to heighten the visibility of the NDSP within FEMA management and to increase the understanding of all FEMA personnel of the NDSP and its role in disaster mitigation; (2) to promote the interface of the NDSP with other FEMA programs and initiatives; and (3) to increase the efficiency in the FEMA leadership of the NDSP and to guarantee the sustainability of the NDSP over the long term. FEMA has undertaken a number of leadership activities to implement the NDSP and to establish short- and long-term milestones. Foremost among these activities was the development of the implementation plan for the NDSP, the revitalization of the Interagency Committee on Dam Safety (ICODS) and its subcommittees to reflect the partnership of the federal and state sectors, and the initiation of work on a strategic plan to guide the direction of the NDSP.

Recognizing the importance of urban planning as a critical component of mitigation, Associate Director for Mitigation Armstrong created a separate planning branch within the directorate to help communities understand the link between local ordinances and land use decisions and reducing vulnerabilities to natural hazards.

Armstrong also created a separate Outreach Branch in the Mitigation Directorate to promote the understanding and awareness of mitigation practices. By creating an awareness of mitigation measures ranging from tornado Safe Rooms to land use planning, FEMA can stimulate consumer demand, and thereby, influence government action at the local and state levels.

Increasingly, FEMA has implemented mitigation through partnerships within FEMA; with other agencies and levels of government; with the voluntary, academic, and technical communities; and with many others. Such partnerships strengthen the quality of the mitigation activity involving other perspectives and disciplines. To initiate and sustain a cultural change among communities, FEMA, other federal and state agencies, the *Project Impact* Initiative was created. This program, designed to build disaster-resistant communities, heralds a shift toward increased pre-disaster mitigation and has stimulated public/private partnerships and the visibility of the concepts of risk reduction among a broad spectrum of stakeholders, including the business sector, the public, and communities across the country.

Organizational culture change at FEMA has rapidly embraced the importance of mitigation, not only in day-to-day pre-disaster operations but also in the implementation of all FEMA programs in a disaster recovery situation. To aid in elevating the status and visibility of mitigation in disaster operations at FEMA, Director Witt also established a deputy Federal Coordinating Officer for Mitigation position that reports directly to the Federal Coordinating Officer (FCO). In 1994, after the Northridge Earthquake in California, FEMA named the first deputy FCO for Mitigation to preside over the most expensive disaster in FEMA's history. This marked a significant change in the role of Mitigation in the disaster operation. The deputy FCO for Mitigation is responsible for coordinating and integrating mitigation issues throughout the disaster operation and all disaster programs, rather than just mitigation-specific programs. This addition to the organizational chart elevated the status of mitigation in field operations, serving to emphasize the importance of mitigation as a key link in community and state recovery efforts. The Mitigation Directorate has also worked in partnership with the Response and

Recovery Directorate to carry on this concept in the delivery of its Public Assistance and Individual Assistance programs.

Training

Describe any new training initiatives or changes in old training offered by your office to employees since 1992.

Much of the employee training developed since 1992 has been driven by the evolution of Mitigation programs, functions, and the heightened interest in them by the agency's state and local partners. Examples of employee specific Mitigation training include: the Mitigation Field Operations course, which trains staff for mitigation disaster response and recovery activities; and the Professional Development for the National Flood Insurance Program Staff course, which primarily trains members of the Flood Study Management Team to more effectively communicate with communities and other partners.

In addition, a great deal of training has been developed and provided to both FEMA and state staff to improve the effectiveness of Mitigation program implementation. A prime example is training for the Hazard Mitigation Grant Program (HMGP), a Stafford Act program that provides post-disaster grants to states and communities for risk reduction projects. In the past several years, FEMA has developed courses and materials to train staff in performing cost-effectiveness and environmental reviews of proposed HMGP projects. This training has contributed directly to more timely and streamlined program delivery.

To support the National Flood Insurance Program (NFIP) and the Cooperating Technical Community/Cooperating Technical State initiative, there is a series of four Flood Map Training courses to train both internal staff and other partners, such as federal, state, and community staff as well as study contractors, engineers, and surveyors. FEMA is currently developing several multimedia tutorials based on these courses, which will be available to the general public via the Internet. Other online tutorials include:

- QUICK-2, Version 2.0: a hydraulic analysis program used to compute water-surface elevations in open channels.
- CHECK-RAS, Version 1.1: a hydraulics program designed to verify an assortment of parameters found in the HEC-RAS program.
- RASPLOT, Version 2.0.1: a demonstration of software used to generate flood profiles from HEC-2 and HEC-RAS models.
- National Flood Frequency (NFF): a program used to estimate approximate peak discharges for un-gauged basins.
- Letter of Map Amendment (LOMA)/Letter of Map Revision Based on Fill (LOMR-F): to explain the LOMA and LOMR-F application processes, including all necessary forms and information.
- Letter of Map Revision (LOMR): to explain the application process for LOMRs and conditional LOMRs.
- Coastal Tutorial: to address data requirements for coastal-flood hazard analysis and the effect of V-Zone mapping on NFIP regulations and wave setup. This

tutorial also provides case studies for the use of the WHAFIS and Wave RUNUP programs.

- GIS Tutorial: to provide an overview of GIS and NFIP applications, including automation of hydrologic and hydraulic analyses and new technologies such as Global Positioning Systems, IFSAR, and Light Detection and Ranging.
- How to Read a Flood Insurance Rate Map (FIRM): to educate users on the development, use, and application of FEMA FIRMs.
- How to Read a Flood Insurance Study (FIS): to educate users on FIS.

The HAZARDS, United States (HAZUS) is a nationally applicable, standardized methodology and GIS-based software program developed by FEMA to assist emergency managers and mitigation planners at all levels to estimate the potential economic and social impacts from earthquakes, floods, and severe wind events. At the agency's Emergency Management Institute, FEMA provides regularly scheduled training courses in the applications and use of HAZUS. Also offered is the one-week Digital Hazard Data Course, designed to give floodplain managers and emergency management personnel the necessary skills and knowledge to use digital hazard data.

Director Witt's Leadership

Describe director Witt's direct involvement with your division or sub-office during and after the major reorganizations took place. How has he been directly involved during major disasters or events since then? How has he been directly involved during non-disaster periods? Please provide specific examples.

Coinciding with the establishment of the Mitigation Directorate in 1993, Director Witt sent a message to all stakeholders in emergency management that mitigation was to become the cornerstone of the agency and emergency management operations in general outside the immediate confines of FEMA. Initially, many people in the agency did not understand the concept of mitigation, nor was it well understood by those outside the agency. This lack of understanding presented a major challenge. What would be the best way to get the message out and to have people understand the value of mitigation? A major attempt was initiated in 1994 under the guidance of Richard Moore, the Senate-confirmed associate director for mitigation at the time. Moore's idea for advancing the understanding of mitigation was to develop a National Mitigation Strategy. A series of town hall meetings were held, one in each region, where invitees included state and local officials, members of academia, the business community, and the media. The purpose of the meetings was to gather input on how the strategy should be developed and, in the process, to promote the mitigation concept. The culmination of the town hall meetings and the planning and development for the strategy that occurred in 1994 was the national mitigation conference held in Arlington, Virginia. The conference was well attended and was a great success in illustrating the benefits of mitigation.

While the Mitigation Directorate was pursuing the national mitigation strategy, the Office of the Director was looking into an alternative, locally based approach, eventually termed *Project Impact*. With the emergence of the *Project Impact* concept and the transfer of implementation responsibility from the Office of the Director to the Mitigation

Directorate, the importance of mitigation was raised another notch and the understanding of the mitigation concept continued to advance.

At each of the Mitigation Directorate's division levels, there were other areas where the Director Witt's leadership played a key role in shaping new directions that would solidify existing programs and create new ones.

As part of the reorganization, Director Witt was directly involved with creating the Assessment and Outreach Division within the Mitigation Directorate. The director shared his vision with Michael J. Armstrong, associate director for mitigation, to concentrate, in one division, the collection and development of technical information for constructing new structures and retrofitting existing structures in the interest of reducing potential damage. Witt also saw this Division with an Outreach Branch, to parallel the efforts of the *Project Impact* Initiative, to market and disseminate information on reducing future damage, including technical information in lay terms. As a result, the Mitigation Directorate is structured to reach local community officials and the public with vital information on reducing future damage.

Director Witt's involvement with assessment and outreach did not end with reorganization, however. He asked that the Mitigation Directorate use the latest technology in helping community officials assess exposure to natural hazards, and provided the budget support to do so. One of the most exciting applications using Geographic Information System (GIS) technology is called Hazards United States or HAZUS, under development since December 1992. HAZUS is a modeling program that estimates the potential social and economic impact from natural hazards, including earthquake, flood and severe winds. Thus, communities have a powerful tool that provides sound information in setting damage reduction priorities commensurate with the risk identified.

Further, Director Witt encouraged data collection in the immediate aftermath of disasters so that construction techniques could be improved. He institutionalized the formation of Building Performance Assessment Teams that collect and disseminate damage information caused by catastrophic disasters. The information gathered by these teams provides useful information to building officials, engineers, and contractors in reducing future damage. The information is particularly helpful during recovery and reconstruction following a disaster. For example, teams of engineers, architects, and code enforcement officials collaborated by observing and collecting data to produce reports on Hurricanes Andrew, Iniki, Opal, and Georges, as well as the devastating tornadoes that hit the Central Plains on May 3, 1999.

While states and communities resolve day-to-day building code issues, important policy guidance can originate at the national level. Director Witt actively solicited the help of the International Code Council, a national building code organization, and other model building code organizations (BOCA, SBCCI, and ICBO), to do what they could to reduce damage from natural hazards. Working with these model code organizations, and through FEMA's *Project Impact* agreement with the International Code Council, Director Witt's participation led to new provisions in the 2000 International Code Series on flood, earthquake, and wind concerns. Thus, for the first time, a national model building code series is compliant with the minimum requirements of the National Flood Insurance Program and also contains substantially equivalent provisions recommended by the National Earthquake Hazard Reduction Program.

Director Witt was also directly involved with creating the Program Support Division during and after the major reorganization. As a result, the Program Delivery Branch was created within the Program Support Division of the Mitigation Directorate to focus on providing high quality support for the implementation of a combination of the largest mitigation grant programs within Mitigation. The Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance Program, the Unmet Needs Program, and the Hurricane Floyd Supplemental Buyout Program are all co-located within one branch, providing the much needed cohesiveness to effectively implement these programs. Director Witt also indicated to Associate Director Armstrong that he wanted a very strong emphasis on pre-disaster planning. The Planning Branch was created to pull together the agency's talented planning staff into a team to tackle the important issues of building state capability in mitigation planning.

Director Witt's involvement with the Program Support Division and its programs also did not end with reorganization. Shortly after joining FEMA, he took bold policy actions to shape the focus of the Hazard Mitigation Grant Program. After the 1993 Great Midwest Floods, Witt led the charge to focus the HMGP on the acquisition and relocation of damaged property out of harm's way. Director Witt also worked closely with Congress after the Midwest Flood to increase the funding available for buyouts by aiding in the passage of the Hazard Mitigation and Relocation Assistance Act of 1993. This act significantly increased available HMGP funding and lowered local cost shares for mitigation projects. (FEMA now assumes 75 percent of funding for mitigation projects, up from 50 percent.) From fiscal years 1993 through 1999, under Director Witt's leadership, HMGP has provided over \$1.9 billion in federal funds supporting thousands of projects in nearly every state.

The Technical Services Division evolved from the Hazard Identification and Risk Assessment Division, originally established under the 1993 reorganization. The major responsibility that remained was the Flood Hazard Mapping component of the National Flood Insurance Program (NFIP). As was the case with previous directors, there was controversy surrounding NFIP, primarily due to the restrictions imposed on new development in known flood-prone areas, and the requirement to purchase flood insurance for property owners with federally related mortgages. There was, and continues to be, a constant stream of letters from members of Congress complaining about inaccurate and outdated flood hazard maps. In April 1997, the director, out of frustration in dealing with these inquiries, asked for a report explaining how the problems with the maps could be fixed. In July 1997, the Mitigation Directorate submitted a report to Director Witt indicating that most of the maps were several years old, the flood data shown on many of them did not reflect increased flood potential due to development, and the technology used to make the maps was obsolete. The report also estimated that it would take seven years and an additional \$850 million to update and modernize the maps. The magnitude of the solution caused the director to pause and consider the implications of proposing such an initiative.

Word had circulated that FEMA was working on a report that would define the state of the maps and what it would cost to update and modernize them. Although not part of the agency's budget submission, the director finally announced the plan and what it would cost at the House Appropriations Committee Hearing in March 1998. With this announcement, efforts were made to contact constituency groups to formally notify them

of the plan and answer their questions. Over the next several months, several organizations expressed their support for the initiative in writing to Director Witt, OMB, or the Congress. The director has continued to express the need for updating the maps and proposed funding mechanisms in the FY 2000, and FY 2001 budget submissions. Congress has approved some new funding but rejected the fee-based mechanisms that would generate the bulk of the needed funds. Because of the leadership of the director, the map modernization proposal has gained broad support from many diverse organizations. FEMA continues to seek funding sources and mechanisms. One element of the map modernization plan that the director has focused on is the process for building partnerships with communities, regional agencies, and states to share the responsibilities and resources for mapping. This initiative, Cooperating Technical Partnerships, is similar in many ways to the *Project Impact* concept, and has generated considerable interest. Many communities, regional agencies, and states have signed agreements with FEMA. One partnership is worth mentioning. On the first anniversary of Hurricane Floyd, Governor Hunt and Director Witt, along with 15 other representatives from federal departments and agencies, signed an agreement whereby the state contributes \$23 million and FEMA contributes \$10 million to re-map the eastern part of the state in areas impacted by Hurricane Floyd. Because of Director Witt's leadership, the term and concept of mitigation is now known and understood, and practiced by communities, states, federal agencies, academia, the business community, and others, not only in this country, but in many places worldwide. As a result of the director's vision and hard work, property has been protected, damages have been reduced, and most importantly, lives have been saved.

Directorate and Office Leadership

(For Department Heads Only) How did your leadership as director contribute to changes in your office or directorate? What were your primary objectives and how did you attempt to accomplish them? What were your successes?

"When I came to the position of associate director for Mitigation, I had served for three and a half years as a politically appointed regional director for FEMA in Denver, Region VIII. As a result, I brought to this position an orientation toward the field delivery of FEMA programs, and a customer service perspective of how "headquarters" interacts with regional offices. I also had observed the evolution of the new Mitigation Directorate since shortly after its creation in late 1993, had opinions about its strengths and weaknesses, and was made aware of concerns and priorities from the director's office. My prior jobs in the media and as a local government attorney also created an interest in developing a stronger external orientation toward educating the public and understanding the role of local government regarding program delivery.

One of my primary leadership contributions as associate director has been to improve the functional components of the organization. I initiated this effort after concluding that the existing organization was unable to support key priorities of the director in the most efficient fashion, and that its construction actually was hindering progress. These conclusions were based on feedback from employees, my own observations, and my past experience with managing organizations toward a more "functional" approach.

Our success was accomplished through redesigning the divisions, offices and branches, reflecting new and changed priorities within the organizational structure, and using a team approach. As part of this process, I was able to establish more opportunities for employees to utilize their strengths and to help develop our mission in new ways. I began by conducting individual and private one-on-one meetings with each of the 90-or-so staff. Based on these meetings, and several management retreats, we were able to announce a realignment of the directorate seven months after my confirmation. Among the innovations were the creation of new branches, entitled "Planning," "Outreach," "Assessment," and "Policy." These were all designed to reflect an ongoing trend established by Director Witt in the 1993 reorganization to commit to creating "functional" sub-organizations that would enhance program development and delivery. With these changes, we initiated: new approaches to marketing mitigation activities and to developing partners inside and outside the government; new interfaces with the planning community and a greater emphasis on the connection between economic development and mitigation; more aggressive approaches to resolving difficult policy problems in the flood programs; new successes in promoting the building sciences as a vehicle for code adoption and risk assessment; and, perhaps most significantly, new "organizational vehicles" to carry the various new initiatives including *Project Impact*, Map Modernization, and the Repetitive Loss Strategy.

Another of my leadership contributions has been to prioritize the streamlining and revitalization of existing programs: hazard mitigation grants; flood mitigation assistance grants, earthquake program, hurricane program, and dam safety program. In each area, change was enacted through one or more of the following: by implementing a request or guidance from the director; by responding to a customer concern; or by conducting a review with key stakeholders.

As a result, we have successfully streamlined the methods of grant application and delivery to accelerate the implementation of risk reduction measures. This includes piloting the devolution of grant management components to our state partners and eliminating steps that duplicate and frustrate the process. In the case of the three hazard-specific programs, earthquake, hurricane, and dam safety, we have added staff and directed a new approach linking headquarters policy development and research to field implementation and participation from regional staff. Further, we developed the first-ever strategic plans for both the hurricane and earthquake programs, and created a separate National Dam Safety Program Office (moving it out of a sub-branch position and enlarging the staff, including senior executive service-level directorship).

