

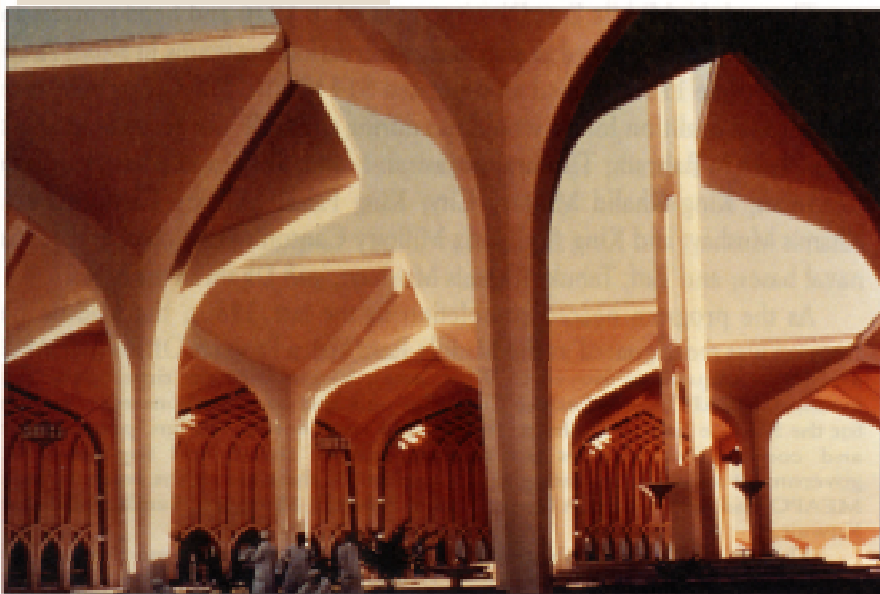
CHAPTER 2

The Corps of Engineers Responds

The U. S. Army Corps of Engineers has maintained a presence in Saudi Arabia since the 1950s and has been responsible for constructing facilities and infrastructure that were critical to the successful deployment and support of U.S. forces during Operation DESERT SHIELD/DESERT STORM. The Corps' longstanding relationship with the Saudis enabled Corps personnel to contract quickly for services and construction and lease facilities to accommodate U.S. forces. The challenges of deploying and sustaining Corps personnel overseas were great, but the support that they provided to U.S. forces was invaluable.

Corps' Presence in Saudi Arabia

The Corps first became involved in Saudi Arabia in 1951 when it began rebuilding an airfield at Dhahran, using U.S. Air Force funds. After its completion in 1956, the airfield became an important stopover for U.S. Air Force and Navy aircraft. The Corps finished constructing the Dhahran civil air terminal at the Dhahran airfield in 1961. In May 1965, the U.S. ambassador to



In 1961 the Corps completed the U.S.-financed Dhahran civil air terminal.

Saudi Arabia and the Saudi minister of foreign affairs signed the Engineer Assistance Agreement in which the United States agreed to provide advice and assistance for construction of certain military facilities for the Saudi Ministry of Defense and Aviation.

The Corps worked on a fully reimbursable basis, with the Saudi government paying for all design and construction. Under the agreement, the Corps constructed three military cantonments: King Faisal Military Cantonment near the Yemen border, King Abdulaziz Military Cantonment at Tabuk south of the Jordanian border, and King Khalid Military City in the north. King Khalid Military City, finished in 1988, had facilities to support a projected population of more than 50,000, an airfield, a hospital, and an engineer center and school. Other work under the agreement included a headquarters complex for the Royal Saudi Air Force, an airborne and physical training school, King Abdulaziz Military Academy, the port at Ras al Mishab, and a headquarters complex and officers club for the Ministry of Defense and Aviation.

Beginning in the early 1970s, the Corps managed the design and construction of an expansion of Saudi naval facilities while the U.S. Navy acted as overall program manager. In the Royal Saudi Air Force program, the Corps provided contract and construction management support to the U.S. Air Force Logistics Command for two major efforts to upgrade aircraft support facilities.¹

Through its Middle East Division, created in 1976 and headquartered in Riyadh, the Corps managed design and construction programs in Saudi Arabia that by the late 1980s totaled an estimated \$14 billion. The Corps built many facilities that coalition forces would use during the Gulf War to include Shaikh Isa air base in Bahrain; Thumrait, Masirah Island, Seeb, and Khasab air bases in Oman; King Khalid Military City; King Faisal Military Cantonment at Khamis Mushayt and King Abdulaziz Military Cantonment; Jubail and Jeddah naval bases; and Taif, Tabuk, Khamis Mushayt, and Dhahran air bases.

As the program neared completion in the late 1980s, the Middle East Division was redesignated as the Middle East/Africa Projects Office (MEAPO), and its headquarters moved to Winchester, Virginia. At the time of the Iraqi invasion, MEAPO served as the Corps' design and contract construction agent for the Middle East and Africa. It provided engineering, design, procurement, and construction services for foreign defense forces and for other U.S. government agencies operating in the region. At the time of the Iraqi invasion, MEAPO had field offices in Egypt, Oman, Bahrain, Morocco, Saudi Arabia, and Kuwait.²

The decades-long reimbursable program in Saudi Arabia was designed not only to provide the host nation with military cantonments and naval facilities but also to prepare the Saudis to maintain them and to execute future



U.S. forces extensively used King Khalid Military City, a \$6 billion facility near the Iraqi border.

construction programs themselves. Through this program, the Saudi Arabian and U.S. governments developed a bond of mutual trust that became important during Operation **DESERT SHIELD/DESERT STORM**. Some argue that the Saudis' experience with the Corps helped convince government officials that they could ask the United States to come into their country and that the United States would respect their customs, do professional work, and leave when the work was completed. The "nation assistance" benefits from the programs were critical to the success of the Gulf War.³

Corps' Presence in Kuwait

The Corps' involvement in Kuwait dated back to World War II when three Corps employees went to Kuwait to supervise the assembly of prefabricated barges used to transport war materials up the Tigris and Euphrates rivers. The Corps' next involvement came in the late 1970s and early **1980s** when it sent personnel to locate building sites for the American International School. In the early 1980s, Middle East Division personnel helped build shelters for a Hawk missile system that the Kuwait Air Force had purchased from the United States.

The division established a small resident office in Kuwait headed by Cesar Santucci. As the Hawk missile system work progressed, the Kuwait Air Force asked the Corps to evaluate the design it had proposed in a contract to expand its computer system. The Corps modified the contract and opened it to competitive bidding, saving Kuwait an estimated \$500,000. Over the next six

years, the resident office helped Kuwait design and develop a flight training center and other facilities.