I have also been asked to manage several major initiatives placed in the directorate to support the director's goals.

First, community-based pre-disaster mitigation grants, entitled "*Project Impact*," were developed in 1997 with a unique new approach, combining elements of public/private partnerships, sociology, community organizing, and economic development. This initiative created new challenges for career staff as they were inexperienced with interacting directly with communities, marketing successes to the media, and partnering with the private sector. At my level, the challenge was to deal with organizational tensions, inside and outside of my directorate, regarding staff availability and capability with no additional resources for hiring or training, as well as institutional resistance due to jealousy of the attention given *Project Impact* and bureaucratic resistance to change.

Our national team office was pulled together from different parts of the agency and the region developed positions to support the initiative. To date, we now have over 200 communities and over 1,000 business partners participating as we enter our fourth year. Second, at my swearing-in ceremony, I emphasized not only my commitment to making this new program work, but to an extensive modernization of our floodplain maps. To accomplish this, we have redesigned our contractual relationship with our engineering firms, reinvented our capability at our Map Service Center, and developed a strategy for collecting data, which will utilize state of the art technology.

Third, I have also directed the establishment of a strategy to address repetitive flood claims by reprioritizing the delivery of existing mitigation grants and working to position the agency for additional support. I personally insisted upon the release of property address data to the states, which has begun the process of eliminating targeted properties from the inventory. I have also personally pushed the delivery of a much-delayed Community Information System to help states implement good floodplain management practices.

Fourth, we have seen the delivery of research for "Tornado Safe Rooms" develop into product design information which is being utilized by homeowners and home builders around the country, with national performance criteria for mass care sheltering being readied for promotion this year.

The Mitigation Directorate also has a much higher level of diversity, both by race and gender, in the critical categories of GS-13 pay grades and above. Our entire team has been encouraged to look for career development opportunities and to market job openings to an increasingly diverse workforce.

In the end, I am most proud of the staff I've promoted and hired, and by being the only large headquarters organization to promote workplace collegiality with monthly 'all hands' meetings of staff, now numbering almost 100. The directorate today is more aware of its interdependency and its potential. Our work is of higher quality and our approach is both more disciplined and more creative. Creating an environment for this to occur is greatly satisfying."

Future Direction

(For Department Heads Only) How do you see your office/directorate evolving in the next ten years?

Michael Armstrong

"The evolution of the Mitigation Directorate will be a function of several realities: the enormous changes in technology, which will enable it to assess risk and vulnerability in a highly objective and quantifiable manner; the political will of the Congress and President to make delivery of federal funds, pre- and post-disaster, contingent upon good local practices and investment from non-federal sources; and the willingness to commit more resources to prevention and risk reduction at all governmental levels and at the private and nonprofit levels.

Maps may evolve into data sets that are easily amended, Internet accessible, and divisible into subsets that serve both local floodplain managers and the insurance industry. The

flexibility of maintaining flood information as data will allow us to include information from other sources and to create all-hazards maps that will indicate the degree of risk and vulnerability to the built environment and to projected new development. These data sets might then be used to determine levels of funding for ongoing programs, and priorities for grant recipients.

Pre-disaster mitigation funding delivered for local administration in consort with the private sector, whether called *Project Impact* or something more mundane, will continue because it makes sense, has massive grassroots support, and is non-partisan. The challenge will continue to be in the arena of measuring and marketing success, given the variables of frequency of disasters, degree of vulnerability, and local commitment to expending resources in a strategic and expedient fashion.

The effect of adopting model codes and of planning approaches on disaster mitigation is not always immediately discernable, but these actions may reveal new opportunities along with more permanent changes. It is through these processes that the federal sector can have some of the greatest influence on how the local sector, largely responsible for land use planning, approaches natural hazards. If these approaches can be tied to grants programs that become increasingly incentive-driven, the "grants/practices" tandem will be very a very strong vehicle for the directorate to utilize.

The Mitigation Directorate will also continue to be the place at FEMA where the relationship back to the agency's emergency management roots is the least definable. This will be due to: evolving relationships with the environmental community; ongoing exploration of "new frontiers" with the academic, scientific, and research communities; and, the sense that at state and local levels there is not always room for dynamic mitigation programs when staff size dictates a sole focus on response and preparedness.

The composition of the directorate will be part of a larger agency discussion about the blurred lines between mitigation and recovery, and mitigation and preparedness. Future organizations may reflect a growth, shrinkage, or fundamental changes in function for the directorate, depending on the desires of future leadership."

Disaster Operations

Describe your office's role on the EST (and disaster operations). Summarize an experience your office had working on the EST (and disaster operations) during one major disaster or emergency since 1992. What exactly did you do and what kinds of challenges did you encounter? Be specific and aim to leave the reader with a good understanding of what function your office fills on the EST (and in disaster operations), as well as the challenges you face.

Role of Mitigation Directorate in Disaster Operations

The role of Mitigation in disaster operations has significantly evolved since 1993. Prior to 1993, hazard mitigation staff often reported through the Public Assistance section and focused on two primary objectives in disaster field operations, to coordinate Interagency Hazard Mitigation Team Reports and to implement the Hazard Mitigation Grant Program (HMGP). Additionally, insurance, floodplain management, and other mitigation functions often operated independently in the field operation. Today, mitigation is fully integrated into all aspects of the disaster operation. Assisting communities and states affected by the event to become resistant to future disasters is a primary mission for the whole disaster operation, and is manifested by significant resources (financial and personnel) in nearly all sections of the disaster field office.

Shift in Mitigation's Disaster Operations Role after 1993

Two major disaster events in 1993 and 1994 spurred this evolution of the mitigation role, the 1993 Great Midwest Floods and the 1994 Northridge Earthquake.

After the devastating 1993 Great Midwest Floods, thousands of homeowners in hundreds of communities wanted to relocate out of the floodplain to higher ground. This groundswell of interest in mitigation grants provoked Missouri Congressman Harold Volkmer and Iowa Senator Tom Harkin to introduce legislation to increase post-disaster mitigation funding. The Hazard Mitigation and Relocation Assistance Act of 1993 was signed into law by December, increasing available HMGP funds and lowering local cost share. (FEMA now assumes 75 percent of funding for mitigation projects, up from 50 percent.) With increased funding and lower local cost share, many states and communities suddenly viewed the HMGP as a significant resource within their reach. For FEMA Mitigation, the increased funding signaled a stronger role in the disaster operation as a major disaster assistance program.

In 1994 after the Northridge Earthquake in California, FEMA named the first deputy Federal Coordinating Officer (FCO) for mitigation to preside over the most expensive disaster in FEMA's history. This marked a significant change in the role of Mitigation in the disaster operation. The deputy FCO for mitigation was responsible for coordinating mitigation issues throughout the disaster operation and all disaster programs, rather than just mitigation-specific programs. The addition to the organizational chart elevated the status of mitigation issues in field operations, serving to emphasize the importance of mitigation as a key link in community and state recovery efforts.

Mitigation in Disaster Operations Today

Today, field operations encompass newer initiatives that take a longer view of post-disaster opportunities such as *Project Impact*, livable and sustainable reconstruction, long-term recovery, and economic recovery. Mitigation employs a combination of technical and informational tools to accomplish its post-disaster mission in field operations. FEMA targets homeowners and businesses through education, marketing, outreach, and financial incentives. The agency also provides community and state officials with technical assistance and post-disaster technical survey data to guide reconstruction decisions. While in the past, it was often difficult for states and communities to focus attention on mitigation following a disaster because it was seen as a separate, long-term consideration, mitigation in field operation is now integrated with response and recovery. Disaster resistance and prevention concepts are now a part of the

routine actions of homeowners, businesses, community officials, and others as they recover.

Building Codes and Standards

What has been FEMA's involvement in the building codes and standards process?

Background

Building construction in the United States is regulated at the state and local level. Manufactured housing is regulated by the Department of Housing and Urban Development (HUD). At present, more than 50 percent of all communities and 75 percent of the U.S. population are covered by a building code and these numbers are growing, especially in high-hazard, coastal areas. States are also increasingly adopting statewide codes.

Realizing that codes are the best way to mitigate property loss at the local level, FEMA has been working with the model code groups since 1982 to include FEMA program standards, such as those building codes of the National Flood Insurance Program (NFIP) and the National Earthquake Hazard Reduction Program (NEHRP). Up through the early 1990s, FEMA had some success in this effort, but the level of compliance with FEMA program standards was inconsistent among the model building code groups, such as Building Officials and Code Administrators (BOCA).

In 1992, FEMA contracted with National Institute of Building Sciences (NIBS) to perform a Code Compatibility Report in 1992 that reviewed common building codes and standards.

Floods

From 1992 to 1995, FEMA worked with the American Society of Civil Engineers (ASCE) to include flood load provisions in the ASCE 7 standard, Minimum Design Loads for Buildings and Other Structures, for first time. From 1995 to 1998, FEMA then worked with ASCE to develop a new ASCE standard 24, "Flood Resistant Design and Construction", which was later referenced in the 2000 International Codes. FEMA and Southern Building Code also developed an NFIP-compliant Floodplain Management Standard that was published in 1986 as a separate standard and was referenced in the SBCCI Building Code.

Seismic

The NEHRP Recommended Provisions is a consensus-based resource document to reduce earthquake losses for new construction and to improve earthquake engineering. The NEHRP provisions were first published in 1985, and are updated every three years. By 1993, BOCA and SBCCI had both adopted the 1991 edition of the NEHRP provisions as a basis of seismic design.

Current International Code Provisions

Beginning in 1995, FEMA has worked with the International Code Council (ICC) to assure that the 2000 International Code Series be substantially equivalent with the NEHRP Recommended Provisions and compliant with the minimum requirements of the NFIP.

For flood, the code contains flood resistant design and construction provisions in the body of the code. This includes flood loads in design, references ASCE 24-98, and includes an optional Appendix G. In addition, flood damage to building support utility systems are addressed in the International Mechanical, Plumbing, Private Sewerage Disposal, and Fuel Gas Codes as well as the building and residential codes. The seismic provisions are based on 1997 NEHRP Provision with Changes from Other Parties. Material is included in both the International Building Code (IBC) and International Residential Code (IRC).

The International Residential Code also contains flood and seismic provisions. The development process included compromise with the National Association of Homebuilders and others, and resulted in an IRC that all parties can accept and live with. Wind provisions in both the IBC and IRC are based on and reference ASCE 7-98 "Minimum Design Loads for Buildings and Other Structures". IRC is the first one- and two-family dwelling code to contain comprehensive wind design and construction provisions for coastal areas.

Current codes for existing buildings are minimal, since triggering and enforcement are significant problems. FEMA hopes, eventually, to shift focus to existing buildings as they represent the largest risk to the country; there are 105 million existing buildings vs. 1.5 million new buildings annually.

ICC has formed an Existing Building Code Committee, which is developing a draft code. Working through organizations such as ASCE and BSSC, FEMA hopes to ensure the International Existing Building Code (IEBC) is compliant with minimum requirements of the NFIP and substantially equivalent with NEHRP Recommended Provisions.

Summary

FEMA has been working with the model code organizations since the early 1980s and it now has the first set of international codes that are NFIP-compliant and NEHRP-equivalent model building codes. This is a time of dramatic and ongoing change in the building codes arena.

Beginning early in 2000, FEMA also agreed to work with the National Fire Protection Association to assure that their new Consensus Model Code series, due out in 2002, will be substantially equivalent with the NEHRP Recommended Provisions and compliant with minimum requirements of the NFIP.

Safe Room Initiative

What is the Safe Room Initiative?

Witnessing the devastating effects of tornadoes and the shattered lives in communities across the country, FEMA Director James Lee Witt made a commitment to mobilize resources to reduce the risk of death and damage from tornadoes. Through *Project*

Impact, the Mitigation Directorate implemented the Safe Room Initiative as an agency priority.

FEMA has taken the lead in collaborating with other federal agencies, research institutions, and the private sector, to provide state of the art guidance, designs and information resulting in a tangible manifestation of safe places for everyone threatened by tornadoes and hurricanes.

“Taking Shelter From the Storm: Building a Safe Room Inside Your House,” FEMA publication 320, was first published in October 1998 and an expanded 2nd edition was published in August 1999. Based on the pioneering work of the Wind Engineering Research Center at Texas Tech University and the combined efforts of nationally recognized engineers and architects, this 25-page book provides homeowners with specific guidance, designs, construction plans and cost estimates that can be used to secure building permits and to build residential safe rooms that will provide ‘near absolute protection’ from tornado and hurricane force winds. Over 160,000 copies have been distributed online and in hard copy form.

“The National Performance Criteria for Tornado Shelters” was published in May 1999 to provide performance criteria for design professionals, shelter manufacturers, building officials, and emergency management officials. The performance criteria were developed to ensure that shelters constructed in accordance with these criteria would provide a consistently high level of protection.

FEMA’s Building Performance Assessment Team investigation of the May 1999 tornadoes in Oklahoma and Kansas made it clear that a severe wind event can cause a large loss of life and/or a large number of injuries in high-occupancy buildings. The impact of tornadoes is especially critical regarding school buildings, hospitals and other critical care facilities, nursing homes, day-care centers, and commercial buildings, and in residential neighborhoods where people do not have access to either in-residence or community shelters. Speaking in Oklahoma City after witnessing the massive destruction and loss of lives, President Clinton urged communities and homeowners to build safe rooms.

Responding to the need for technical guidance, FEMA developed and published “Design and Construction Guidance for Community Shelters” in August 2000. This design manual is for use by engineers, architects, building officials, and shelter owners. In addition to design guidance, the manual includes: decision-making software; checklists for evaluating existing buildings; real-life case studies, and sample plans for designs created using the guidance in this manual.

The FEMA Mitigation Directorate works closely with the FEMA regions, states and *Project Impact* communities to provide up-to-date, relevant information and support for the Safe Room Initiative. In addition, the Safe Room web site provides FEMA’s safe room and shelter publications in several downloadable formats as well as information on projects, events, funding sources and state and local initiatives.

Educating and informing decision makers is paramount to the successful planning and implementation of the Safe Room Initiative. FEMA’s National Education Training Center in Emmitsburg, Maryland has provided a small building on the historic campus that houses a permanent safe room exhibit consisting of a full scale Insulating Concrete Form (ICF) safe room, with a cutaway cross-section for instructional purposes, and an historical, technical and photographic display. Emergency managers, city and county

officials, firefighters, FEMA employees, teachers, engineers and architects from across the country, now have the opportunity to examine an actual safe room and learn about their risks and the technical considerations, options and resources available for the construction of both residential and community shelters.

The Safe Room Initiative has resulted in the construction of thousands of residential safe rooms and community shelters across the country and especially in the high-risk tornado areas. Several states, communities, school systems and private sector partners have made a commitment to provide funding, resources, education, and training, setting in motion and maintaining an ongoing awareness and demonstration of what is possible when all parties unite to create disaster-resistant communities.

- Several states, pioneered by Oklahoma, Arkansas and Iowa, offered safe room rebates to homeowners.
- Communities throughout the high-risk tornado area are building demonstration projects.
- College and university students in architecture, engineering and vocational Education departments are involved with community safe room projects and are building models that are used for educational events.
- Safe rooms were built on both the American Red Cross and Salvation Army grounds in Sioux City, Iowa to provide shelter and to serve for educational purposes.
- Portland Cement Association and KeepSafe Industries became national *Project Impact* Partners and are actively partnering with *Project Impact* communities by conducting and sponsoring seminars and workshops, donating safe rooms, and participating in National Conferences.
- FEMA and the U.S. Department of Education are working together to ensure that communities have information on mitigation opportunities during repair, renovation and construction of schools.
- Several communities have worked with FEMA to develop a checklist for evaluating shelter areas in schools.
- School districts are evaluating their schools for safe shelters and seeking solutions with FEMA's assistance.
- School districts are building shelter areas into new schools.
- Homeowners who receive a disaster assistance loan from the U.S. Small Business Administration (SBA) to repair or rebuild a damaged or destroyed home may use some of the loan proceeds to construct a safe room. The SBA can also increase the approved disaster loan by as much as 20 percent to cover the cost of adding a safe room.
- FEMA and the Federal Housing Administration (FHA) have collaborated to develop incentives and opportunities to promote the Safe Room Initiative. This is a significant partnering of two federal agencies to support an initiative that has and will continue to save lives through the building of safe rooms. FHA's new initiative will enable a lender to loan a homebuyer up to \$5,000 more than the amount needed to buy a home, with the extra money used to pay for the cost of installing a windstorm shelter.
- Builders and developers are offering safe rooms as an option in new construction.

- Eleven major Tulsa, Oklahoma homebuilders are cooperating in the design, construction and marketing of Legacy Park, a new subdivision in the Tulsa region, consisting of 100 units. Every model and spec house will include a safe room. The subdivision was featured in the Tulsa Home Builders Association June 2000, Parade of Homes. Funding is all private, voluntary and market-driven.
- Safe rooms and disaster resistant housing are now regularly featured in Home Shows, Conferences, and Trade Shows.