When Iraqi troops invaded on 2 August 1990, Santucci was in the United States on vacation, but four members of his staff were trapped in Kuwait City: Chito Gomez, an electrical engineer from the Philippines; Mohammed Khan, a civil engineer from Pakistan; Bobby Higgins, a civil construction representative from the United States; and Thomas Omar from India. Vernon Nored, an employee from the Corps' Europe Division was in Kuwait on temporary assignment to provide electrical engineering assistance. He had been scheduled to leave Kuwait in late July, but had agreed to stay on until Santucci returned from vacation. Ron Webster from the Corps' Construction Engineering Research Laboratory was in Kuwait on leave at the time. These Corps employees were among the more than 200 Americans trapped in Kuwait City by the Iraqis. Each has his own harrowing account of the invasion and its aftermath.

Ron Webster was awakened by loud blasts at 5:00 A.M. on 2 August and watched anxiously from his hotel room as Iraqi soldiers marched through the streets below. Webster became even more alarmed later that day when an unruly band of Iraqi soldiers looted and took over his hotel. On 18 August, the Iraqis moved Webster and the other Americans at his hotel to the American Embassy, so-called "Camp Kuwait." The captives scraped meals together out of the embassy's emergency food supply. Temperatures at the crowded embassy reached more than 120 degrees. When the air conditioning system gave out, the captives congregated outside around the pool.

Webster, a professional engineer, helped keep the facilities running, especially the water supply. When the Iraqis shut off the embassy's water, the captives dug a well. Webster installed a well casing that he crafted from 55-gallon drums and set the pumps. The residents used the brackish well water for bathing and laundry. On 9 December, the Iraqi Ministry of Foreign Affairs picked up the few Americans remaining at the embassy, including Webster, and flew them to Baghdad, Iraq. From there they flew on to Frankfurt, Germany, and to freedom.

Bobby Higgins, who had been in Kuwait since 1987 monitoring the construction of training facilities for the Kuwait Air Force, was also jolted awake by the sound of gunfire on 2 August. Realizing the danger, he left his home only once during the next three days. Eventually Higgins and his wife Odessa moved into the embassy compound. Iraqi officials indicated that after 24 August they would no longer recognize the embassies in Kuwait. On 23 August, the U.S. ambassador decided to move the Americans to Baghdad in a caravan.

Higgins and his wife planned to join the caravan. The American hostages who set out before dawn on 23 August tried to drive fast and keep their vehicles close together to prevent the Iraqi escorts from cutting in and separating them.

When an Iraqi vehicle abruptly pulled into the five-car caravan, Higgins crashed into the car in front. His wife was rushed to a Kuwaiti hospital with a broken hip while the rest of the caravan continued on to Baghdad. When the first hospital could not treat her, she and her husband were taken to a second hospital filled with Iraqi soldiers carrying machine guns.

As Bobby Higgins left the embassy on 24 August to visit his wife in the hospital, the ambassador warned him to return before noon or he would be on his own. With his injured wife confined to the hospital, he knew he would not return. Later, three Kuwaiti ambulance attendants told Higgins they were moving his wife and asked him to turn over their identification and wallets. The attendants carefully bandaged his head and arm. As the ambulance raced through the streets, he realized that he and his wife could be killed if caught. The drivers took them to yet a third hospital. The hospital director indicated that Higgins could remain as long as he wanted "under observation for a concussion."

Days later, the Canadian Embassy said that the Iraqis had promised to take them to Baghdad on 1 September and release them. Although Higgins and his wife were skeptical when soldiers arrived on 1 September to transport them to Baghdad, they went along. They flew from Baghdad to Paris on the same flight as the Rev. Jesse Jackson who had been trying to secure the release of some of the American hostages. On 2 September, they arrived safely in Washington.

Vernon Nored, a former Marine, remained inside his hotel until 15 August, observing Iraqi troop movements and marking map coordinates to locate bunkers and stored ammunition for the U.S. Embassy. When Nored finally ventured out, Iraqi soldiers stopped him at a checkpoint, commandeered his car, and made him chauffeur them around. Like Higgins, Nored moved to the American Embassy and joined the caravan of Americans that headed for Baghdad on 23 August. Rather than releasing the hostages when they arrived in Baghdad as promised, Saddam Hussein detained them in buildings at or near the U.S. Embassy. Days were filled with uncertainty and boredom.

Nored worked as chief of maintenance and repair, servicing alarms, air conditioners, refrigerators, washers, and other items in the nine buildings. During the long months of captivity, Nored repeatedly risked his life leaving the embassy compound to search for food and water. On 9 December Nored and the other hostages were taken to Baghdad's airport where they joined the Freedom Flight carrying Webster and the remaining hostages from Kuwait to Frankfurt and on to the United States⁴

Mohammed Khan had taken his first assignment with the Corps in 1963 as a State Department employee and had worked in Saudi Arabia for 13 years and in Kuwait for 5 years. Twenty-eight days after the invasion, Khan and his wife Saeeda left Kuwait, traveling through Baghdad to Amman, Jordan, and on to their home in Pakistan. He would return to work in Kuwait in May 1991 as chief of the contract administration branch.

Chito Gomez was assigned to the Kuwait resident office in 1987 to work on the flight training center. He had just returned from vacation in the Philippines when the invasion occurred. Gomez was stunned when he received an early morning call on 2 August informing him that the Iraqis had invaded. He had always considered Kuwait "one of the safest countries in the world." Gomez quickly contacted his supervisor, Bobby Higgins, who advised him not to leave his apartment. The Philippine Embassy also directed him to stay put. Gomez, who lived near the Kuwait International Airport, saw his first Iraqi tank around 10:00 A.M. He quickly bought all the canned goods and rice that he could for his neighbors and friends.

He burned his Kuwait Air Force identification card in a skillet on the kitchen stove. Gomez had heard that the Iraqis were arresting and questioning Filipinos who worked for the Kuwait Ministry of Defense. He kept his American Embassy identification card and his passport but arranged to get a travel document so if stopped by the Iraqis, he could avoid showing them his passport. Gomez also knew that Iraqi soldiers were stealing cars, so he kept his rental car filled with gas near his apartment building where he could watch it and be ready to escape across the border if given the opportunity.

The situation in Kuwait City became increasingly menacing during the second week of the occupation. Previously Gomez had visited with Nored whose hotel was nearby, but Nored's visits became too dangerous. Nored, an English-speaking African-American, drew too much attention in Gomez's Filipino neighborhood, and Iraqi soldiers had begun arresting Westerners and Europeans.

Hussein announced first that he would allow Kuwait residents to cross the southern border into Saudi Arabia, as long as their vehicles were registered in the driver's name. Since Gomez's car was rented and he had nothing to prove ownership, he worried that Iraqi soldiers would detain him at the checkpoints. Moreover, the Philippine Embassy warned its citizens not to flee because Iraqi soldiers at the checkpoints were reportedly dragging Filipinos from their cars and assaulting them.