Today, tornado and hurricane prone communities have a new sense of hope and safety. Safe rooms and shelters are becoming a part of our country's planning and development philosophy and serve as a beacon of progress as we proudly move into the 21st Century.

Property Acquisition

Explain the role of property acquisition in disaster management and its effects on future disasters. Provide examples of projects involving property acquisition.

Section 404 – The Hazard Mitigation Grant Program

In 1988, Section 404 of the Stafford Act established the Hazard Mitigation Grant Program (HMGP) to provide disaster mitigation assistance after a presidential disaster declaration for cost-effective projects that reduce future risk. The amount of HMGP funding available was based on 10 percent of the federal funds spent on certain categories of the Public Assistance program in response to the disaster, minus administrative expenses. All projects were to be cost-shared, with 50 percent of the project costs from federal funding and 50 percent from non-federal funding.

Volkmer Amendment

In the spring and summer of 1993, the Midwest states experienced devastating flooding. In all, nine states and 532 counties received presidential disaster declarations, over 55,000 homes were flooded and, most importantly, 49 people died. The total damage estimate was over \$12 billion.

In response to the unprecedented destruction caused by the 1993 Great Midwest Floods, on December 3, 1993, Congress passed the Volkmer Amendment to the Stafford Act (officially titled the Hazard Mitigation and Relocation Assistance Act of 1993). The Volkmer Amendment enhanced the incentive for post-disaster mitigation implementation by revising the cost sharing requirements to up to 75 percent federal and at least 25 percent non-federal and by increasing the percentage of disaster relief funds made available for mitigation from 10 percent of permanent restorative work completed under Public Assistance to 15 percent of all FEMA disaster relief grants; these actions significantly increasing the amount of federal money available under the HMGP. The amendment also emphasized a move away from questionable efforts to control mother nature through costly flood control works, to a more common sense approach of moving people out of harm's way entirely.

Mitigation projects funded under the HMGP can be to protect either public or private property, can be located anywhere in the state, and can address any hazard. To be eligible, the project must meet the minimum HMGP criteria, to include an evaluation of

cost-effectiveness, and be part of the state's overall mitigation strategy. Property acquisition, relocation, and elevation are three of many activities that can be funded under the HMGP. These mitigation activities are very beneficial to both home and business owners and are the basis for FEMA's non-structural flood mitigation program under the HMGP. For property owners wishing to be bought out, HMGP money is used to purchase the land and associated structures of those who are affected by repetitive flooding.

Home and business owners are provided with a fair value for their home so they can afford to move out of a floodplain. Property acquisition and relocation is highly successful because it allows for the permanent removal of people and property from the threat of future flood damage, reducing costs for emergency rescue, response, and disaster recover that accrue to the property owners, local, state and federal governments. This program also saves lives and alleviates the emotional toll of experiencing repetitive flooding for the owners.

From 1988 to December 1993, HMGP funds had been used by FEMA to acquire, elevate or relocate a total of 560 properties in 21 states at a cost of \$8.9 million. With the added financial resources of the Volkmer Amendment and the refocused emphasis on acquisition, relocation, and elevation, as of March 2000, the amount of HMGP funding for these projects was over \$600 million, with over 24,000 properties in all 50 states and the U.S. territories being either protected or removed from harm.

Iowa Savings

In July 1998, the Iowa Emergency Management Division released the results of a study of mitigation projects undertaken in Iowa since the 1993 Midwest Floods. The study tracked the costs and anticipated benefits of Iowa's "investment in a variety of comprehensive hazard mitigation solutions throughout the State." The funding for these projects came from FEMA's Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Program, and Community Development Block Grants (CDBG) through the Iowa Department of Economic Development and Housing and Urban Development (HUD) appropriations.

The study examined the removal of 962 structures from flood hazard areas and the protection of twenty critical public facilities providing services to Iowa communities. A total investment was made of \$47,373,325 with anticipated long-term benefits of \$101,440,205. For every \$1 investment in mitigation, Iowa anticipates a long-term benefit of over \$2.

FEMA analyses have documented similar savings. The city of Chelsea, Iowa acquired 47 residential properties and relocated two residential properties outside of the floodplain area. Chelsea, historically, is flooded at the 50-year level every three years. The mitigation project cost \$1,167,299. The projected 30-year benefit is \$2,000,000.

Other Benefits

When approved, mitigation projects to acquire or buy-out flood-prone properties and relocate or remove structures from flood-prone areas include the condition that the land be maintained in perpetuity for uses that are compatible for open space, including recreation, floodplains and wetlands.

Converting developed flood-prone properties to open space provides many benefits for

the surrounding community and downstream areas, including: reduced flooding and flood damages and losses; improved air and water quality, fish and wildlife habitats and populations; greater protection for transportation networks; and enhanced public health and safety, scenery, job opportunities, recreation and education opportunities, and quality of life.

Repetitive Losses

FEMA has identified 35,000 repetitive flood loss properties across the country that have had two or more flood loss claims in the past ten years -- costing the National Flood Insurance Program (NFIP) over \$200 million a year. FEMA is preparing to implement a strategy that will cut annual losses by half in three years and save close to \$1 billion over the next ten years. Buyouts are an important element of this strategy.

Conclusion

The increased funding for disaster mitigation made possible by the Volkmer Amendment has resulted in thousands of families and businesses and hundreds of communities across the nation being safer and removed from the fear of impending disaster. The benefits of removing vulnerable properties and clearing the floodplain include:

- Future reduced emergency management costs;
- Future savings derived from being able to remove flood threatened infrastructure such as water, sewer, electrical, and telephone systems as well as roads and bridges, that were required to service the removed residences;
- Future debris removal costs;
- Future losses in tax revenue from economic disruption;
- Future environmental benefits resulting from removing homes, businesses and infrastructure from the floodplain and restoring open space; and
- The intangible, yet precious benefits of safety, security, and peace of mind.

Acquisition, relocation, and elevation are an extremely successful approach to mitigation. This investment pays national dividends by making our country safer, by helping us live more symbiotically with the environment, and by saving money.

GIS and Risk Assessment

How is FEMA using Geographic Information System (GIS) technology for risk assessment?

FEMA has a long history with Geographic Information System (GIS) technology, beginning when FEMA was a member of the original Federal Interagency Coordinating Committee on Digital Cartography (FICCDC). As a member, FEMA proposed and sponsored the first metadata standard, which transformed digital cartography into GIS. As a result, the FICCDC became the Federal Geographic Data Committee and received a Hammer Award from the Vice President's office for excellence in government. FEMA has continued to contribute to the GIS community. As part of the Map Modernization Program, FEMA instituted the Digital Flood Insurance Rate Map (DFIRM), a GIS-based mapping program for flood hazard areas. FEMA has also created

LIDAR and IFSAR mapping standards for mapping terrain in a GIS environment and instituted automated hydrography and hydrology in a GIS environment. And FEMA is working with the OpenGIS group to develop web-based risk and hazard mapping from multiple sources.

But the most exciting application of GIS by FEMA is the scientific estimation of risk for earthquake, flood and wind hazards, called Hazards United States or HAZUS, under development since December 1992. Incorporating data on infrastructure, building inventory (including critical structures such as hospitals, police stations, schools, and emergency operating centers), geology, damage estimation formulas, and critical operating center locations, HAZUS is a multi-hazard loss estimation model that estimates exact damages at critical operating centers and probabilistic damages for infrastructure and housing, and forecasts casualties. The design of HAZUS will also allow communities to put in their own data, using the Internet to acquire supplemental data using the standard developed by the OpenGIS community.

The first model developed was the earthquake module. To complete this module, a cooperative agreement was established with the National Institute for Building Standards (NIBS), who competed and awarded contracts for the development, with oversight from a committee of nationally recognized experts. This module has building inventory data throughout the country, carries daytime, nighttime and commuting populations and can estimate casualties and deaths, the cost of rebuilding, and the loss of income, both direct and indirect. Its greatest advantage over previous modeling methods, however, is that it can estimate the average annual loss, which is the basis for designing mitigation strategies on a cost/benefit basis. By using the standard annualized loss for a given community, the community can design a mitigation strategy that will reduce the annualized loss by more than the necessary investment.

HAZUS is being expanded into two additional modules, for estimating potential losses from wind (hurricanes, thunderstorms, tornadoes, extra tropical cyclones and hail) and flood (riverine and coastal) hazards. NIBS has already selected the contractors for each module, wind and flood, again with oversight by committees of national experts. A fourth committee of software experts has also been established to assure that the models are being developed in an object-oriented environment that can be used over the world-wide web.

Currently, HAZUS includes the Q3 data on 100 and 500-year flood plain boundaries and can be used for gross estimates of evacuation zones. Coding to enable depth and damage estimate has begun and we expect to see the first version of the flood module be issued in 2002. For the hurricane module, damage estimates have been quantified in formulas based on the hurricane building codes in the various hurricane susceptible states. Computer coding on this module will begin soon and its initial issuance should also be completed in 2002.

At that time, FEMA and the states will be able to compare annualized losses among the three major hazards that affect the United States. States and localities will be able to compare the risks to their communities and begin to build rational, comprehensive mitigation plans and the Mitigation Directorate will be able to start directing mitigation dollars toward the communities with the greatest need on a scientifically sound basis.

NFIP Mapping

How has mapping flood hazard areas changed since 1993?

Reorganization of FEMA's Mapping Program

In 1993, Director Witt made several organizational changes to FEMA, which included moving the Flood Hazard Mapping Program from the Flood Insurance Administration (FIA) into the Mitigation Directorate. Although this may seem to be of minor consequence, this was a very important cultural change. The move emphasizes the importance of flood hazard mapping as the basis for sound floodplain management and flood mitigation rather than as only a tool to make flood zone determinations and to rate flood insurance policies. Director Witt has continually stressed the importance of advanced planning and the implementation of mitigation measures before a disaster strikes as the basis of wise floodplain management. The organizational changes he implemented supports this change in mindset.

Map Modernization Plan

Since its inception in 1968, the NFIP had been engaged in a massive and unprecedented task—a nationwide assessment of flood hazards. The accomplishments were impressive. Over 100,000 map panels had been produced for nearly 19,000 communities. However, by 1997, when the Map Modernization Plan was being formulated, approximately 70 percent of the maps were five years or older, and 45 percent of the maps were at least 10 years old. Today, both percentages are even higher. The obvious effect of this aging is that many of the maps are inaccurate. Flood hazards are dynamic—watershed development over time typically increases runoff and concomitant flood hazards. Yet, the effectiveness of all flood hazard mitigation activities depends on the availability of up-to-date, accurate, and detailed flood hazard information.

The old maps are also limited in their utility. The manual cartographic methods used to prepare them limit their use for automated flood insurance determinations, response and recovery, risk assessment, and engineering activities, all of which are possible with present GIS-based technologies. The manual methods also limit FEMA's ability to distribute the maps electronically and perform cost-effective revisions to the maps. Even with the problems of the aging map inventory, the uses for the maps have broadened considerably over the years. The maps are, of course, used for mortgage transactions and building permitting, but they are also used by floodplain managers, community planners, surveyors, engineers, and disaster and emergency response officials for mitigation, risk assessment, and disaster preparedness, response, and recovery activities. In spite of the increased uses for the maps, however, funding for updating and maintaining the maps comes almost exclusively from flood insurance policyholders. Thus, the four million NFIP policyholders bear most of the burden of paying for flood mapping, although all property owners and taxpayers benefit through reduced disaster expenditures.

In addition, the level of funding has been inadequate to maintain an up-to-date mapping inventory. Approximately \$1.2 billion (\$2.8 billion in 1999 dollars) has been spent to

date on flood hazard mapping. In the four-year period from fiscal year (FY) 1976 to FY 1980, \$339 million (\$852 million in 1999 dollars) was appropriated; since then, however, funding levels have declined dramatically. Current funding levels are inadequate to resolve the present and projected mapping needs of the flood map inventory.

Since 1993, FEMA has been producing Digital Flood Insurance Rate Maps (DFIRMs) when funding allows; it has not been possible, however, to convert the entire map inventory to a digital format. Because of funding constraints, maps have been converted, in general, only when new flood hazard data have been generated for a community. At present, only approximately 18 percent of the map inventory has been or is in process of being converted to a DFIRM. The Map Modernization Plan embraced the idea of producing DFIRMs, thus enhancing their utility and allowing them to be more easily revised and distributed.

In 1995, Elaine McReynolds, whom Director Witt had appointed to administer the FIA, had FEMA begin production of another digital product, the Q3 Flood Data product. This product is a digital representation of a subset of the features of FEMA's FIRM and is intended for use with desktop mapping and GIS technology. The Q3 Flood Data product is designed to support planning activities, insurance marketing, mortgage portfolio review, and post-disaster response and recovery. To date, FEMA has produced Q3 Flood Data for more than 1,200 counties totaling more than 65,000 panels. Both the production of DFIRMs and Q3 Flood Data were precursors to the Map Modernization Plan, which was formulated in 1997.

In formulating the Map Modernization Plan, FEMA saw that emerging technology could help resolve many of the problems of the Flood Hazard Mapping Program. The cornerstones of the plan are to use state-of-the-art technology to cost-effectively:

- Develop accurate and complete flood hazard information for the entire nation;
- Provide that information in a readily available, easy-to-use format; and
- Alert and educate the public regarding the risks of flood hazards.

From the beginning, FEMA sought critical and analytical input for the Map Modernization Plan from all users of the maps, but especially from members of the Congressionally mandated Technical Mapping Advisory Council, who provided their expertise and guidance to ensure that the plan meets the expectations of the map users. FEMA's Map Modernization Plan also received widespread and enthusiastic support from other agencies and organizations nationwide that use flood maps.

Since the Map Modernization Plan was designed in 1997, it has evolved as new products, processes, and technical specifications have been developed and implemented within present funding levels. The plan involves a seven-year upgrade to the 100,000-panel flood map inventory and an enhancement of products, services, and processes including:

- Converting the FIRMs to a digital format;
- Conducting flood data updates and producing digital FIRMs for communities with inadequate floodplain mapping;
- Developing DFIRMs for flood-prone communities without FIRMs;
- Integrating communities, states, and regional agencies into the mapping process through the Cooperating Technical Community (CTC) Initiative;

- Converting the FIRMs to metric, as required by Executive Order 12770, and to the North American Vertical Datum of 1988; and
- Improving customer service to make the FIRMs easier to obtain and use through electronic and digital printing and distribution.

Integration of the Map Modernization Plan into the Flood Hazard Mapping Program will result in:

- Reduced potential for loss of life and property;
- Increased flood insurance policy base;
- Reduced NFIP costs;
- Reduced disaster costs;
- Premiums that are commensurate with risk;
- Meeting of legal mandates (conversion of maps to metric as per Executive Order 12770, Metric Usage in Federal Government Programs); and
- Protection of the natural and beneficial values of floodplains.

Cooperating Technical Community (CTC) /Cooperating Technical State (CTS) Program

The CTC/CTS Program is a new approach to FEMA's Flood Hazard Mapping Program and takes advantage of local/regional/state mapping knowledge and capabilities, including local/regional/state funding. Director Witt was instrumental in creating the environment that fostered the creation of the CTC/CTS Program, which delegates federal responsibilities to qualified state and local agencies. The program typically performs such mapping activities as hydrologic and hydraulic modeling, development of digital topographic data, provision of digital base maps, or refinement of approximate Zone A floodplain boundaries. By coordinating the CTC/CTS Program through FEMA's regional offices, FEMA has kept the focus on local involvement and responsibility. FEMA supports the CTC/CTS by providing training and technical support. FEMA also provides valuable information to the CTC/CTS through FEMA's flood hazard mapping web site. In return, the CTC/CTS Program allows more mapping to be produced with FEMA's limited mapping budget and fosters community ownership of flood hazard mapping.

Enhanced Funding

As indicated above, FEMA's flood hazard mapping budget is not adequate to fully fund all the necessary mapping activities to ensure that the flood hazard data provided to communities are accurate and up-to-date. Director Witt has been a strong advocate for increased funding for flood hazard mapping. In 2000, he worked with the Clinton-Gore Administration to request additional funding for flood hazard mapping. Congress appropriated \$5 million to start the Map Modernization Fund. For the 2001 budget, the Director worked with the administration on a proposal to provide additional funding authority to spend a portion of the Disaster Relief Fund on flood hazard mapping and to charge a license fee for commercial use of the flood hazard maps. As of July 2000, Congress was considering these proposals.

NSA ESSAYS

Mission Shift to an All-Hazards Disaster Response

Describe how your office's mission and functions have evolved since FEMA changed its focus to an all-hazards disaster response. Describe the evolution of your office's mission and functions from 1992-2000.