Hussein closed the Saudi Arabian border and announced that Kuwait's residents could flee to Jordan, but only after going through Baghdad. On 23 August, anticipating Hussein's closing of the foreign embassies in Kuwait, the Philippine Embassy directed its citizens to leave the country. Gomez and his neighbors now decided to head for Jordan. Pooling their food and fuel, they formed a convoy of six cars.

Iraqi guards detained Gomez at the checkpoints because he did not have the required car registration. When the guards demanded documentation, Gomez pretended he did not understand what they wanted. Meanwhile, women in the convoy tried to distract the guards with water and food. The guards let Gomez pass and after a long, frightening drive, the group arrived safely in Baghdad. Gomez hired a bus to take his group on the next leg of their

journey. They entered Jordan early in the morning on 27 August. American Embassy officials put Gomez on a flight to the Philippines. Gomez's commitment to his work was so great that he returned Saudi Arabia in mid-November to work in the Corps' Dhahran office as an electrical engineer. He returned to his apartment in Kuwait City in mid-March only to find that the Iraqis had stolen all his belongings, except a few family pictures.⁵

The Corps Deploys to Southwest Asia

The Department of Defense had designated the U.S. Army Corps of Engineers as its contract construction agent throughout the Middle East and Africa, except Somalia, Kenya, and Djibouti. MEAPO was the Corps' executive agent for this mission in Saudi Arabia. In 1986 the Corps had signed a memorandum of agreement with Third Army, which established the Corps' role in providing engineer assistance to Third Army. In the memorandum, Third Army agreed to fund all the Corps' work on its behalf during peacetime and contingency operations. [See Funding Corps Activities, page 63.] The Corps agreed to provide an organization in the theater under the operational control of the 416th Engineer Command.

On 2 August, when the MEAPO commander, Colonel William Miller, heard that Iraq had invaded Kuwait, he knew immediately that his staff would be deeply involved. The next evening, they began planning an organization that could support the operation. Miller's predecessor, Colonel Fred Butler, had been keenly interested in contingency planning, and MEAPO drew on those earlier plans for the Middle East. As Miller and his staff developed their plans that first week, they addressed such issues as how to recruit and prepare volunteers and what kind of equipment would be necessary.⁶

At the time of the invasion, MEAPO's new deputy commander, Lieutenant Colonel Charles "Stoney" Cox was vacationing with his family at Myrtle Beach, South Carolina. Cox had served as Jacksonville District's deputy engineer for Puerto Rico and the Virgin Islands until his transfer to MEAPO on 1 July 1990. On 2 August he looked up from his golf game to watch A-10 attack planes from the Myrtle Beach air station fly training missions overhead. At the time, he little suspected that a month later he would watch the same A-10s fly out of King Fahd International Airport in Saudi Arabia.

Cox returned to work the following Monday to find that MEAPO's emergency operations center was open and planning was well underway. Miller decided to send Ben Wood, a project management chief, to deploy with Third Army and also to prepare Cox to deploy in case Third Army officials preferred a military officer. MEAPO's logistics staff provided them with all the necessary equipment, and its engineering division put together a deployment package including generic construction designs; mapping data on Saudi Arabia and Bahrain; engineer data files; and lists of construction contractors, construction material suppliers, architect engineers, geotechnical firms, surveyors, and well

drillers in Saudi Arabia and Bahrain. The engineering division also assembled all available data on well drilling (including existing water wells in Saudi Arabia) and other issues.

In the first week, MEAPO sent Cliff Longfellow to CENTCOM headquarters to represent the Corps. Longfellow reported daily to the South Atlantic Division headquarters in Atlanta and to the Corps headquarters in Washington, D.C.

In drafting an organization, Lieutenant Colonel Cox drew heavily on his recent experience after Hurricane Hugo in Puerto Rico and the Virgin Islands. He also drew on the expertise of some of his senior staff who had experience in the Middle East. Together they combined their disaster response and mobilization planning experiences. MEAPO planners knew they would need real estate, contracting, and construction capability. Yet, they had little good information about how many troops would deploy, the estimated length of their deployment, or what their mission would be. They also knew from their experience with overseas operations that they needed a flexible organization to communicate and coordinate between MEAPO headquarters and its forward element. They crafted an organization of 36 positions to serve in Saudi Arabia as MEAPO(Forward).⁷

Meanwhile, Colonel Miller conferred regularly with his immediate superior, Major General John Sobke, commander of the Corps' South Atlantic Division. Sobke directed Miller to draft plans for integrating his staff into the military air flow.

During the first week after the invasion, Corps members and Third Army representatives had frequently discussed ways to fund the Corps' activities in support of Operation DESERT SHIELD. At first, Third Army officials indicated that they would not support the Corps. They saw no urgent need for a Corps' presence in the theater and did not want the expense of paying salaries to Corps civilians. As the discussions bogged down, Colonel Miller called Third Army's chief of staff, Colonel John Jorgenson, a former Army War College-classmate and close friend, and pleaded for financial support. Jorgenson reluctantly transferred \$100,000 to MEAPO to cover initial operating costs. [See Funding Corps Activities, page 63.]

At that point, General Hatch; Major General Peter Offringa, the assistant chief of engineers; and Colonel Pylant convinced Third Army that the Corps should at least deploy a small advance party. Miller wanted a few people in the theater to demonstrate how the Corps could provide services.

Miller, Cox, and Wood decided that Wood should deploy first while Cox stayed to organize the flow of other people. Wood was selected because of his overall project management experience and familiarity with the MEAPO staff. In addition, he had 16 years of experience in the Middle East and detailed knowledge of the facilities the Corps had constructed in Saudi Arabia in the 1980s. Wood later conceded, however, that the Saudis were not using and

maintaining some of the facilities as originally intended, so familiarity with certain Saudi officials proved more beneficial than knowing the facilities. Wood traveled to Fort McPherson on 10 August to deploy.⁸

Wood and Lieutenant Colonel Kenneth Cargill from Third Army waited two days for a Military Airlift Command flight. After being repeatedly bumped from military flights, the frustrated travelers returned to MEAPO headquarters. At the direction of General Hatch and at the expense of the Corps, MEAPO put the two men on a commercial flight from Dulles International Airport to Riyadh on 13 August. Arriving in Riyadh the next day, Cargill and Wood were met by personnel from the Corps' Ordnance Program Division who steered them through customs and provided them with accommodations for the night and a rental car. [See the Ordnance Program Division, page 57.]