The missions and functions of the Office of National Security Affairs (NS) have remained rooted in national security emergency preparedness. While the threat has changed and the major focus of the agency has evolved towards all-hazards disaster response, the mission to ensure continuity of government and other national security programs continues. The NS mission has its genesis in the National Preparedness Directorate which was responsible for developing and coordinating the development of national policy, programs, plans, capabilities, and facilities necessary for attaining and maintaining the federal government's capability to deliver effective emergency management during all phases of any national security emergency.

A significant portion of the NS mission can be traced to the organization known as Special Programs within the Office of Operations, National Preparedness Directorate. When the November 1993 reorganization occurred, Special Programs was moved to the Response and Recovery (RR) Directorate. Concurrently, most of the national security policy and planning responsibilities were vested in a newly created position of the National Security Coordinator, who simultaneously served as the Chief of Special Programs.

The National Security Coordinator ensured that FEMA's national security requirements were fulfilled and the Director was represented in national security policy matters. The National Security Coordinator served as the primary point of contact between FEMA and the Executive Office of the President on national security matters and assisted in the formulation of national security policy in coordination with the National Security Council and other organizations.

Concurrently, the National Security Coordinator, as Chief of Special Programs, was responsible for developing, implementing, and testing an integrated set of programs to ensure the continuity of essential functions during the full spectrum of emergencies. Special Programs developed comprehensive test and evaluation programs for critical emergency management systems, implemented those programs to determine system effectiveness, and managed a remedial action program to correct deficiencies and improve system operations.

In January 1995, a subsequent reorganization merged the Special Programs mission with that of the National Security Coordinator and created the Office of National Security Coordination. The mission of the office was to serve as advisor to Director Witt on, and provide the focal point for, the agency's national security related activities; ensure coordination of these activities with appropriate executive branch organizations; and provide for the development, implementation, and testing of an integrated set of programs to ensure the continuity of essential functions during the full scale of emergencies.

In May of 1998, the White House issued Presidential Decision Directive 62, *Protection Against Unconventional Threats to the Homeland and Americans Overseas*, and

Presidential Decision Directive 63 *Critical Infrastructure Protection*. A month later the office was reorganized as the Office of National Security Affairs and in addition to responsibilities for continuity of government and special programs, it assumed responsibilities for terrorism and critical infrastructure protection. The office also assumed responsibilities for Continuity of Operations (COOP) in anticipation of a new Presidential Decision Directive (67) that designated FEMA as the executive agent for COOP. Concurrently, the office assumed responsibility for FEMA headquarters COOP planning.

The last major change in NS missions and functions occurred in March 2000 when responsibilities for terrorism were transferred to the terrorism task force within the Office of the Director to facilitate program coordination and funding across multiple directorates and offices.

Today, the NS mission is to serve as the focal point for FEMA activities related to continuity of government, including critical infrastructure protection, continuity of operations, and contingency programs. The office ensures that policies, programs, and activities in these areas are coordinated within FEMA and with other federal organizational components and are uniform and consistent with national security policy and with FEMA's all-hazards initiatives.

Management Reorganization

Describe how your office's senior management was reorganized in 1993. Have major changes in your office's management structure occurred since then? If so, what was changed and why was it changed?

In 1993, Special Programs, Office of Operations, National Preparedness Directorate became the Special Programs Unit within the Response and Recovery Directorate. The Chief of the Special Programs Unit simultaneously served as the FEMA's National Security Coordinator. In January 1995, the agency merged the mission of Special Programs and the National Security Coordinator and created the Office of National Security Coordination to meet the agency's continuing need for senior level coordination in national security emergency preparedness programs.

New Presidential initiatives on terrorism, critical infrastructure protection and continuity of operations in 1998 led to a further reorganization. FEMA was designated as the executive agent for continuity of operations of the federal executive branch of government. The office was reorganized as the Office of National Security Affairs and expanded to two divisions. One division focused predominantly on what had been the mission and functions of the old Office of National Security Coordination and the new division assumed responsibility for terrorism, critical infrastructure protection for continuity of government services and operations. In early 2000 the responsibilities for terrorism were transferred to the terrorism task force in the Office of the Director. Although there have been minor shifts in mission responsibilities between divisions, the structure remains essentially the same today.

Customer Service Improvements

How has your office implemented FEMA's customer service policy? Please cite specific examples of research and/or surveys conducted by your office related to customer service. Also, cite specific changes that were made in the way your office does business as a result of the research and surveys that were done. Finally, give examples of specific improvements in the way your office has serviced its customers since 1992.

The Office of National Security Affairs (NS) conducts internal and external surveys to ensure compliance with FEMA's customer service policy. Specific questionnaires are used to obtain feedback from other offices and the directorates with whom NS conducts business. Externally, questionnaires are utilized, where appropriate, for NS customers in the White House and with federal departments and agencies. Additionally, data on customer service was obtained during the conduct of the continuity of operations/continuity of government assessment in late 1999 and early 2000. Further, NS has procedures in place for continuous dialogue with White House and National Security Council personnel. It also uses regularly scheduled meetings of the interagency community, such as the continuity of operations working group and the interagency advisory group as sounding boards for customer service.

Cost Reduction

Give examples of your office's efforts to reduce costs from 1993 to 2000. Highlight specific successful efforts and be specific about where costs were actually reduced.

The Office of National Security Affairs (NS) has conducted yearly revalidations of all programs and conducted risk management analyses, which have resulted in the transfer of some programs to other departments and agencies. Additionally, NS conducts frequent budget reviews with a focus on accuracy, efficiency, innovation, and compliance. Selected contingency programs have been scaled back consistent with current threat and risk management.

NS cost analysis has led to different strategies on how best to accomplish its myriad missions. For instance, manpower intensive operational and maintenance costs in a locator system were decreased through the replacement of antiquated DOS-based hardware and software systems with new laptops and Windows-based software.

Results-Oriented Incentives

How has your office adapted new ways of motivating employees and improving program performance? Specifically, which methods of reward or accountability practices have been implemented? Cite specific criticism and praise that prompted such changes in your office, if applicable.

The Office of National Security Affairs (NS) has improved program performance and staff accountability through the use of action tracking software programs that provide supervisors and staff with a common document that specifies projects and suspenses. In conjunction with action tracking reports, NS emphasizes frequent, regularly scheduled

one-on-one program updates and performance discussions between all supervisors and their staffs.

NS conducts regular office retreats (off-site), which foster group cohesion, serve to inform all members of the range and progress of all NS program activities, and involve work group members in strategic decision-making.

The office has also made more effective use of FEMA's award system. Additionally, staff training, including in-house cross training and training opportunities with counterparts from other agencies, remains an on-going office priority.

Use of Technological Innovations

Describe how your office has employed the use of new technology since 1992. Also describe ways in which old technology has been used in a new way, if applicable. How have these technological innovations affected your office's performance?

The Office of National Security Affairs (NS) has embraced technological innovations when it has proved to be cost effective. The emergency alert system move to automated switching technology provides increased security, reliability and less human intervention. A locator system converted from a DOS-based system to a Windows-based system and moved to new generation laptops. These improvements in technology have resulted in less down time, increased accuracy and more user/system flexibility.

NS converted its budget tracking system from a DOS-based system to a Microsoft application that is fully compatible with FEMA software standards. It has also made extensive use of relational databases for tracking survey results, rosters, personnel information, and project management. Automated systems and records management have made records retrieval easier, faster and more accurate.

The office is currently working to establish a back-up server capability at the FEMA COOP alternate facility to enable headquarters directorates and offices to access automated files normally used on a day-to-day basis.

Partnerships

What groups, organizations, companies or contractors are you now working with outside of FEMA. Summarize these partnerships and cite when and why each partnership began and how the working relationships have evolved. Provide insights about the partnerships in terms of how they have assisted your office in carrying out its functions and/or how they have contributed to FEMA's overall mission.

The Office of National Security Affairs (NS) works with the White House and National Security Council and many of its sub-groups. NS interacts regularly with all the departments and many agencies in coordinating continuity of government and operations programs. The primary interagency forums for these activities are the interagency advisory group and COOP working group. These two groups have benefited the

Director, as the Executive Agent for continuity of government and continuity of operations, in coordinating activities and products. Actions are staffed and concurred in by these interagency coordinating bodies on behalf of the respective departments and agencies.

Organizational Culture

How did FEMA's mission shift change the agency's organizational culture? (This question refers to FEMA's shift from a focus on National Preparedness to a focus on Emergency Management.)

FEMA's shift to an all-hazards emergency management focus has benefited the Office of National Security Affairs (NS) as the staff has identified new challenges, approaches and solutions to national security emergency preparedness programs in approaching them from the broader perspective of an all-hazards threat spectrum. Additionally, while the NS staff is primarily concerned with national security, support to the agency in disasters has given the employees a better understanding of the agency's overall mission.

Training

Describe any new training initiatives or changes in old training offered by your office to employees since 1992.

The Office of National Security Affairs (NS) initiated a formal sponsor program and new employee indoctrination program to facilitate the integration of new employees into the office and make them as productive as possible in the least amount of time. The program ensures a thorough and consistent exposure to those items critical to job performance and reduces the amount of learning time required and thus enhances office productivity. The program also has a very positive affect on individual and office morale.

Director Witt's Leadership

Describe director Witt's direct involvement with your division or sub-office during and after the major reorganizations took place. How has he been directly involved during major disasters or events since then? How has he been directly involved during non-disaster periods? Please provide specific examples.

Director Witt has been an exceptional communicator and very supportive of the Office of National Security Affairs. He communicates his vision, goals, and expectations to all employees through management as well as all-hands meetings. The Director's use of information technology to reach the staff and our customers through a broad and innovative band of media has inspired the staff to likewise seek new and interesting means of communicating guidance throughout the national security emergency management community.

Directorate and Office Leadership

(For Department Heads Only) How did your leadership as director contribute to changes in your office or directorate? What were your primary objectives and how did you attempt to accomplish them? What were your successes?

The Office of National Security Affairs (NS) keeps the Director informed and assists him in the development of policy consistent with the changing threat and the all hazards concept. NS also ensures programs are implemented in accordance with established policy.

A consistent objective of the office has been to ensure open and timely communications. NS has accomplished this through a hierarchy of communications channels. The office has weekly meetings where all staff members learn of current policies and guidance, and in turn are able to reciprocate with staff levels' concerns or suggestions. The Director schedules bi-weekly meetings with the division chiefs and has regular meetings with other senior staff within FEMA. Additionally, the office holds regular office retreats where staff members have an opportunity to share their projects with other staff, participate in team building activities, and discuss ways to improve office procedures and communications.

Another major objective that has been met successfully has been to improve efficiencies within the office. To accomplish this, the office established an action tracking system using an approved commercial software package. NS improved the office filing system enabling more efficient document retrievals and ensuring proper controls on classified materials. The office also acquired state-of-the-art automated data processing equipment to increase equipment reliability and reduce loss of staff time due to hard drive or server down time. Use of multiple local area networks has allowed NS staff to share information and coordinate actions in a timely fashion. NS has made maximum use of commercially available, FEMA Information Technology Services approved, software applications to improve office efficiency. In addition to action tracking, NS uses software applications to assist in personnel processing, budget tracking and project management.

Another important goal was to become more customer oriented. Towards this end NS established protocols for frequent and regular meetings with our customers and encourages day-to-day dialogue at the action officer level. NS developed customer support surveys and evaluates the responses for opportunities to improve support or communications.

These on-going actions have had great results. Successes are visible in improvements in the continuity of government and operations, and contingency programs. The office has received positive feedback from the emergency management community. There has been greater agency participation and support in national security emergency preparedness programs. There has also been an improvement in the coordination of activities and products. Agency and interagency projects are well coordinated and timely. The improved communications and coordination within the interagency community has served FEMA well in its executive agent role and has been critical in improving continuity of government and operations, and contingency program integration.

Future Direction

(For Department Heads Only) How do you see your office/directorate evolving in the next ten years?

The mission and organization of the Office of National Security Affairs (NS) will remain consistent with any changes to the all-hazards spectrum of threats. NS anticipates that in the near term, the majority of initiatives will occur in the continuity of operations program areas. The office will continue to ensure program coordination throughout the government through increased national and regional participation; and integrate continuity of government and operations, and contingency programs. NS anticipates greater interface with the federal community and the rest of FEMA, including the regions, as it continues to develop continuity of operations and continuity of government. It will continue to explore the integration of technology such as biometrics, communications, and automated data processing into program areas.

Disaster Operations

Describe your office's role on the EST. Summarize an experience your office had working on the EST during one major disaster or emergency since 1992. What exactly did you do and what kinds of challenges did you encounter? Be specific and aim to leave the reader with a good understanding of what function your office fills on the EST, as well as the challenges you face.

The Office of National Security Affairs (NS) fills multiple positions on emergency management teams, within and external to the agency. Supporting disaster response and maintaining office functions is a major challenge to NS and has increased the workload for those within the office. NS personnel responded to many hurricanes, including Bonnie and Georges in 1998, and Brett, Dennis, Floyd, and Lenny in 1999. Additionally, NS staff members participated in other response efforts such as the Y2K emergency support team.

Special Essays

Discuss the changes in Continuity of Government (COG), Continuity of Operations (COOP), and Critical Infrastructure Protection (CIP) since 1993.

One of the most significant changes in Continuity of Government (COG), Continuity of Operations (COOP), and Critical Infrastructure protection (CIP) since 1993 is the recognition that all three programs are interconnected.

Continuity of Government

The requirement to ensure that the United States has sufficient capabilities at all levels of government to meet essential defense and civilian needs during a national security emergency has been revalidated in the current issue of *A National Security Strategy for a New Century* and in recent Presidential decision directives. Changes to the Continuity of

Government (COG) programs have resulted from taking advantage of changes in technology, realigning programs to maximize efficiencies, and changing the scope of some supporting programs in line with changes in the all hazards threat spectrum. The current threat spectrum includes the entire family of weapons of mass destruction—nuclear, biological, and chemical agents—delivered by a wider base of adversaries including terrorists. Programs have been adjusted accordingly and maintained in compliance with administration directives and guidance and in accordance with applicable laws.

Changes in technology have led to modifications and increased efficiencies in several major programs. The emergency broadcast system evolved into the emergency alert system with primary entry points by taking advantage of state of the art communications technology. The new system provides for a more reliable, secure, and survivable system with less dependence on human intervention. Systems used to track key government officials have been modernized and provide increased features and reliability at reduced costs.

These changes, along with the increased inter-relationships with COOP and CIP programs characterize the direction in which COG has been moving. It is the closer ties with the other programs that are worthy of discussion. Collectively, the COG, COOP, and CIP programs of the federal executive branch of government ensure the capability of this branch of government to operate as a coordinated entity.

Continuity of Operations

In 1993, the Continuity of Operations (COOP) program within FEMA was relatively inactive, being limited primarily to maintaining FEMA headquarters and regional capabilities. In late 1994, the Response and Recovery Directorate published Federal Response Planning Guidance 01-94, *Continuity of Operations*. However, there was little other activity in the COOP program other than internal planning. The first major impetus to expand COOP occurred in 1998 with a triad of Presidential Decision Directives—PDD 62, *Protection Against Unconventional Threats to the Homeland and Americans Overseas*, PDD 63 *Critical Infrastructure Protection*, and PDD 67 *Enduring Constitutional Government and Continuity of Government Operations*.

PDD 67 formally designated FEMA as the executive agent for COOP for the federal executive branch of government. NS assumed proponentcy for COOP and commenced major COOP initiatives at the interagency as well as FEMA headquarters and regional levels.

At the interagency level, the COOP working group was established in early 1999 with FEMA as the chair. This organization serves as the primary interagency coordinating body, facilitates the promulgation of COOP guidance, and serves as an information-sharing forum. FEMA initiated efforts to establish COOP standards and issue current guidance to the federal community. FEMA published Federal Preparedness Circular 65 *Federal Executive Branch Continuity of Operations (COOP)* in July 1999. FEMA also initiated a COOP/COG assessment of the federal executive branch, which was completed in July 2000. FEMA developed interagency guidance for a COOP multi-year strategy and program management plan and is coordinating the development of a master COOP test, training, and exercises plan and guidance on selecting and maintaining alternate facilities for COOP.

At the Headquarters level, NS published the FEMA headquarters COOP plan. The office is developing templates for the directorates and offices to use in developing their essential functions and implementation plans. The office also developed and conducted a series of workshops for all of the directorates and offices at FEMA Headquarters. The last major initiative was to ensure a FEMA COOP capability at the regional level. NS produced regional COOP implementation plan templates to assist the regions in developing their own plans. It also developed regional test, training and exercises plan templates to facilitate regional planning. Additionally, NS is reviewing the draft regional COOP plans. Monthly conference calls among the COOP planners at the regions and headquarters have helped ensure the timely dissemination of best practices and other guidance.

Office of the Director

Special Essays

Discuss the implementation and significance of the International program and what role does FEMA play in that program. (i.e. Central America, Argentina etc.)