After visiting ARCENT headquarters the next morning, Cargill and Wood left for Dhahran. When they arrived, they found their way to the headquarters for ARCENT's support command in time for General Pagonis' evening "sit-down" briefing. They found Pagonis and his small staff operating in a small auditorium in the U.S. Military Training Mission's recreation center. Cargill and Wood received a chilly reception from Pagonis, who wanted to know why they were there. Pagonis was irritated by a recent letter from Forces Command indicating that he would be "irresponsible" if he did not use MEAPO assets. Pagonis directed Wood and Cargill to return early the next morning to explain how they could assist him. Soon after that meeting, Wood set up operations at a table in the corner of the auditorium.⁹

On 11 August Forces Command had directed the Corps to deploy a five-person team to provide contracting capability for construction, real estate, and other engineering support that ARCENT required in Saudi Arabia. The team was to report to Pagonis by 16 August. Soon after, the ARCENT engineer, Lieutenant Colonel Tomasik, told Miller not to deploy any more Corps personnel. He explained that Pagonis saw no need for them at the time and refused to fund their deployment. At that time Pagonis did not fully understand what MEAPO was or what it could contribute. Initially unaware of the services the Corps could provide, other military officials also resisted deploying Corps personnel. ARCENT was concerned about the potential expense of using Corps civilians.¹⁰

Cox arrived in Riyadh on 15 August with an advance team—contract specialists Julius "Bo" Bounds from MEAPO and Ed Slana from the Mobile District, real estate specialist John R. "Rick" Thomas from the Savannah District, and construction representative Ceasar Santucci. Contracting, real estate, and construction were the areas where the Corps expected work. These people became the nucleus of MEAPO(Forward) or MEAPO(Southwest Asia) as it came to be called.

Ordnance Program Division personnel met the team at the airport and provided accommodations, rental cars, facsimile machines, and other materials

needed to set up operations in Dhahran. They also provided start-up funds for MEAPO(SWA) and hired local workers as support staff. Meanwhile, Cox met with CENTCOM officials to discuss the current situation.¹¹

Cox and his team drove to Dhahran on 17 August. Arriving in Dhahran, Cox went immediately to the support command headquarters to report to General Pagonis. Pagonis curtly asked Cox why he was there. What could the six Corps people do for him, he queried. Cox indicated that he wanted to bring in the rest of his advance party, but the general showed little support. Instead, he quickly tasked Cox to lease facilities for arriving troops. Pagonis and his staff knew they had to get units out of the sand and sun so they could operate effectively.

At the time, the only engineers in the theater were from the 307th Engineer Battalion (Airborne), 82d Airborne Division, from Fort Bragg. These engineers had no equipment with them and no real capability to execute the growing engineer construction workload. Units arrived daily with no place to stay. Cox immediately recognized a large real estate requirement. So did Pagonis' engineer, Lieutenant Colonel Cargill. "As soon as we got into the real estate business," Cargill explained, "the flood gates opened." Cargill sat at the "engineer desk," a picnic table in the middle of the auditorium, and took requests from units all day long.¹²

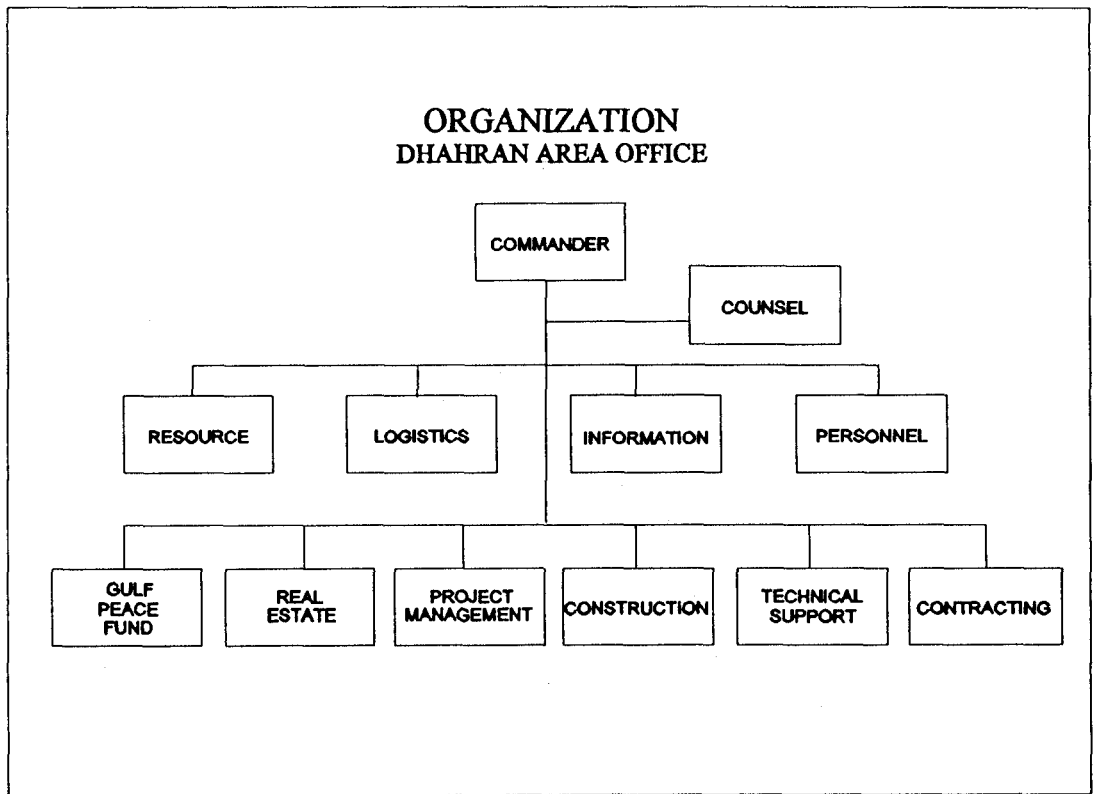
Cox returned from Pagonis' briefing the next morning with an even longer list of taskings, including the construction of sunshades. Troops from the 101st Airborne Division arrived daily with their Black Hawk helicopters that had to be reassembled. If left unprotected from the searing desert sun, the helicopters became too hot for mechanics to touch.

Other early requirements were field latrines. Units pushing into the desert needed adequate sanitation facilities. Pagonis directed Cox to work with an engineer from the 7th Transportation Group, Captain Tony Gardner, who had been detailed as Pagonis' engineer. Pagonis instructed Gardner to build a burn-out latrine similar to those used in Vietnam, but the young captain did not understand. Pagonis finally asked Gardner to recall the latrines used in "Platoon," a Hollywood movie about Vietnam. Gardner put together the first engineer contract, a supply contract for latrines, showers, and washstands. On 20 August, MEAPO(SWA) awarded contracts for latrines and sunshades.¹³

Cox and his team successfully demonstrated to Pagonis they could contract for the facilities that he needed. Forty-eight hours after giving the Corps these missions, Pagonis authorized Cox to bring in the rest of the advance party, up to 30 people. The only question that remained was who would pay for deploying and maintaining the Corps personnel. Pagonis had several phone conversations with General Hatch who agreed to provide the necessary funds until the matter was resolved. Eleven more people deployed on 22 August. The first six had operated out of the U.S. Military Training Mission's headquarters at King Abdulaziz air base for the first week until Pagonis took over that

building for his headquarters. Cox then moved his growing staff into the Al-Bustan compound in Dhahran.¹⁴

After assessing the situation firsthand, Cox modified the organization that he had helped build back in Winchester to include more real estate specialists. The Corps' organization in Dhahran took the shape of a mini-district in which Cox functioned as the district engineer. Bo Bounds managed the contracting operation and acted as the personnel officer. Wood headed the engineering technical branch and served as Cox's deputy. Santucci served as the chief of construction.



The small staff worked long hours, under intense pressure. They had little information about existing engineer assets or anticipated troop arrivals. Troops poured in so quickly that the staff had difficulty meeting the immediate requirements and no opportunity to plan for future needs. "We were so busy putting out fires in Dhahran," Cox explained, "and no one was looking ahead."¹⁵

The first week and a half was confusing for the MEAPO(SWA) personnel. They received verbal taskings at Pagonis' morning briefings. Wood then defined the taskings from a technical viewpoint, and Bounds and Santucci shaped the requirements into a contract package that they could put out for bid. These

verbal taskings could change between the evening briefing and the next morning briefing.¹⁶

In late August, as the number of Corps people in the theater approached 30, Hatch and Sobke decided they needed a senior colonel at CENTCOM headquarters in Riyadh. Cox had little time to travel between Dhahran and Riyadh. Sobke and Hatch instructed Miller to deploy to Riyadh and support CENTCOM.

Specifically, Hatch directed Miller to sort out fragmented construction requirements, serve as the Corps' liaison with the senior staff at CENTCOM and ARCENT, and be assertive as the Defense Department's contract construction agent.

Hatch also told Miller to make

sure the Corps provided real estate support to all services, not just the Army. Miller would not run the Corps' operation in the theater but would act as its senior representative. He would set up a small organization in Riyadh and leave Cox to manage the day-to-day operations from Dhahran.¹⁷

Miller arrived in Riyadh the evening of 1 September to find chaos at CENTCOM headquarters. Staff officers were staking out claims for office space and equipment. Both the ARCENT and CENTCOM staffs were preoccupied with finding desks, office space, and telephones, leaving little time for engineer planning. Miller convinced the CENTCOM engineer, Colonel Braden, who had just arrived, that he needed to be nearby and adeptly located himself next to Braden in the Gulf Cooperative Council building.

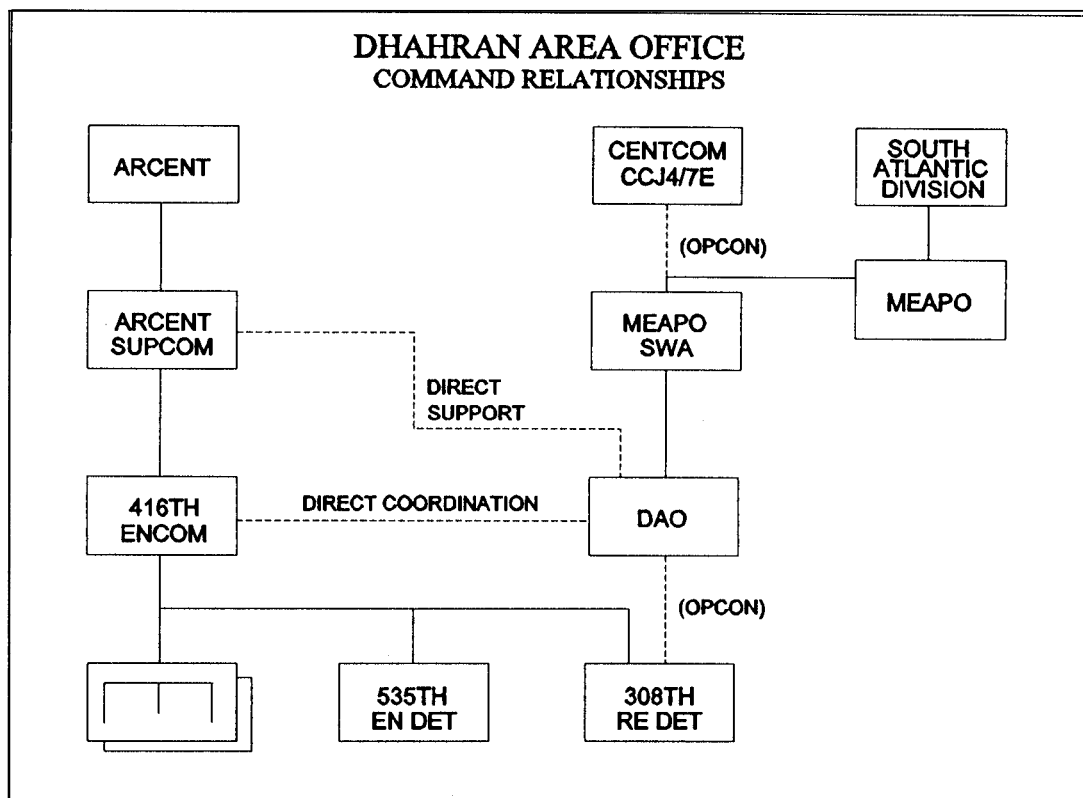
The day after his arrival, Miller visited with Brigadier General Abdulaziz Al-Otaishan, the director general of the Ministry of Defense and Aviation's General Directorate of Military Works, with whom he had worked as a young officer during the Saudi construction of the 1970s. In a cordial but strained two-hour meeting, the old friends discussed engineer support of Operation **DESERT SHIELD**. General Al-Otaishan indicated that he would provide "full support to the United States, anything needed," but complained that U.S. commanders had not effectively made their requirements known. Later that



Colonel Eilliam Miller, commander of MEAPO(SWA), set up operations at CENTCOM headquarters in Riyadh.

day, Miller met with the ARCENT deputy commander and chief of staff, Brigadier General Robert Frix, and the ARCENT staff logistician, Brigadier General James W. Monroe, to discuss MEAPO support.¹⁸

On 6 September, Miller drove to Dhahran where he found Cox's office running smoothly. Miller attended the evening briefing at which Pagonis expressed his satisfaction with the Corps' support. "We found out," Pagonis told his assembled staff, "how essential it was to have MEAPO in the flow early." Returning to Riyadh, Miller reported to General Sobke that the support mission was expanding as troops poured into the theater. He warned that the South Atlantic Division and MEAPO had to prepare to deploy "significantly more people" in late September and early October to handle base camp construction. On 11 September, the MEAPO(SWA) operation in Dhahran—now with 37 people—formally became the Dhahran Area Office.¹⁹



Command and Control Issues

Some confusion existed initially about who controlled MEAPO(SWA). Contingency plans specified that it would work directly under the 416th Engineer Command, but the 416th had not yet deployed. The war plans said nothing about MEAPO(SWA) working directly for ARCENT. As the Department of Defense's contract construction agent, MEAPO(SWA) had to be able to support all services.