FEMA has a long history of interaction with foreign governments in the field of emergency management. The principle underlying this involvement is that FEMA, acknowledged as one of the premiere emergency management agencies in the world, possesses the skills and experience necessary to help other countries more effectively respond to and prevent disasters.

Much of FEMA's international activities have been in the form of emergency management partnerships signed with foreign governments. FEMA's Preparedness, Training, and Exercises Directorate has managed these partnerships. In addition, several high profile international initiatives have been handled out of the Director's Office during the last few years. All of these activities can be divided into three main categories: a consulting agreement between FEMA and the Government of Argentina; a Central America and the Caribbean technical assistance project; and international partnership agreements, conferences and exchanges.

- 1) In February 1999, FEMA signed a contract with the Government of Argentina (GOA) to help develop a national emergency management system and to establish pilot "Project Impact: Building Disaster Resistant Communities" projects. This project came about because of a reconstruction loan of several hundred million dollars the Inter-American Development Bank (IDB) provided to the GOA following El Nino flooding. As a condition of that loan, the IDB directed Argentina to explore ways to protect the international investment being made in the country. To satisfy this requirement, the GOA examined the emergency management systems of several countries and decided to contract with FEMA to obtain the technical assistance for the development of a federal system of emergency management.

To date, this system of cooperation among GOA agencies has been created by Presidential decree, plans for an emergency operations center, and an information and alert system have been drafted, and a social communications strategy has been developed. FEMA also participated in a training program for journalists and helped with the government's Y2K preparations. At the local level, FEMA is working to establish a "culture of prevention" by creating three pilot Project Impact communities. Plans also exist for FEMA to develop a project to demonstrate the application of state-of-the-art mapping technologies in preparing flood hazard maps, and to organize and conduct training seminars on these mapping technologies and risk assessment methodologies for national, provincial and municipal government officials.

- 2) On Sept. 29, 1999, FEMA signed an interagency agreement with the U.S. Agency for International Development (USAID) that provided FEMA with \$3 million over two years to participate in the U.S. government's (USG) reconstruction projects in Honduras, El Salvador, Nicaragua, Guatemala, Haiti, and the Dominican Republic. This agreement is the fulfillment of instruction from the U.S. Congress (contained in the 1999 emergency supplemental appropriations law) that FEMA participate in the USG reconstruction program. FEMA views its role in the reconstruction effort as serving as a model to these countries of an efficient domestic emergency management organization. Based on our experience in Argentina, FEMA's focus is on developing and strengthening national emergency management systems that emphasize the importance of disaster prevention. Therefore, at the national government level, FEMA is providing these countries with technical assistance, and knowledge based on experience, regarding the successful emergency management techniques used in the United States (such as the Federal Response Plan, emergency operations centers, state and local partnerships and capacity building, legislative authority for emergency management systems, and public relations strategies). At the local level, FEMA is working to establish a "culture of prevention" by creating *Project Impact: Building Disaster Resistant Communities* pilots in each country. *Project Impact* initiatives will be implemented using the "on-the-ground" assistance of non-governmental organizations trained in *Project Impact* strategies, supplementing their activities with visits from U.S. *Project Impact* experts.
- 3) As mentioned above, most of FEMA's international contacts and partnerships in emergency preparedness and disaster management have been handled by the Preparedness Training and Exercises (PTE) Directorate's International Affairs Unit. These partnerships are detailed in a separate essay produced by the International Affairs Unit. However, several activities that have included the personal involvement of Director Witt warrant mention. Director Witt visited Japan following the Kobe earthquake, New Zealand to discuss Y2K, and has been involved in conferences with emergency managers from the North Atlantic Treaty Organization (NATO) countries. Most recently, the director has participated in the following activities:
- FEMA was a co-sponsor of the U.S. Trade and Development Agency's "Building a Disaster Resistant Asia: Managing for the 21st Century" conference in Hawaii in April 2000. The director delivered the keynote address.
 - FEMA signed a protocol of intentions on May 26, 2000, with the Republic of Korea's Ministry of Government Administration and Home Affairs on "cooperation in natural and man-made technological emergency prevention and response." As part of this agreement, the director traveled to Korea in July 2000, and beginning in the fall of 2000, a representative of the Korean government will spend 18 months working at FEMA.

As this essay illustrates, the level of FEMA's international involvement, as well as the specific projects that emerge from FEMA's technical assistance, vary greatly from country to country. However, the overall goals of each of these projects remain the same:

- To elevate the role, authority and capabilities of the emergency management agencies in each country;
- To help create new or improved national emergency management plans that coordinate the activities of the different agencies in each national government;
- To design and establish efficient emergency operations centers capable of processing the information received from the equipment being placed in the countries;
- To develop pilot *Project Impact* communities that are actively working to protect themselves from disasters and serve as models to other communities.

FEMA is using its funding from the sources mentioned above to make real contribution towards improving the capacity of these partner countries to protect themselves from the impacts of the next disasters that are sure to strike.

Discuss the Algorithm Program, its creation and implementation and the overall effectiveness of the program.

In the aftermath of the Jan. 17, 1994, Northridge earthquake, FEMA Director James Lee Witt sought to improve the seismic performance of general acute care hospital facilities in Southern California. As the Stafford Act provides the FEMA Director with discretionary authority to fund measures that will reduce future disaster damages to eligible facilities, it was determined that a seismic hazard mitigation program for hospitals within the Northridge DR-1008-CA recovery would be a wise and prudent use of public funds. The primary goals of the initiative were twofold: to avoid the need to evacuate non-ambulatory patients; and to improve post-disaster operations so that hospital facilities would be available to disaster victims immediately following an earthquake. To accomplish this, the Seismic Hazard Mitigation Program for Hospitals (SHMPH) was established by FEMA in February 1996.

While limited to hospitals, SHMPH has been a key component of FEMA's ongoing all-hazard mitigation effort for public and private non-profit facilities. Since 1996, more than \$2 billion in funding has been provided to the 22 hospital campuses participating in SHMPH, specifically for measures that should greatly improve the future seismic performance of the mitigated facilities. Participation in the program was voluntary, though eligibility was restricted to hospital buildings that were structurally damaged by the Northridge earthquake, constructed prior to 1973, offering acute care services, and owned by eligible applicants.

Unlike the traditional mitigation assistance generally made available by Section 406 of the Stafford Act (addressing damage to a particular *element* of a facility), SHMPH considered the qualifying hospital building as a whole. This approach provided for a

much broader funding basis – i.e., upgrading the entire building or constructing a new one, consistent with established performance objectives – and reflected Director Witt's recognition of the role and importance of medical facilities in post-disaster earthquake recovery.

Under SHMPH, fixed grants were made available based on a defined cost-estimating methodology called the algorithm. The algorithm was a significant element of SHMPH, as it helped both FEMA and applicants avoid the detailed, time-consuming analysis of individual project designs that is part of the standard Damage Survey Report (DSR) process. Generally, an algorithm is defined as a step-by-step problem-solving procedure that involves a finite number of steps. The use of an algorithm as the funding mechanism within SHMPH was vital to the program's ultimate success.

The SHMPH algorithm was based on a FEMA-sponsored study of the actual costs of seismic rehabilitation projects, published in FEMA Publication 156/157 (*Typical Costs for Seismic Rehabilitation of Existing Buildings*, December 1994 [156] and June 1995 [157]). SHMPH used the algorithm to provide funds based on the average cost of a generic seismic retrofit of the same type and magnitude as the hospital upgrade projects funded by the program. The factors and multipliers in the algorithm were constant for all applicants and all buildings within each of the two established performance objective-based funding levels: immediate occupancy and damage control.

A higher level of funding support was provided for immediate occupancy-level hospitals – defined as those facilities with a post-disaster emergency function – than for damage control-level hospitals – defined as those facilities with major medical functions but a lesser post-disaster emergency role. The specific funding was determined by multiplying the square foot area of the hospital building and a fixed dollar-per-square-foot amount, which included an allowance for relocation costs during construction. For projects eligible for immediate occupancy-level funding, there was a “confidence factor” multiplier designed to address circumstances that could result in higher-than-average costs. Applicants were also permitted to supplement the federal funds beyond their cost-share amount.

Until another earthquake strikes Southern California, it will not be possible to fully measure the value and impact of SHMPH. There can be little doubt, however, that the program has represented a vital step in the building of more disaster-resistant communities throughout the region. By working in partnership, FEMA, the state of California and the hospitals participating in SHMPH have helped to ensure that the region will be better prepared to handle the devastating effects of future disasters. Already, SHMPH has served as a framework for FEMA in its continuing effort to modify and improve the services it provides. In April 2000, Director Witt authorized the formation of a project team to recommend changes to certain Public Assistance (PA) policies and procedures used in the aftermath of the Loma Prieta and Northridge earthquakes. Based on its review, the project team recommended that FEMA employ a mechanism similar to the SHMPH algorithm to help the agency make more consistent and expeditious funding determinations. This algorithm, to be known as the Accelerated Funding Method, will speed the final funding of projects by generating early, capped cost estimates that approximate what applicants would have received through the standard DSR process.

Whereas the algorithm within SHMPH was based on a single building type (since most eligible hospital buildings were of a similar structural system), the accelerated funding method will potentially be applied to all types and uses of buildings. This will necessitate use of a third performance-based objective: life safety, which is a standard less stringent than either immediate occupancy or damage control and more appropriate for repair of non-essential facilities.

As of August 2000, standard operating procedures and associated policies were being developed for use in the new, algorithm-based funding approach, which is part of a larger series of changes within the PA program designed to promote a quicker recovery for public sector applicants – and the communities they serve. Not incidentally, this new approach will also save significant taxpayer funds by necessitating a shorter on-site presence by FEMA staff after a disaster. In the years to come, too, FEMA will continue to search for progressive ways in which non-traditional tools like the algorithm can be used to make the provision of disaster relief more efficient and effective.

Discuss new internal outreach strategies since 1993. (Director's Open House hours, Director's Weekly and Rumor Mill)

Keeping all FEMA employees informed about FEMA policies, programs and activities has always been a top priority for FEMA Director James Lee Witt. He has personally been very accessible to employees and has sponsored the development of numerous communications mechanisms for bringing news and information to FEMA employees. Director Witt's communications strategy has its foundations in his commitment to customer service. In present-day management strategies that implement the concept of customer service, a critical component is the treatment of employees – who are internal and external "customers." It is vital that an organization ensure that all of its customers are dealt with openly and honestly. Keep them informed, make their communication with you easy to accomplish, listen to their concerns, and respond to their valued and valid input.

Director Witt exemplified his commitment to this goal by standing in the lobby of FEMA headquarters on his first day and greeting each employee as they arrived for work. Since that day, Director Witt has continued to be personally involved in keeping FEMA employees informed and a number of communications mechanisms have been developed and implemented to further facilitate the flow of information among agency employees and organizations.

These outreach mechanisms are listed below:

Director's Open Door Policy

Any FEMA employee can contact the director's office and schedule a one-on-one meeting with the director. These meetings, which traditionally occur on Tuesday mornings, allow FEMA employees to meet with the director to discuss issues of their concern. To date, over 50 FEMA employees have participated in open door sessions with the director.

Director's Report

During the agency reorganization in fall of 1993, the reorganization team published four *Director's Reports* that were distributed to all FEMA employees. The *Director's Reports* provided an update on the reorganization effort and alerted employees about ways they could provide input to the reorganization effort.

Brown Bag Lunches

Employees and supervisors have participated in brown bag lunches with the director to exchange ideas and to meet with FEMA staff from other agency organizations.

SES Breakfasts

During the reorganization in 1993, several briefings and reviews were held for the agency's senior executives to solicit their input into the reorganization effort. Following the reorganization, the director has continued to consult regularly with these senior managers through occasional breakfasts.

All FEMA Employee Memorandums

The director has authored hundreds of All FEMA employee memorandums in order to communicate critical agency news and messages directly to FEMA employees. These memos are distributed in hard copy and on the agency computer bulletin board to all FEMA employees.

All-Hands Meetings

Several all-hands meetings have been conducted in the past seven years. The first was held in November 1993 to announce the new organizational structure and staff reassignments. Subsequent all-hands meetings have been conducted annually to update employees on agency priorities and to present internal and external agency awards.

Director's Weekly Update

Starting in July 1994, the director's office has regularly published a two-page update for all FEMA employees. Each update includes a message from the director, information on FEMA policies and programs, and reports on FEMA employee and program activities. The update is published and distributed in hard copy and on the agency computer bulletin board.

The Rumor Mill

The Rumor Mill was first published as part of the second phase of the National Performance Review as a means to answer questions and address rumors about this effort in FEMA. It has continued, first as part of the *Director's Weekly Update* and, subsequently as a stand-alone document as a means to address employee questions and rumors. It is published in hard copy and on the agency computer bulletin board.

NPR2 Bulletins

Phase 2 of the National Performance Review (NPR2) was conducted in February 1995. During this period the NPR2 team published a weekly bulletin that updated employees on the progress of the project and to address rumors and questions through *The Rumor Mill*.

Employee Update

FEMA produces a daily update for the White House on ongoing disaster activities. This update is now also provided to all FEMA employees via the agency's email system.

Situation Reports

FEMA produces daily "Situation Reports" that provide detailed information about ongoing disaster activities. This information has traditionally been provided to the White House and other FEMA partners. It is now made available via agency email to all FEMA employees.

IMPACT Newsletter

This monthly newsletter, started in April 1998, is published by the Office of Public Affairs and distributed to all FEMA employees. It contains eight pages that include a message from the director, profiles of FEMA employees, personnel news and features on FEMA activities.

Quarterly Significant Accomplishments

Starting in FY 95, each FEMA organization has, at the end of each quarter, submitted a list of significant accomplishments achieved in the previous three months. A summary of these accomplishments is distributed to all FEMA employees as an attachment to a "Director's Weekly Update." This summary provided employees with a good idea of what was going on in each of the agency's organizations.

Walk Arounds

When the director first arrived at FEMA, he regularly would "walk around" the headquarters building introducing himself to employees and seeking their ideas and thoughts. Sometimes he just visited with employees. In the course of his tenure at FEMA, the director has often visited each of FEMA's 10 regional offices and FEMA's training/conference facilities at Emmitsburg, Md., and Mt. Weather, Va., to visit with employees.

Staff Meetings

Director Witt has repeatedly instructed FEMA's senior managers to hold regular staff meetings to keep their employees informed. He models this advice through his weekly senior staff meetings, weekly meetings with his office staff and his bi-weekly meetings with FEMA's associate directors and administrators.

Furlough Helpline

During the government shutdown, FEMA established an employee furlough helpline that employees could call to get an update on shutdown events and instructions on when and how to return to work.

FEMA Terrorism-Related Activities

Describe the work that FEMA does in coordination with the White House and the National Security Council on national security policy programs and plans related to terrorism.

Evolution of Our Involvement

Since 1995 FEMA's roles and responsibilities in terrorism-related preparedness and response have been steadily increasing. In 1995, the occurrence of the Oklahoma City bombing provided a major impetus for the increased involvement of FEMA and other departments and agencies in terrorism-related preparedness and response activities. The signing of Presidential Decision Directive (PDD) 39 on June 21, 1995, assigned FEMA the responsibility for consequence management of terrorism incidents involving weapons of mass destruction, and was reinforced by PDD-62, signed on May 22, 1998.

Consequence management includes response activities to protect public health and safety, restore essential government services, and provide emergency relief to governments, businesses and individuals affected by a terrorist incident. It also involves preparedness measures specifically tailored to terrorism requirements, includes planning, training and exercise activities to help develop a viable response capability.

In response to these directives, FEMA has been implementing an increasing number of terrorism-related programs and activities that involve several organizations in the agency. The Response and Recovery Directorate is responsible for terrorism-related consequence management planning and operations; and the Preparedness, Training and Exercises Directorate and the U.S. Fire Administration are responsible for providing grants and preparedness assistance to support planning, training and exercise activities involving emergency management responders and fire service responders, respectively. The regional offices also have been involved, particularly in support of the Department of Defense Domestic Preparedness Program aimed at providing training to 120 of the nation's largest cities. Regional offices also manage a terrorism consequence grant program providing funds to the states to support terrorism-related planning, training and exercise activities.

The responsibility for the overall program coordination has evolved from its placement in the Response and Recovery Directorate in 1995, to the Terrorism Coordination Unit established by the FEMA Director in 1997 to review agency initiatives and develop a multi-year strategy for FEMA's role in terrorism consequence management. Beginning in January 2000, it was placed in the Office of the Director under the Senior Advisor to the Director for terrorism preparedness, John W. Magaw. The senior advisor is responsible to keep the director informed of terrorism-related activities; develop and implement strategies for involvement of FEMA directorates and offices in terrorism-related programs and activities related to planning, response, training and exercises; and coordinate the overall relationships and interactions between FEMA and other federal departments and agencies involved in terrorism-related activities.