Jim Ellis and Ben Wood share space in the Corps' Dhahran Area Office

On 3 September, Miller had a strained meeting with General Starling. Starling was upset that General Pagonis had unfairly “grabbed” MEAPO(SWA) to work for him and insisted that it be a theater asset under CENTCOM’s control. Starling directed Miller to position the Corps’ people to support CENTCOM. Starling and others were particularly concerned that Cox’s staff in Dhahran would only respond to Army needs—specifically to Pagonis. Pagonis had, in fact, already said that Cox worked for him, and Cox responded to direct taskings from Pagonis. Miller agreed with Starling that the Corps could best support all services by operating at the CENTCOM level.²⁰

While in Dhahran on 7 and 8 September, Miller discussed command and control with Pagonis. During a car ride with the general, Miller explained that the Corps’ mission was to support all services, but he added, supporting the Army was the primary mission because it had the largest force. Therefore, Miller was dedicating Cox’s office to him. He assured Pagonis that the Dhahran office would remain in place and provide direct support to him. Yet, Miller cautioned Pagonis, if necessary, he would pull some of these resources to support the Navy or Marines.

Pagonis acknowledged that MEAPO(SWA) was a theater asset and as such should be aligned under CENTCOM. But, he noted, if he felt he was being slighted, he would complain to Miller. Only once did Pagonis complain that the

Dhahran Area Office did not have enough resources to support him, and Miller quickly resolved the problem by bringing in additional real estate specialists.

Colonel Miller had a fine line to walk as he tried to satisfy the requirements and expectations of all the services. During the early months, other services charged that their requirements were being subordinated to ARCENT. Miller conceded that Lieutenant General Walter E. Boomer, the top Marine commander in the Gulf, “was just as loud as General Pagonis if he didn’t get what he needed.” In that first week, Miller and Boomer reached an understanding on how they would operate. Miller directed some of his real estate specialists to handle Marine requirements.²¹

CENTCOM placed MEAPO(SWA) under its control while the Dhahran office remained in direct support of the ARCENT SUPCOM. This arrangement was necessary, Colonel Braden explained, “to keep a theater perspective of engineer priorities, while ensuring that the level of support to ARCENT would not diminish.” Once these mechanisms and command relationships were in place, Braden added, theater construction program management was “extremely smooth.” Situated in Riyadh, MEAPO(SWA) could better sense CENTCOM’s priorities and provide engineering design and administration support. Meanwhile, the Dhahran office provided the day-to-day support that the ARCENT SUPCOM required.²²

Some confusion apparently continued, for in late October the ARCENT engineer requested clarification of MEAPO’s command and control relationships. According to the memorandum of agreement between the Corps and Third Army, he indicated, MEAPO was to receive planning guidance from Third Army during peacetime and come under the operational control of the 416th Engineer Command during contingencies. MEAPO would respond to requests from all services through the engineer command. “It was our understanding that MEAPO would be OPCON to ARCENT during Operation DESERT SHIELD unless the 416th ENCOM was mobilized,” he added.²³

General Starling and Colonel Braden, however, continued to insist that MEAPO(SWA) remain a theater asset, whether the 416th deployed or not. MEAPO needed to be accessible to all services and able to influence engineer activity at the CENTCOM level. This could not be done if MEAPO(SWA) was under the control of ARCENT and the 416th Engineer Command.²⁴

Communications Issues

Confusion in command and control was exacerbated by problems with communications. The Dhahran Area Office staff found that non-secure, commercial communication was readily available; and by late August, they had special phones to transmit classified information. The Corps’ commercial communication system, however, did not mesh well with the tactical communication capabilities of Army troop units, and this hampered coordination. The Dhahran Area Office staff had excellent communication with

troops located at fixed facilities but could not communicate with units in the field who were on the tactical phone network.

Cox's staff discovered a way to tap into the tactical phone system. Using a commercial number, they dialed the switchboard at the support command headquarters that connected them with the tactical phone system. But with so many people using the tactical phone switch, Corps personnel had trouble getting their calls through. The process was time consuming and frustrating. Occasionally the Dhahran Area Office staff actually had to go to the ARCENT SUPCOM headquarters to call on a tactical phone. Corps personnel at remote offices compensated somewhat by communicating with hand-held portable radios.²⁵

Communication with Corps offices in the United States posed additional challenges. The South Atlantic Division and the Corps headquarters staff developed an insatiable appetite for information. In the first weeks, the Dhahran Area Office staff spent a great deal of time answering requests for information. Even though the office provided a 12 to 15 page situation report each day, it received a constant battery of questions. The queries detracted from the mission and burdened personnel already working 15 hours a day.

At times the staff felt overwhelmed with requests for information. One frustrated official complained that they spent more time reporting than actually working. To make matters worse, Corps headquarters and South Atlantic Division personnel sometimes contacted the offices in Saudi Arabia directly rather than sending questions through proper channels—specifically through MEAPO in Winchester.

The situation in the theater changed so rapidly that people from different offices calling 30 minutes apart could get conflicting information, which caused confusion back at MEAPO, South Atlantic Division, and Corps headquarters. In December, Colonel Miller expressed frustration at having officials from Corps headquarters call him or Lieutenant Colonel Cox directly. He announced that Corp personnel in Riyadh and Dhahran would no longer respond to any direct inquiries, no matter the source. Miller or his staff would answer all queries in writing through the proper channel or refer them to MEAPO.²⁶

Recruiting, Processing, and Deploying Corps Civilians

Most of the 1,500 civilians the Army that deployed to the Gulf during Operation DESERT SHIELD/DESERT STORM came from the Army Materiel Command and the U.S. Army Corps of Engineers. The Corps is a predominantly civilian organization without enough military personnel to provide all the required engineer support functions. In addition, Corps civilians have unique capabilities not readily found among military personnel. They have expertise in contracting, real estate, damage assessment, well drilling, dredging, electrical power supply [*see* Powering the Theater, page 187], and other fields.

Recruiting and preparing Corps civilians for deployment and supporting them posed unique challenges and prompted a review of some major policies and practices. South Atlantic Division prepared an action plan giving general guidance on meeting personnel requirements. The plan specified that MEAPO would send its personnel needs to the division's human resources directorate, which would do the recruiting. The plan specified that each person on temporary duty would receive a per diem allowance to cover housing and meals. The plan's appendix included a checklist for preparing overseas replacements.²⁷

The primary responsibility for staffing the Corps' operation in Saudi Arabia rested with MEAPO. The South Atlantic Division's human resource specialists helped MEAPO establish procedures and were in constant communication with that office. Daily contacts and recruitment were up to the MEAPO staff who established a data base with the names and job skills of all volunteers. The data base enabled them to generate computer listings for specific positions as requirements became known. By early December, MEAPO had entered roughly 700 candidates into the data base.

Staffing began when Miller or Cox identified a requirement for a particular expertise. The MEAPO and South Atlantic Division staff reviewed and further defined the requirement. The MEAPO staff then searched the data base. If they could not find a volunteer with the required skills, they tried to fill the requirement informally by contacting other Corps offices. After exhausting its own resources, MEAPO called on the South Atlantic Division for assistance. If division officials could not meet a requirement after canvassing their headquarters staff and subordinate commands, they passed it on to Corps headquarters.²⁸

In the first months, the Corps did not deploy any women. Colonel Miller directed that no women deploy because of housing shortages, safety concerns, and dictates of Saudi culture. Based on previous experience, the Corps knew that its people would often be working directly with Saudi men who might be uncomfortable dealing with women. Also women were not allowed to drive in Saudi Arabia.

In those early weeks, planners were gravely concerned about the potential for hostilities. When hostilities did not materialize after the first few months, Corps leaders and Army staff increasingly questioned the restriction on deploying women. South Atlantic Division officials also had some misgivings about the restriction, but initially were reluctant to counter a policy established by the commander on the ground. Miller reevaluated his policy and agreed to deploy the first women. This policy change came none to soon. There was a critical need for contract specialists willing to deploy in December, and MEAPO could not recruit enough men.

Colonel Miller established a policy that called for a 90-day temporary duty assignment in Southwest Asia followed by a 10-day break in the United States

and a possible additional 90-day assignment. Miller adopted this policy because of uncertainty about the length or magnitude of the Corps' involvement in the Gulf War. The Corps' policy was in contrast to the Army Material Command's, which deployed personnel on 180-day assignments. Corps leaders weighed the additional airfare of the 90-day tour against the disruption that 180-day tours caused for the families of the volunteers and the increased need for emergency leave.

Initially the Army sent all of its volunteers in temporary duty status and most ate their meals at military dining facilities. In contrast, civilians from the Army Material Command lived in tents and ate their meals with troops. It was impractical for civilians from the Corps to billet with or share meals with troops at military facilities. They worked closely with Saudi contractors, property owners, and government officials, and would lose time driving back and forth to their work sites. Per diem payments for Corps civilians included an allowance for meals.

On 23 August, however, the Joint Chiefs of Staff directed that all services convert their civilians from temporary duty with per diem to temporary duty under field conditions with government meals and quarters provided. CENTCOM quickly directed all services to comply, but some were slow to do so. On 8 November, ARCENT directed those organizations that had not yet complied to initiate contracts for meals, quarters, and laundry services immediately. Colonel Miller set a target date of 10 December to convert all of his civilian personnel to temporary duty under field conditions, though he noted some exceptions for personnel serving at remote construction sites. Although Corps personnel were not happy about losing their meal allowance, they adjusted to the new situation.²⁹

Other pay issues such as danger pay and foreign post differential (additional pay for duty overseas) had to be resolved. Title 5, U.S. Code, Section 5928, authorized the Secretary of State to determine when civilians would get danger pay and in what amount. The secretary did not approve danger pay for Army civilians initially. Army civilians in Saudi Arabia, however, could receive a foreign post differential, which amounted to 20 percent of their base pay. The differential was payable to permanent duty employees on their first day in country and to temporary duty employees beginning on their 43d day in country.

With some prodding from the Corps, on 24 January 1991, the U.S. State Department finally authorized danger pay of 25 percent for the eastern province of Saudi Arabia, Dhahran, and Riyadh. The Defense and State departments authorized danger pay retroactively from the beginning of Operation DESERT SHIELD for all federal workers in the theater. Meanwhile, the foreign post differential was reduced. On 24 February 1991, the Defense and State departments authorized payment of foreign post differential to all federal

workers, including those on temporary duty, beginning the day they arrived in country.

With so many important pay and entitlement issues to be addressed, the Corps needed a human resource specialist in the theater. Forces Command already had a civilian personnel office in Riyadh, and the Army Materiel Command later sent a human resource advisor. However, the Department of the Army provided no overall coordinator to handle such thorny issues as pay and allowances, benefits, entitlements, training, and equipment.³⁰

Corps officials selected MEAPO to serve as the center for processing all Corps personnel deploying to the Middle East. MEAPO had a long history of deploying people to that part of the world but had never processed anyone for duty overseas in a military contingency. MEAPO staff found it necessary to develop and implement procedures to prepare overseas replacements. They handled the final processing; issued forms, identification cards, equipment, clothing, and chemical defense equipment; and provided orientation. Each deploying civilian had to have a current inoculation record, a valid passport, a recent physical exam, a Geneva Convention Card, and later, a panographic x-ray. Each also had to be fitted with nuclear, biological, and chemical equipment and protective clothing.

Every person deploying before 8 September 1990 received at least six hours of training and equipment fitting and usage. MEAPO borrowed Fort Meade's commandant for nuclear, biological, and chemical training to prepare the lead element for deployment. An officer from the headquarters of the Third Battalion, 116th Infantry, 29th Infantry Division, Virginia National Guard, trained the next group of deployees. He was assisted by John Grove, a MEAPO employee who had served three years as the chemical noncommissioned officer for the same unit. Eventually Grove took over all the training for deployees.

By mid-September, most of the Corps' deployees came from outside the South Atlantic Division and MEAPO. They were required to have their training from a qualified military source near their home district before arriving at MEAPO for deployment. MEAPO provided backup training if the previous training was inadequate. Its safety officer, who had previous experience in the Middle East, briefed deployees on potential security threats in Saudi Arabia, and the public affairs office provided information on Saudi Arabia's history and culture.³¹

The Corps not only trained and equipped its civilians before they deployed, it also developed a unique and effective program to assist their families. Although the Army had an active support mechanism in place for the families of its soldiers, it had no similar system for families of its civilian deployees. The Corps developed and implemented the Army's first and only family assistance plan for civilians serving in Operation DESERT SHIELD/DESERT STORM. Under this plan, MEAPO and each of the other districts with personnel assigned to the



Corps volunteers received nuclear, biological, and chemical training and were issued protective clothing at MEAPO headquarters in Winchester, Virginia, before deploying to Saudi Arabia.

Gulf had a designated family assistance officer to provide the families of deployees with assistance and information. MEAPO established a toll-free number and a weekly newsletter to give families current information.