Early on, the senior advisor established an internal task force on terrorism to coordinate activities with key representatives from headquarters directorates and offices, and regional offices to review the current status of terrorism preparedness programs and activities. As a result, a FEMA terrorism preparedness strategic plan describing the

mission, vision, and goals for FEMA's terrorism preparedness activities that support the overall FEMA strategic plan was developed and published in June 2000. Also, a companion FEMA terrorism preparedness implementation plan describing specific roles and responsibilities of directorates and offices in headquarters, and the regions regarding the implementation of FEMA-wide terrorism preparedness programs and activities was published in August 2000.

FEMA has been tasked to provide input to several reports dealing with terrorism preparedness and response. Among them was a report to the President on *An Assessment of Federal Consequence Management Capabilities for Response to Nuclear, Biological or Chemical (NBC) Terrorism* developed by FEMA in conjunction with the Federal Response Plan community. A *Report to Congress on Response to Threats of Terrorist Use of Weapons of Mass Destruction* was developed by FEMA in coordination with the FBI and transmitted by the President to the Congress.

FEMA also is involved in a number of organizations and working groups dealing with terrorism-related issues. This includes the National Domestic Preparedness Office (NDPO) and its working groups, and the Weapons of Mass Destruction Preparedness (WMDP) and its working groups.

Scope of FEMA Terrorism-Related Activities

Planning

FEMA is using the Federal Response Plan (FRP) as the vehicle to coordinate federal consequence management preparedness and response activities. To meet terrorism-specific needs, in 1997 the Response and Recovery Directorate developed a special annex to the FRP to address the unique requirements of responding to a terrorist incident. In coordination with the FBI and other key agencies, FEMA is working with the FBI on a concept of operations plan (CONPLAN) that will guide the overall federal response to domestic terrorism. Also in the area of planning, FEMA grant assistance is being used to enhance planning resources and capabilities at the state and local levels of government. FEMA planning activities continue to build on the FRP and the Terrorism Incident Annex. FEMA also supports the development of federal plans for special events of high public visibility.

Training

FEMA has developed and delivered a number of terrorism-related courses for state and local emergency management personnel and first responders through the National Emergency Training Center, which includes the National Fire Academy and the Emergency Management Institute, and state fire and emergency management training systems to deliver training to state and local responders.

The National Fire Academy (NFA) developed and fielded several courses in the Emergency Response to Terrorism (ERT) curriculum. The first offering, a self-study course, provides general awareness information for responding to terrorist incidents and has been distributed to some 35,000 fire/rescue departments; 16,000 law enforcement agencies; and over 3,000 local and state emergency managers in the United States and is available on the FEMA internet site.

Other courses in the curriculum deal with basic concepts; incident management; and tactical considerations for Emergency Medical Services (EMS), company officers, and HAZMAT response. In 2000, the above courses are being updated and new courses on strategic command and advanced tactical management are being developed. ERT instructors representing every state and major metropolitan area in the nation have been trained to deliver this curriculum across the country. The NFA is utilizing the Training Resources and Data Exchange (TRADE) program to reach all 50 states and all major metropolitan fire and rescue departments with training materials and course offerings. FEMA is also using the Emergency Management Institute (EMI) to develop and deliver courses such as the integrated emergency management course on terrorism that uses a terrorist attack scenario. This four-and-a-half day team-building program includes classroom instruction and a tabletop exercise specifically tailored for emergency response leaders from a particular community or jurisdiction. EMI also offers the senior officials course for local officials as part of the Nunn-Lugar-Domenici city training effort. FEMA continues to emphasize the "train-the-trainer" approach, to leverage existing capabilities with performance objectives to accomplish training goals.

Exercises

FEMA is working closely with the FBI, other federal agencies and the states to ensure the development of a comprehensive exercise program that meets the needs of the first responder communities and other response elements. In May 2000, FEMA served as co-chair of the TOPOFF exercise.

OPERATIONS SUPPORT

Mission Shift to an All-Hazards Disaster Response

Describe how your office's mission and functions have evolved since FEMA changed its focus to an all-hazards disaster response. Describe the evolution of your division's mission and functions from 1992-2000.

Evolution of Operations Support Directorate

In early October 1994, FEMA's "new" Operations Support (OS) Directorate was established. The newly assigned associate director was given the task of making the directorate more "operationally responsive" in nature, rather than "administrative". More specific goals were also assigned, including improved operational readiness and response capabilities and improved accountability and cost reduction, particularly in disaster response. These goals have been consistently followed in OS since its inception and have produced the OS capabilities listed in this report, as of Jan. 1, 2000.

The following material demonstrates the challenges that presented themselves as the OS directorate grew in size and scope.

The Security Division has a significant role in ensuring the protection of national security information entrusted to the agency. Prior to 1993, the division's assets and responsibilities had been focused primarily on national security interests. From 1993 to 1994, the division began initiating programmatic changes to also ensure the protection of personnel and assets at all regional and field locations, with special emphasis on security support to the agency's disaster operations. The OS division currently manages a disaster assistance employee (DAE) cadre of security experts to provide immediate on-site security expertise to the federal coordinating officer and staff in disaster field offices. The division is responsible for the security of Emergency Support Team operations at FEMA headquarters, provides a FEMA Deputy U.S. Marshal for security support on the three emergency response teams, and provides security support and expertise to the General Services Administration in its role as disaster resource provider.

In 1995, the Security Division took on counter-terrorism activities in addition to its normal physical and personnel security functions. The division has become proactive in providing early assistance in the handling of potentially hostile situations, such as adverse personnel terminations, matters pertaining to violence in the workplace, threats, etc. The division has initiated emergency medical procedures to ensure that prompt and immediate medical assistance is provided, as needed. The division has assumed responsibility for making initial suitability determinations on applicants and employees. The division has also initiated programmatic and policy changes in the assignment and determination of agency position sensitivity designations to ensure that all personnel undergo appropriate background investigations.

Logistics continued to redefine its role within the agency and in response to disasters. Multiple warehouses managed by various FEMA organizations were consolidated into three major territorial logistics centers and two warehouses in both the Pacific and Caribbean offices. The Disaster Information Systems Clearinghouse operation continued to expand its role in recycling computer systems, printers, cellular phones, and facsimile machines used in disasters, thereby saving millions of dollars annually.

The Occupational Safety and Health Program Office mission is to develop, implement, and monitor an agency-wide Occupational Safety and Health (OSH) Program. The OSH office began on annual seed money of \$51,000, which has grown to over \$2 million annually over the past five years and is now implementing an accident tracking system. FEMA has seen considerable waning of complaints and non-compliance notices from the Occupational Safety and Health Administration (OSHA).

While changes in FEMA's mission have not substantially changed the safety and health program, some background is necessary to show the regulatory changes that set the stage for FEMA's current OSH program. In 1970, Section 19 of the Occupational Safety and Health Act required federal agencies to establish employee programs. In 1980, Executive Order 12196 restated that the Act applied to federal employees and led to the development of a federal regulation (29 CFR 1960) which introduced the Designated Agency Safety and Health Official (DASHO) and defined the administration and responsibilities for in-house occupational safety and health programs. In 1995 Director Witt affirmed his commitment to safety in a policy statement which was the starting point for the creation of the FEMA OSH program office. Bruce J. Campbell was appointed the DASHO and a safety director was hired.

An initial risk assessment had revealed that the majority of employee accidents and illnesses were occurring at disaster sites, so during its first two years the OSH program office focused on creating criteria for hiring and training disaster safety officers. The emphasis was quickly placed on obtaining funding and personnel to focus on reducing or eliminating the hazards that were leading to those losses. A group of highly trained professionals in safety, industrial hygiene and related disciplines were recruited and a disaster Safety cadre was established.

In 1996, "FEMA OSH Program Authorities and Responsibilities (Instruction 6900.5)" was published and within a year the "OSH Manual 6900.3" was published and implemented. In addition, a disaster safety audit program was instituted, the first safety publications were created and five info-grams were distributed. Safety committees were being formed at the fixed sites, standardized safety programs were being developed for use by the fixed facilities, and safety training emerged as a priority and was conducted at the first Territorial Logistics Center.

Prior to 1995, management of agency-wide rent expenditures was fragmented throughout various FEMA organizations, each managing its own field offices and warehouses. Upon congressional inquiry, FEMA at that time could not answer the question, "How much does FEMA pay annually for rent?" For the past five years, FEMA's government-leased and privately-leased facilities, FEMA-owned facilities and facilities occupied through interagency agreement have been painstakingly assembled into a single spreadsheet by the directorate's executive associate director. The spreadsheet contains detailed information on square footage, rates per square foot, common-use space, joint-use space, parking information, current year costs, and out-year projections for over 70 FEMA facilities. These facilities, of course, are funded through multiple appropriation sources and programs. It took five years, but FEMA can now answer the rent question. (See chart entitled "Agency Total Rent" for a summary view of this activity over the past five years.) The OS Program Services Division currently manages rental expenditures. Another major effort within the OS program services division was the consolidation of the furniture storage warehouse (Landover, Md.), the records storage facility at the

Washington Navy Yard, and the publications storage and distribution warehouse (Lanham, Md.) into one facility. This consolidation saves hundreds of thousands of dollars annually, and increases the efficiency of the operation and the use of personnel. The directorate has also taken on some major programs transferred from other FEMA organizations, such as:

- the closing of Palo Pinto storage facility in Palo Pinto, Texas
- the agency underground and above-ground storage tank removal program (currently under-funded at \$473,000 annually and requiring millions of dollars to complete), and
- the disposal of radioactive sources program affiliated with the former National Instrumentation Center Project, with funding authorized for fiscal 2001.

Management Reorganization

Describe how your office's senior management was reorganized in 1993. Have major changes in your office's management structure occurred since then? If so, what was changed and why was it changed?

Operations Support (OS) Management Structure

The Support Services liaison staff office was established in October 1994. At the onset it was perceived that there was a compelling need to have a central coordinating point of contact within the OS directorate for administrative, financial, personnel, and special projects.

In 1995, Director Witt committed the agency to provide a safe and healthful environment for all FEMA employees, contractors and visiting public, and to protect property from loss or damage. Shortly after the policy was released, a full-time safety director was hired, FEMA's Occupational Safety and Health Program office was created, and six additional employees were on board by 1998.

Before James Lee Witt's directorship, the Office of Security had a director and four security divisions. The reorganization changed the office name to the Security Division and the four former divisions were consolidated into two branches. The consolidation resulted in the loss of two division chiefs; one chief was reassigned outside of the Security Division and the other was reassigned to a staff position in one of the branches. There has been no major change in the management structure since that time.

The Program Services Division was called the Office of Administrative Services prior to the OS reorganization in 1994. That former configuration lacked the latest state-of-the-art information technology (automation) in many key areas, e.g., printing, printing procurement, correspondence tracking, postage accounting, electronic forms, and rent and personal property. The entire printing, graphic arts and publications storage and distribution sections were still operating with archaic equipment. Many of the functions - such as rent and personal property management - were largely focused at FEMA headquarters and not administered agency wide.

The division made great improvements in key functional areas since the current OS directorate was formed in 1994. Based on the tenets and principles of the National Performance Review, a number of steps were taken to streamline and improve the delivery of support services not only to FEMA headquarters but throughout the agency,

including regional offices and disaster field offices. Efforts to improve mission support services continue, via the procurement of state-of-the-art hardware and software and enhanced focus on customer service.

Rent Management

OS established, and is continuing, the development of a central control point for review and consolidation of all rent accounts, regardless of appropriation, internal source of funding, General Services Administration (GSA), or non-GSA, disaster support. The establishment of one central review point has improved controls over real property management. This approach has established a clearinghouse for management, review, accounting, and cost controls for the agency's real property.

Consolidated Warehouses

The three separate publications, furniture, and records warehouses were consolidated into a single 75,000-square-foot warehouse. A new five-year contract was awarded not only for storage and distribution of the agency's publications and forms, but also to store furniture and records. This ultra-modern facility is fully compliant with OSHA guidelines. By consolidating the warehouses, FEMA avoided over \$400,000 in expenditures it would have taken to bring the three separate warehouses into OSHA compliance.

Mail Management System

OS has completed the first year of implementation of the Mail Management System (MMS) throughout headquarters, regional offices, and disaster field offices. The MMS implementation was established for management control of mail operations costs, planning for the budget process, and ensuring that postal expenditures are properly recorded and accounted. The MMS implementation also provides the agency a systematic, consistent, and uniform postage accounting capability throughout the agency. Historically, mail handling operations have cost FEMA more than the \$2.2 million annual cost center. The MMS is now being utilized at more than 54 FEMA fixed sites and designated field offices throughout the country. The postage expenditures are currently being transmitted daily directly to a server located in the headquarters mailroom. This capability provides management with the means to prepare reports as needed to track postage expenditures, transaction volumes, and classes of mail being used. The central management of postage accounting, with a national contract administered by OS for mail systems, has resulted in cost avoidance funding for over 54 blanket purchase agreements and the capability to get the best rate for postage via MMS.

Correspondence Tracking

The Correspondence and Issues Management System (CIMS) has been operational since September 1997 as an initiative to centralize/standardize handling of controlled correspondence. CIMS is an automated correspondence tracking and control system that scans packages and electronically routes incoming correspondence to designated liaisons in all headquarter organizational components. There are 38 users, including the project officer and staff in the OS records management correspondence unit. All were initially trained in June 1997 and retained on the upgraded version of the software in August

1998. The software was upgraded prior to the August training and, since the implementation of CIMS, the number of concurrent user licenses increased from 10 to 50.

Publications Warehouse

The new FEMA publications warehouse further enhanced operational capabilities with the purchase and installation of the Warehouse Management System. Thoroughbred software has improved response time from four to six weeks to 24 to 48 hours. The new capability enables staff at disaster field offices to order and monitor publications stock levels using the FEMA computer network or dial-up modems. The ordering system is available 24 hours a day to support operations anywhere in the country, regardless of time zone differences.

Records Management

In support of the National Performance Review (Phase II) objective to streamline records, management efforts focused on support to a number of FEMA-wide facilities. Records Management Training, site visits and other assistance to headquarters, regions, fixed facilities and disaster field offices - including records clean-out and disposition - resulted in an increase in the volume of records retired to the Federal Records Centers. As of the end of fiscal 1999, FEMA had 22,296 cubic feet of records stored at National Archives holding areas throughout the United States. In addition, more than 1,950 cubic feet of FEMA-managed records were transferred to the National Archives and over 5,000 cubic feet of records were destroyed.

In-house Print Shop Enhanced Capabilities

The installation of two high-end duplicators has been completed in the printing shop. These duplicators have been connected to the FEMA local network and this capability enables employees to transmit their documents directly to the duplicator for reproduction. One duplicator produces 160 black-and-white copies per minute and the other prints 40 full-color copies per minute, providing the agency with superior digital capability. The accessibility of both copiers via the agency local-area computer network also adds to the exceptional capability that is being developed.

Full-Color Printing

Although full-color printing always looks better, it is expensive. Costs can be reduced significantly by alternatives such as using different type fonts, or selecting three colors instead of four (or two instead of three). The way to control printing costs is to establish an agency-wide policy based on existing congressional printing regulations.

Printing Work Planning

The printing, publications, and graphics staff is not usually part of the planning process on projects that have an end goal of producing printing products (*Project Impact*, Y2K, etc.). A member of the OS printing staff should be included in the planning process to ensure that all governing printing regulations are followed, but also to ensure that the least expensive processes are used. It is important to include printing staff in the initial planning stages on large new agency initiatives so that the printing office can prepare in

advance for these projects as they usually require additional monetary and staff resources that should be addressed at the start of the project.

In-House Printing

The printing presses of yesterday have been replaced with new high-speed digital duplicators. Presently, OS has two high-speed black-and-white duplicators (one is capable of producing 160 copies per minute directly from the FEMA network) and one analog duplicator capable of producing 120 copies per minute from camera-ready copy. There are also two full-color duplicators, both capable of producing 40 full-color copies per minute directly from the FEMA network. The three offset press operators have been trained in the use of the new digital technologies.

Printing Procurement Staff

The printing procurement staff and the FEMA publications warehouse staff were tasked with handling a huge new FEMA initiative called *Project Impact* in 1997. Director Witt's two appearances on the Larry King Show resulted in telephone requests being received for over 20,000 copies of the *Project Impact Kit*. The warehouse received an initial shipment of approximately 3,500 copies. An additional 20,000 copies were procured on an emergency three-day printing job. A request for 50,000 additional copies is presently at the Government Printing Office for printing.

Headquarters Space Allocation

To better prepare the FEMA headquarters workforce for a potential building relocation, resolve current space allocation inequities and improve headquarters space utilization and employee productivity, OS has created a space management plan to reallocate headquarters space against approved staffing ceilings.

Headquarters Building Relocation

The FEMA headquarters building relocation plan continues to be developed and the schedule accelerated as much as possible to acquire a suitable, safe and secure FEMA headquarters building for employees to discharge their mission responsibilities. The critical need to obtain and relocate FEMA headquarters requires the attention of at least two full-time employees.

Facilities Management Functional Assignment

The safety, security and consistency of FEMA operating facilities is impacted by not having anyone assigned the overall functional responsibility for agency-wide facility management. This current omission in assignments affects the overall mission accomplishment capabilities of FEMA employees and should be corrected as soon as feasible.

Headquarters Space Management Plan

The agency's space management plan implementation phase has been in progress for the past year and a half. The space management plan, designed to ensure fair and equitable distribution, was based on General Services Administration guidelines. It started with the tenants on the eighth floor and worked its way down to the first floor of FEMA

headquarters. The majority of the spaces located on the eighth floor have been redesigned and, in some offices, systems or modular furniture were used to ensure proper space utilization.

Dempsey Strategic Storage Center, Palo Pinto, Texas

OS has successfully concluded efforts to close the Dempsey storage center in Texas. This effort represents the expenditure of an enormous amount of time and work by OS Program Services division staff with individuals from various federal, state, and local jurisdictions. The storage facility was officially closed on May 1, 1999, but the closure process began with environmental assessment by U.S. Army Corp of Engineers—an effort necessary to identify remediation work needed to prepare the facility for disposal by the General Services Administration. The remediation work included removal of all underground storage and aboveground storage tanks, and hazardous materials. The large excess personal property inventory was transferred to agency, federal and state activities as surplus property, or sold at a public auction conducted by GSA. The county of Palo Pinto, Texas, also expressed an interest in purchasing the property. The sale of the property was finalized Sept. 8, 1999.

Agency-wide Fleetcard Management Program

First year of agency-wide fleetcard management program was successfully implemented. MasterCard allowed greater flexibility in fuel and maintenance purchases for FEMA's fleet cars. Timely submissions and close monitoring of invoices produced first-time rebates for the agency.

Graphics Function

In 1997 graphics became part of the Printing and Publications branch, to adhere to a function-based organizational plan. The unit moved into new and larger office space adjacent to other printing and publications activities. Equipment is current and meets the requirements. A specific contracting budget for graphics was put into place, allowing for better planning and execution of graphics projects allocated to outside private firms. Graphics is in a position to serve the needs of the agency in 2000 and beyond.

Forms Project

OS began a pilot of Jet Form Formflow software to make electronic forms available to FEMA. The operation was limited to 300 licenses and could not make the forms available on the intranet/Internet to all employees. In addition, FEMA is required under the Electronic Freedom of Information Act to make forms...available to the public via the Internet. This would have required additional funding resources to obtain the licenses needed to provide this capability to FEMA employees and the public. Rather than purchase the additional licenses, OS records management staff was able to purchase a software package at the end of fiscal 1999 that enabled anyone to access FEMA forms via the web. The software has been installed on the forms management server and on two personal computers in Forms Management where two administrators will manage it. Training was provided to the system administrator and the forms management staff Nov. 15-16, 1999. The system's table maintenance, directories, security profiles have been set up. A learning curve was anticipated as the forms management staff familiarized

themselves with the software and converted the paper forms, as well as forms designed using the Formflow software to the new DOCNET system.

Printing and Publications

OS streamlined agency printing and publications by assuming program support for the Cover America publications distribution operations. This latest initiative brings the agency closer to offering all of its publications from one central source. The costs saving alone for this initiative is over \$200,000 and other savings will be realized by allowing publications to be stored at a single site, eliminating the need for replication of expensive computer and warehousing equipment.

Headquarters Duplicator Replacement for Copy Centers

OS elected, after market survey and competitive analysis, to replace 50 percent of FEMA headquarters copiers from analog to digital copiers (approximately 80 percent of the headquarters copying production capability) that will produce and maintain more cost-efficient and effective copying reproduction. Also, OS complied with an environmental executive order by purchasing recycled (30 percent post-consumer-waste) paper for FEMA headquarters operations:

Customer Service Improvements

How has your office implemented FEMA's customer service policy? Please cite specific examples of research and/or surveys conducted by your office related to customer service. Also, cite specific changes that were made in the way your office does business as a result of the research and surveys that were done. Finally, give examples of specific improvements in the way your office has serviced its customers since 1992.

Operations Support and Customer Service

The Operations Support Directorate (OS) is committed to supporting agency customer service policies. All staff employees to date have had customer service training. After the Occupational Safety and Health (OSH) program office added two on-call safety professionals in 1998, began deploying disaster safety officers to disaster sites, and appointed 21 collateral duty safety officers, it was better able to address employee safety concerns at disaster and fixed sites. The appointment of collateral duty safety officers, along with the creation of safety committees at fixed facilities, gave employees a point of contact for their safety and health concerns. In addition, during the first annual Safety Awareness Month in 1999, employees were provided with safety and health materials. An audit provided an evaluation of the disaster safety and health program. One component of the audit was to assess how disaster safety officers handled employees' safety and health concerns.

The Security Division ensures the protection of personnel and assets and must respond to the needs of its customers in a timely and competent manner. Many of the security services involve responding to high-stress environments, such as medical emergencies, bomb threats, or employee disputes. The security division's success in meeting employee

needs is demonstrated by how quickly and unhesitatingly services are requested. The division receives many compliments about guards providing access control in a customer-friendly manner and responding appropriately to inquiries or complaints. The division's success is measured by the respect shown by others to division employees when they respond to crisis situations and during routine services, such as the issuance of identification badges.

The duties of a security organization sometimes include the handling of serious situations that involve negative outcomes, such as physical attacks or angry verbal conflicts between personnel. During such encounters, staff must conduct themselves at all times in a professional and competent manner when attempting to resolve or diffuse the situation. Another measure of success is the congenial relationships that the division has developed with management and employees when working together to minimize disruptive acts within the workplace.

The Logistics division has established an accreditation program for accountable property officers, providing professional development opportunities. Through survey forms for accreditation of employees wanting to qualify as an accountable property officer, 71 employees have been accredited since May 2000.

Another training class is the Property Management Training Course that provides day-to-day functional guidance, and standard operating procedures. Networking opportunities have been established for property managers - providing a method for sharing information through working groups, mailings, electronic mail, and presentations.

The creation of automated inventory control provided a customer-support organization dedicated to serving property management professionals in FEMA. Automated inventory control efforts include a 24-hour hotline and field trips to disaster field offices, regions, and other appropriate facilities.

Another customer service improvement was implementation of a Disaster Information Systems Clearinghouse web site where customers can get contact information, product listings, shipping/receiving addresses, general information about the clearinghouse and links to other agency web sites.

Cost Reduction

Give examples of your office's efforts to reduce costs from 1993 to 2000. Highlight specific successful efforts and be specific about where costs were actually reduced.

Safety and Security

Since 1995, Safety cadre members have worked, by conservative estimate, 36,000 hours at an hourly cost average of \$24 per hour and an aggregate cost of \$864,000. If contractors of equivalent training and experience were utilized, the cost would be over \$7 million. Use of the safety cadre has yielded savings of approximately \$6.4 million on the basis of salary alone.

The FEMA safety orientation training project provided consistency of training throughout the agency and saved the costs each FEMA site would have incurred for developing and arranging training individually. By producing outlines and much of the developmental materials at headquarters, minimal development costs of \$40,000 were expended, as

compared to the estimated costs of \$1.2 million to hire an outside contractor. This resulted in cost savings of approximately \$1,176,000.

Other training and awareness materials were produced. Since these were agency-specific, they were not available off-shelf. Since contractors were not used, cost savings are estimated in excess of \$1.5 million.

An Occupational Safety and Health Administration (OSHA) CD-ROM was customized by headquarters safety staff and was produced in conjunction with other federal agencies, resulting in cost savings of approximately \$500,000.

FEMA's Office of Workers Compensation Program costs increased between 1991 and 1995 from \$717,511 to \$1,566,783 - an increase of 118.4 percent. If cost had increased at the same rate from 1995 to 1999, the costs for 1999 would have been approximately \$3.4 million (twice as much), rather than the actual cost of \$1.7 million.

FEMA saved over \$400,000 through its rent account by consolidating warehouses, which avoided duplication and unwarranted charges.

The Security division has reduced security costs for guard service nationwide through installation of a nationwide automated access control system and maintenance of closed circuit television and alarm systems to enhance the security posture of facilities. Security costs for the new regional facilities in Atlanta, Ga.; Chicago, Ill.; Philadelphia, Pa.; the new national processing service center in Hyattsville, Md.; and at new disaster field offices were kept to a minimum through the conduct of risk assessments. Requests for new security initiatives and equipment from regional and field activities undergo a comprehensive review for adequacy and cost-efficiency before approval is granted.

Kits

Disaster Field Office Kits - Territorial Logistics Centers (TLCs) provided disaster field office kits to 36 field offices with an average dollar value of \$65,325 per office. The TLCs supported an unprecedented 17 field operations simultaneously during hurricanes Dennis, Floyd and Lenny in fiscal 1999. In fiscal 1999, the total value of disaster field office kits (used in lieu of purchasing new equipment) was \$2.37 million.

As of mid-2000, the logistics centers have supported five disaster field offices at an average kit cost of \$48,576 (a cost avoidance of \$242,882).

The agency logistics center is in the process of streamlining the disaster field office kit, thereby reducing the purchase cost. In addition, by working with FEMA acquisition staff, nation-wide blanket purchase agreements have been established to obtain competitive pricing and shorten the purchase timeline by decentralizing purchase authority to the TLCs.

Mobilization Center Kits - Logistics has established a baseline stock level of two mobilization center kits (flatbed trailer, two forklifts, communications and administrative equipment and supplies) in each territorial logistics center. In fiscal 1999, three kits were acquired and one was placed at each territorial center.

Disaster Field Office Kit Distribution Efforts - Logistics established a minimum stock level for disaster field office kits, which is 15 in the continental United States and one

100-person kit planned for each of the five Mobile Emergency Response Support (MERS) detachments. Currently a 50-person kit is pre-staged at MERS in Bothell, Wash., and one 100-person kit at MERS in Maynard, Mass. All five complete kits were due to be staged at the MERS detachments by mid-2000.

Disaster Information Systems Clearinghouse (DISC) Packages - Since June 1995, more than 95 percent of all DISC shipments have consisted entirely of recycled equipment. Cost avoidance figures increased by \$14.3 million in fiscal 1998, \$17.1 million in fiscal 1999, and more than \$2 million by the mid-point of fiscal 2000. The cumulative total to date is over \$50 million in cost avoidance. Managing over 23,000 items, the DISC maintained an annual inventory accuracy of over 99.5 percent for the last two years.

Initial Response Resource Support (IRR)

Generators - Logistics established a minimum stock level of ten 50-packs of generators distributed as follows: two in each of three territorial logistics centers (300 total), two in the Caribbean area office warehouse (100 total), and two in the Pacific office warehouses (100 total). The current emergency generator readiness is 92 percent system-wide, up from 76 percent in early 2000 (763 of 825 generators are fully mission capable). Logistics is establishing a regular operations and maintenance program for stored generators, which will save considerable money by using FEMA-contracted service technicians rather than U.S. Army Corps of Engineers (USACE) personnel and subcontractors. This initiative is pending a decision by the chief financial officer.

Plastic Sheeting

Logistics established a minimum stock level of 50,000 rolls of plastic sheeting distributed to the territorial logistics centers, Mobile Emergency Response Support (MERS), and remote storage sites. During fiscal 1999, Logistics worked with technical experts and USACE to develop a new specification that would give the same level of performance at a much lower cost to the taxpayer (saving \$60 to \$100 per roll). It also established a procurement mechanism using several vendors to perform surge production during disaster times. This will dramatically reduce the ramp-up time for manufacture and delivery of the product. In fiscal 1999, Logistics distributed equal amounts of plastic to all five MERS (3,472 rolls of plastic sheeting) and increased stock levels at the Caribbean and Pacific remote storage sites.

Initial Response Resource Support (IRR) Operations

The agency logistics center has aggressively pursued pre-positioning an equal distribution of initial response commodities at remote storage sites to enhance immediate response capabilities. In 1999, 237 generators were pre-deployed, resulting in a total transportation cost avoidance of \$190,228.

Enhancements to Improve Logistics Support to Operations

Changes in Facility Capabilities - The eastern territorial logistics center (TLC) moved from a WWII structure with one loading dock (shared with Red Cross) to a brick structure with more than six docks.

The central logistics facility relocated from a WWI single loading dock warehouse to a brick structure with multiple dock capability. These relocations have markedly enhanced the load-out capabilities of the territorial centers.

The Pacific area remote storage site has been relocated to a significantly improved warehouse facility enhancing both storage and shipping capabilities. The new space comfortably holds all of the pre-positioned emergency generators and has the capability to hold additional initial response resource assets.

Coordination Mechanisms - Logistics oversaw the inclusion of a new logistics management annex in the Federal Response Plan (the multi-agency strategy for dealing with large-scale events). This annex provides a new framework for coordinated, inter-agency federal logistics efforts in support of disaster operations.

Logistics established the FEMA Logistics Advisory Group (FLAG) as a means to systematically deal with logistics challenges faced by the federal response community. In fiscal 1999, three FLAG working groups were established: mobilization center operations, movement coordination, and resource tracking. (For achievements, see Interagency Logistics Process Initiatives)

The Mobilization Center operations working group met three times last year and then disbanded after successful completion of their mission.

The Movement Coordination and Resource Tracking working groups met in December of 1999 and reconvened in January 2000.

In fiscal 1999, Logistics established a contact group to improve internal coordination of logistics planning and establish standard FEMA logistics doctrine. The group—which holds monthly conference calls—includes regional logistics points of contacts, Mobile Emergency Response Support (MERS) logistics chiefs, the Department of Defense liaison, representatives from FEMA headquarters Response and Recovery, Operations and Plans, and representatives from the Logistics Division.

In fiscal 1999, the first corrective actions meeting that focused on logistics issues was held. More than 80 interagency participants focused on actions following the 1998 hurricane season.

Interagency Logistics Process Initiatives - In fiscal 1999, Logistics used the advisory group process to develop a concept of operations and guidelines for identifying mobilization centers, resolving the interagency dispute of who runs the centers by establishing a multi-agency management team. The new concept was used seven times during the 1999 hurricane season and was evaluated by an interagency team three times. In 1999, mobilization center documentation was established and is moving through the review process.

A concept of operations overview, a mobilization center start-up conference call checklist, and an evaluation process checklist were developed and approved by the FEMA Logistics Mobilization Center working group. As a result, the “Mobilization Center Concept of Operations” - which includes an interagency mobilization center management team as the decision makers - has been formally adopted and was in place for 2000.

Logistics participated in testing the U.S. Department of Transportation’s new concept of operations for the Movement Coordination function.

FEMA Logistics provided staff to the Movement Coordination Center and the new Emergency Transportation Cell four times over the past hurricane season. Based upon

various assessments by the movement coordination partners, more work needs to be accomplished on identifying functions, roles and responsibilities, and concept of operations. The FEMA logistics advisory group is currently addressing these issues, having conducted its first meeting in December 1999, with a follow-up in January 2000.

State of Logistics Technical Support and Training

Emergency Support Team (EST) Logistics Section - Logistics staff spent over 15 weeks in EST disaster operations in 1999, participating in the following EST Logistics section activations: NATO 50th Anniversary; May tornadoes (Oklahoma, Kansas, Texas); Hurricane Bret; Hurricane Dennis; Hurricane Floyd; Hurricane Irene; Hurricane José; Hurricane Lenny; and Y2K operations.

Property Retrieval and Disposal Efforts - Logistics Readiness spent over 650 worker-hours aiding FEMA Region II, the Caribbean area office, U.S. Army Corps of Engineers (USACE), and FEMA Region III in restoring or disposing of over four million gallons of excess water acquired from the hurricanes Georges and Floyd operations.

In support of Region II and the Caribbean office, agency staff spent 3,330 worker-hours coordinating with USACE to retrieve, return and rehabilitate generators sent to Puerto Rico for Hurricane Georges.

Automated Inventory Control

(AIC) Support - Since its beginning in 1996, the AIC has provided support to over 150 disaster locations. Currently, the AIC group supports over 500 users. In fiscal 1999, the AIC expanded the use of logistics information management systems (LIMS) to 44 disaster locations. In 1999, the AIC group reduced the cost of outstanding inventory at closed disaster field offices by more than \$2 million.

Automated Property Management System - The Automated Inventory Control (AIC) group issued 196 site codes in fiscal 1998 for both station and disaster mission property, increasing to 270 site codes in 1999, which indicates a growth in system use.

In fiscal 1999, 87 personnel were trained on the automated property management system. Before 1998, logistics information management go-kits were utilized as stand-alone servers. In the last year and a half, LIMS (logistics information management systems) has been configured so that it can be downloaded onto a laptop or desktop computer from an intranet web site. LIMS go-kits are no longer routinely issued, thus improving the availability, convenience, and cost-effectiveness of establishing LIMS at disaster sites.

Personal Property Operations Program - As a result of an Inspector General report in September 1999, stating the need for an accountable property officer credentialing program and cadre, the Personal Property Operations Program was initiated Jan. 20, 1999. The program is responsible for the training, credentialing and oversight of FEMA's accountable property officers and property managers.

The program also provides agency membership entitlement with the National Property Managers Association to support the professional development of accountable property officers.

Logistics Cadre Program

As of January 2000, Logistics maintained a total of 95 disaster reservists (44 on board, 42 pending paperwork; four in Automated Inventory Control; five at the Disaster Information Systems Clearinghouse/DISC) and are interviewing 96 new candidates. Several reservists were deployed in support of the territorial logistics centers, emergency support team (EST) logistics section and various disasters during the year. The Logistics cadre customer base expanded this year, supporting not only the territorial centers and the EST logistics section but also the Emergency Transportation Center, the DISC, and mobilization centers, Region II regional operations center and New Jersey disaster field office for Hurricane Floyd.

Results-Oriented Incentives

How has your office adapted new ways of motivating employees and improving program performance? Specifically, which methods of reward or accountability practices have been implemented? Cite specific criticism and praise that prompted such changes in your office, if applicable.

Operations Support; Recognition and Awards

The Operations Support Directorate (OS) has established and managed the committee that administers the FEMA reward and recognition system, which serves as a key motivational tool. A Safety awards program was developed to:

- Recognize individuals who contribute to the advancement of the Occupational Safety and Health Program office's strategic plan.
- Provide a timely venue that encourages employees to recognize their peers, supervisors, staff and teams for their accomplishments in the safety field.
- Provide an opportunity for employees to be recognized for their safety suggestions.

There are three awards: The Meritorious Safety Achievement Award to encourage and recognize outstanding accomplishments by individuals involved in safety. The second award is the Outstanding Safety Committee Award, and the third is the Distinguished Safety Service Award.

Group Recognition Awards – The Miles Romney Award was given by General Services Administration to OS in recognition of the Logistics division's commitment to innovative property management initiatives. All members of the FEMA property management team deserved credit and were proud of this award given by an outside agency.

The National Property Managers Association awarded the FEMA property management team with special recognition for commitment to professional development, education and accreditation of employees in the field of property management.

Use of Technological Innovations

Describe how your office has employed the use of new technology since 1992. Also describe ways in which old technology has been used in a new way, if applicable. How have these technological innovations affected your office's performance.

Operations Support: New Technology

With the installation of new computers, Operations Support (OS) services liaison office has met the highest agency standards as set by Information Technology and has been able to access new systems. The use of the FEMA intranet web sites allowed the Occupational Safety and Health Program office to place safety information within reach of all employees and to make safety training material available to disaster safety officers and collateral duty safety officers. For example, disaster safety officers can now download training presentations and handout materials and then customize the materials to their location's needs. Disaster safety officers can also use digital cameras to document safety hazards at disaster sites.

The use of computer-based training expanded with the implementation of interactive CD-ROM safety training courses for collateral duty safety officers. A computerized safety information management system was installed to collect and track data for accident, injuries and safety program training.

The Security Division provides formal training through a variety of accredited schools and seminars to its staff for career development. The division provided training to 32 Security disaster assistance employees in August 2000 on the use of an automatic external defibrillator, cardiopulmonary resuscitation, and first aid. This training will enable security personnel to provide immediate medical attention during medical emergencies at disaster field offices or other FEMA facilities. Additional new training initiatives are listed elsewhere in the OS section.

The Logistics Division, with creation of an interactive bar-code interface, enhanced their information management program with bar-coding capabilities and improved reporting tools.

Logistics inventory management software allows for the tracking of thousands of pieces of equipment and the production of inventory documents, hand receipts and various reports.

Wireless local area network technology has made bar-code scanning and logistics inventory management very mobile and has drastically decreased the amount of time needed to conduct wall-to-wall inventories. The new technology also has greatly improved the accuracy of inventories and shipments/receipts.

A wireless phone system allows greater freedom of movement in a warehouse environment and ensures that employees can always be reached.

Special dial-up codes and laptop computers allow travelers to access FEMA information systems from remote locations. This is beneficial to frequent travelers who need to maintain e-mail contact with their offices and also to accountable property officers for dialing in to the logistics information management servers in order to perform their job duties.

Partnerships

What groups, organizations, companies or contractors are you now working with outside of FEMA. Summarize these partnerships and cite when and why each partnership began and how the working relationships have evolved. Provide insights about the partnerships in terms of how they have assisted your office in

carrying out its functions and/or how they have contributed to FEMA's overall mission.

Operations Support: Partnerships

The Occupational Safety and Health (OSH) program office has worked with several outside organizations to further the safety mission. For example, the OSH office has participated in the Metropolitan Washington Federal Safety and Health Council since 1995 and in fiscal 1999, Bruce Campbell, executive associate director, received an award for his and FEMA's support to the council. The Infectious Disease Prevention Program was introduced in fiscal 1999 with the assistance of Federal Occupational Health and as of Aug. 15, 2000, over 4,000 vaccinations have been given. Additionally, FEMA Safety Director, Monica Parsley, served as the fiscal 2000 chairman of the Federal Safety Director's Roundtable.

The Logistics division is a member of the National Property Managers Association (NPMA). The partnership was initiated in January 1999 to establish cost-effective basic property management courses for FEMA. This provided a source to support the development of agency property managers by providing a network of professionals with whom to share information. This enables FEMA to implement an accreditation program for agency accountable property officers. The NPMA provides the network of property professionals to enhance the reutilization of government assets.

The division is also a member of the Interagency Committee for Property Management. This is a General Services Administration (GSA) initiative, open to all government agencies. The committee updates agencies on information dealing with property management issues and solicits input from all agencies on policy and program changes. The Logistics division has been a participant since February 2000.

The Security division is a member of the following interagency committees:

1. The executive associate director, Operations Support directorate, represents FEMA on the Security Policy Forum, established under the Joint Security Executive Committee and the Security Policy Board (SPB). The SPB coordinates and recommends, to the president, implementation of policy directives for U.S. security policies, procedures and practices. The SPB is the principal mechanism for reviewing and proposing to the National Security Council legislative initiatives and executive orders pertaining to U.S. security policy, procedures and practices that do not fall under the statutory jurisdiction of the secretary of state.
2. The security policy forum considers issues; develops initiatives and obtains department and agency comments on these initiatives for the policy board. It evaluates the effectiveness of security policies; monitors and guides implementation to ensure coherence and consistency; and oversees the application of security policies to ensure that they are equitable and consistent with national goals.
3. Facilities Protection Committee - A committee established under the Security Policy Forum that is concerned primarily with physical and technical security policy matters.

4. Technical Security Working Group - A group established under the Facilities Protection Committee that is concerned primarily with technical surveillance countermeasure policy matters.
5. Telecommunications Security Working Group - A group established under the Facilities Protection Committee that is concerned primarily with security policy matters on telephones, pagers, portable electronic devices, etc.
6. Training and Professional Development Committee - A committee established under the Security Policy Forum that is concerned primarily with development of security training programs and policy.
7. Personnel Security Committee - A committee established under the Security Policy Forum that is concerned primarily with personnel security investigative, adjudicative, and security clearance programs and policy.
8. Classification Management Committee - A committee established under the Security Policy Forum that is concerned primarily with classification and declassification programs and policy affecting national security information.
9. Threat Requirements Committee - A committee established under the Security Policy Forum that is concerned primarily with threat assessment.
10. Interagency Training Center Advisory Board - FEMA chairs the board. The board serves as an advisor to the Interagency Training Center concerning the training and accreditation of U.S. technical surveillance countermeasure personnel.
11. Federal Bureau of Investigation – The Interagency Terrorism Working Group is concerned with terrorism matters and the Interagency Facilities Protection Working Group is concerned with security matters affecting facilities.
12. Department of Treasury – The Alcohol, Tobacco, Firearms (ATF) Operations Security Law Enforcement Working Group (newly formed) is concerned primarily with planning, conducting, and managing security programs and security-related activities for the law enforcement community.

Participation with the above organizations enables FEMA to be a partner in the development of U.S. security policies and maintain appropriate liaisons with the security community to ensure that FEMA personnel, assets, and activities are afforded appropriate protection for accomplishment of FEMA's mission, goals, and objectives.

Deregulation

What was your office's role, if any, in helping to get rid of unhelpful regulations within FEMA? How has deregulation efforts at FEMA resulted in the development of new innovations by employees in your office? How did deregulation improve your office's ability to respond more effectively during disasters?

Operations Support: Deregulation

In 1997 the reporting structure changed for safety officers who were deployed to disaster sites. The disaster safety officers began reporting to the federal coordinating officer

instead of to the administration chief. This new streamlined reporting structure allowed for more efficient and effective implementation of the safety and health programs at disaster sites. The DSO began to participate fully in staff meetings, which ensured that the disaster field office staff had direct access to safety and health information. Prior to 1996, FEMA safety and health program development was the responsibility of individual organizations within FEMA. With the development of the Safety Manual, 6900.3, in 1996 by the Occupational Safety and Health (OSH) program office, FEMA safety and health policy would now be governed by a single document that provided a standard safety and health program. Individual organizations within FEMA could use this document as the basic program and customize it so that it addressed their own site-specific safety and health needs.

A presidential initiative provided added emphasis for implementation of the FEMA OSH program with the directive to: "...make the safety and health of every federal worker a central value in federal workplaces...that this new focus on safety and health in the federal government will result in fewer injured workers, significant cost reductions, and an enhanced ability to serve the American public."

Organizational Culture

How did FEMA's mission shift change the agency's organizational culture? (This question refers to FEMA's shift from a focus on National Preparedness to a focus on Emergency Management.)

Operations Support: Shift in Priorities

The Disaster Information Systems Clearinghouse, the Automated Inventory Control, and the Personal Property Operations Program (PPO) were all born as a direct result of the shift in agency priorities and mission from Cold War national preparedness to all-hazards emergency management and mitigation. Additionally, the logistics inventory management program (as a software package) and the heightened concern for the management of agency personal property came about as a direct result in this shift.

The all-hazards approach has made employees feel they are participating in the overall objective of people helping people. This in turn has provided them with some personal pride for the job they perform in FEMA. This results in a common bond among all agency employees.

Training

Describe any new training initiatives or changes in old training offered by your office to employees since 1992.

Operations Support: Training Initiatives

The support services staff has the Operations Support (OS) directorate lead in administering training and education for the directorate. OS staff have been encouraged

to aggressively develop career educational paths, mutually agreed on by both employee and supervisor. OS has been acknowledged as the leader in educational and training activities within FEMA.

The Occupational Safety and Health (OSH) program office in fiscal 1995, initiated safety and health training. Training evolved from just two classes for new disaster safety officers in fiscal 1996 to the following:

- Safety management presentation in fiscal 1996 for the federal coordinating officer cadre.
- A major revision in disaster safety officer training classes in fiscal 1998 and refresher training for experienced disaster safety officers was added the following year.
- Employees/supervisors safety orientation training began in 1999 and, as of July 2000, 1,742 employees were trained.
- Several new safety programs were introduced: hazard communication, blood-borne pathogens, forklift safety, and infectious disease prevention.
- Safety committee members received their first training in fiscal 1998.
- A CD-ROM safety training course was developed for collateral duty safety officers.
- General education of all employees has expanded with the distribution of info-graphs and pamphlets on a variety of topics such as the president's seatbelt initiative, falls, and infectious diseases.
- Safety reference libraries were established at fixed facilities.

The Security division provides formal training through a variety of accredited schools, seminars, etc., to its staff for career development. The division provided training to 32 Security disaster assistance employees in August 2000 on the use of an automatic external defibrillator, cardiopulmonary resuscitation, and first aid. This training will enable our security personnel to provide immediate medical attention during an emergency at a disaster field office or other FEMA facility. Additional new training initiatives include the following:

1. Advanced Physical Security Training Program at the Federal Law Enforcement Training Center (FLETC)
2. Crisis Management Training Program, FLETC
3. Introduction to Criminal Investigation Training Program, FLETC
4. Firearms Instructor Training Program, FLETC
5. Smith & Wesson Armorers School Program
6. National Crime Information Center Training Program, U.S. Postal Service
7. Certified Instructor Program, Nonviolent Crisis Intervention, Crisis Prevention Institute, Inc.
8. Calibre Press Street Survival Course
9. Counter-terrorism Analysis Course, Defense Intelligence Agency (DIA)
10. Counter-terrorism Perspectives for Senior Managers Seminar, (DIA)
11. Smith & Wesson Tactical Pistol Firearms Course
12. Smith & Wesson Advanced Pistol Firearms Instructor Course

13. FEMA Firearm Instruction
14. U.S. Secret Service Executive Protection Course
15. Automatic External Defibrillator Course
16. Cardiopulmonary Resuscitation Course
17. First Aid Course
18. Intelligence Community Physical Security Seminar, Central Intelligence Agency
19. Advanced Adjudicators Course, Central Intelligence Agency.

In partnership with the National Property Managers Association, 103 FEMA employees were trained in basic property management in 1999, and 17 in 2000. Property management certification training has been provided to 40 employees in 1999 and the accreditation of 71 accountable property officers has occurred since May 2000. The Personal Property Operations office has spearheaded training in basic property management and in property management for FEMA personnel. The program was initiated in January 1999 and is responsible for training, credentialing and oversight of FEMA's accountable property officers and property managers. These efforts have improved the efficiency and quality of the inventory management workforce as a whole and have brought recognition and a sense of professionalism to the organization. The automated inventory control section has provided vital training on the use of the logistics inventory management system (LIMS II) as well as follow-on support to the user community. This training has become essential in the development of professional property managers.

Director Witt's Leadership

Describe director Witt's direct involvement with your division or sub-office during and after the major reorganizations took place. How has he been directly involved during major disasters or events since then? How has he been directly involved during non-disaster periods? Please provide specific examples.

NOTE: This is a two-part response since my experience with Director Witt's "direct involvement" involved two separate FEMA leadership assignments: FEMA Region II, New York (August '93-May '94) and the "new" Operations Support Directorate (October '94 to the present).

REGION II Experience

By Bruce J. Campbell, Executive Associate Director
Operations Support Directorate

My direct involvement with Director Witt began when he assigned me to be the acting Regional Director of Region II in late August 1993. His specific tasking was to "straighten out the Region" and make it operationally capable of discharging the FEMA missions in Region II, which includes New York, New Jersey, Puerto Rico and the U.S. Virgin Islands. My arrival on Monday morning in New York City preceded Hurricane

Emily by approximately 48 hours, which illustrated both the director's sense of management timing, as well as his sense of humor!

At Emily's approach, Region II developed and activated a regional operations center (ROC) by noon that Monday using the regional director's conference room. Regional Federal Response Plan emergency support agencies were called in at 0900 on Tuesday for an operational status briefing on Hurricane Emily. The advance Emergency Response Team (ERT-A) was deployed for the very first time to an existing disaster field office in New Jersey as a pre-disaster asset to assist the state.

The following morning I accompanied New Jersey's Gov. Florio, on a combination preliminary damage assessment and walking press briefing to emphasize that the federal government and state were prepared and on scene to assist the damaged communities and any potential victims. Luckily all the damage was minor and New Jersey was able to initiate their advertising campaign promoting the South Jersey Beaches as safe and open for the upcoming Labor Day weekend, two days away!

After the successful "baptism by fire" with Hurricane Emily, I commenced implementing the rest of the director's tasks, as well as guiding the regional staff through the major FEMA reorganization effective November 1993. The leadership and positive management changes I provided to Region II were a direct result of the clear guidance and continuing support I received from Director Witt throughout my assignment.

For example, the guidance that the director provided to me and the other nine regional directors set the course for implementing his personal vision of what an emergency management organization should be, as well as how it needed to be structured to perform the mission effectively. That allowed us to implement the new organization and provided opportunities for employees to pursue different career paths. It also revitalized the entire agency to a more functional orientation that eliminated a great deal of duplication. The director insisted that FEMA regions be standardized to mirror the four major organizational blocks at headquarters, setting the stage for the new, more consistent and effective FEMA. Without that personal involvement and direction, FEMA changes would have been impossible to achieve and I sincerely believe there would not be a functional FEMA in place today.

A more specific example of Director Witt's pre-disaster planning involvement was the director's strong belief that we, as regional directors, needed to be more proactive in our dealings with the states, particularly state emergency management directors. To this end, the director tasked the regional directors to establish written agreements with each state emergency management director delineating FEMA's responsibilities and the state's actions and preparations for major disaster occurrences. This new and innovative approach laid the foundation for the highly effective state and federal emergency management partnership that exists today. I accomplished the director's tasking and had signed memorandums of agreement for each of the four Region II political jurisdictions within 60 days.

As I participated in the swearing-in of the permanent Region II regional director in May 1994, the region had been successfully restructured in accordance with the 1993 FEMA reorganization plan and was operationally capable of discharging the FEMA mission in all of its assigned political jurisdictions.