In mid-October, representatives from the Army's directorate of civilian personnel and the U.S. Total Army Personnel Command (PERSCOM) visited MEAPO headquarters to learn how the Corps processed its civilians. The team had already visited Aberdeen Proving Ground, where the Army Material Command processed its civilian deployees. They were gathering information to establish centralized operations to prepare overseas replacements at Fort Jackson, South Carolina, and Fort Benning, Georgia. The team found that the Corps' operation compared favorably and that the Corps' family assistance program surpassed anything they had heard about or seen elsewhere.³²

On 6 December, the personnel command presented the Corps and other Army commands with its proposal for processing all Army civilians through replacement centers in the United States. In mid-December, the deputy chief of staff of the Army for personnel directed the Army Materiel Command, Forces Command, and others to process all Army civilians deploying for Operation **DESERT SHIELD** out of Fort Jackson beginning 22 January 1991. The replacement centers would provide quarters, meals, and transportation to the departure point; verify the deployment readiness of Army civilians; issue

clothing and equipment required in the theater as well as chemical defense equipment; conduct training for the theater—to include basic nuclear, biological, and chemical training; and oversee all personnel in the center from arrival to departure.³³

Corps leaders vehemently opposed deploying their staff through the replacement centers. They argued that the Corps already had its own system in place and was deploying people in “an expeditious and responsive manner.” The Corps had been deploying people in as few as three days, including a stop at MEAPO headquarters in Winchester, Virginia, for processing and training. By contrast, the proposed system would require a 10-day notification period, through its channels, followed by a 4-day layover for deployees at Fort Jackson. The Corps was currently deploying its members three times a week, but under the new plan, the Army would deploy personnel only on Fridays. Using the centers would impede the Corps’ operations in the theater. Finally, the Corps prided itself on personalized care for its employees and their families. “We know the unique requirements our members can expect, from our long history of meeting engineering needs in this overseas area,” explained the Corps’ deputy chief of engineers, Major General C. E. Edgar, “and we are in the best position to help our members fulfill their mission requirements.”

Cox complained that using replacement centers would make it impossible to manage personnel flow. He would not have firm arrival dates, and thus could not project departure dates for people completing their tours. With billeting already scarce, he could not accommodate overlaps between arriving and departing personnel. Also MEAPO had resupplied its Dhahran office by sending excess baggage with deployees, but the processing centers placed tight restrictions on baggage. In sum, Cox noted, “We’ve managed for 120 days without help. Suggest we continue.”³⁴

The two Army commands deploying the most civilians—the Army Materiel Command and the Corps—opposed the proposal to establish Armywide replacement centers, while the U.S. Army Training and Doctrine Command and Forces Command, which deployed the fewest civilians, supported it. At a meeting with Corps representatives on 7 January, the personnel command’s officials indicated that, despite the opposition, the Army’s deputy chief of staff for personnel wanted to establish replacement centers in the United States because commercial flights to Southwest Asia were expected to be discontinued. As military deployments continued, the Army commands would find it harder to secure the equipment they needed for their deploying civilians.

The personnel command’s representatives were not unhappy with the way the Corps was processing its people. In fact, one official noted that the centers had adopted the Corps’ checklist for preparing overseas replacements as the basis for equipping all Army civilians. The Corps representatives argued for processing their own people and noted that the Army needed to continue the high standard set by MEAPO of caring for its civilian deployees. The Corps’

arguments apparently impressed the personnel command's officials. On 24 January they notified the Corps that they had decided to make processing of civilians through Fort Jackson an elective action for the Army commands.³⁵

The curtailment of commercial travel to Southwest Asia had little impact on the Corps' deployments. The Corps rarely experienced delays on military flights from the Dover air base and the Norfolk naval base. However, it occasionally ran low on equipment for deploying personnel. At one point, MEAPO had to purchase some brown and tan battle dress uniforms from the private sector because few were available from the military system. By mid-February, logistics specialist Edward Massimo concluded that having enough equipment available for deploying personnel was "an extreme problem." Shortages existed for masks and chemical protective suits. Army headquarters had diverted all available stocks of chemical protective equipment to the replacement centers, and MEAPO's requests for chemical protective equipment had low priority. MEAPO eventually acquired chemical suits from Fort Riley, Kansas.³⁶

Corps leaders were concerned about the safety of MEAPO(SWA) and Dhahran Area Office staff. Colonel Miller placed a high priority on the safety and well being of his staff. In late September, he recommended that South Atlantic Division and MEAPO identify a team of soldiers who could be quickly deployed to replace the Corps civilians. Miller developed plans to evacuate all but the essential civilians if Iraqi troops invaded Dhahran and to replace these civilians with soldiers.

This plan was feasible when the Corps had only 20 to 30 civilians deployed, but as the organization grew, it became impractical to arrange a military replacement for every position. The military did not have the same skills the civilians had. That was why the Corps had sent civilians in the first place. Thus MEAPO and the division never reached the point where they could commit to replacing every civilian with a soldier. A more realistic plan called for the Corps to evacuate 37 civilians and replace them with soldiers if necessary and to leave 17 "emergency-essential" civilians.³⁷

Evacuation of civilians from a theater would be decided under Defense Department regulations, but the State Department would issue the actual evacuation order. Defense Department regulations specified that Army civilians occupying emergency-essential positions were exempt from an evacuation order and would remain until released by the appropriate commander.

Miller and Cox never believed the danger in Saudi Arabia was grave enough to justify pulling out the civilians, especially since the State Department never ordered an evacuation. However, they continually trained the civilians in protective measures. At certain points, when the situation was particularly threatening, Miller and Cox told the civilians they could leave if they felt they had to. As a testament to the courage of the Corps civilians, not a single person asked to leave after the air war started on 17 January. When an Iraqi missile hit

a barracks half a mile from the Dhahran Area Office headquarters on 25 February—killing 28 U.S. soldiers and wounding almost 100 more—Corps personnel were shaken, but no one asked to leave.³⁸

In a 4 January policy message, the headquarters of the Department of the Army noted that an Army civilian could be directed to perform duties essential to the military mission in Southwest Asia, either before or during hostilities. Similarly, an Army civilian on duty in Southwest Asia could be directed to remain there, whether or not he or she had signed an emergency-essential agreement. (All Corps civilians deploying to Saudi Arabia signed an emergency essential agreement to stay at their posts during a crisis.) If an Army civilian refused assignment to Southwest Asia or left without proper authority, the appropriate commander could take adverse action—the civilian could be separated from federal service or disciplined.

In response to this harsh policy, General Hatch reassured his command that he intended to rely on voluntary deployment. The Corps' 90-day rotation policy was working well, and there were enough volunteers to keep positions filled.³⁹

Some of the soldiers in the Dhahran Area Office had never worked with civilians and some of the civilians had never worked with soldiers. Despite the lack of familiarity, the two groups worked well together. Although there were a few rough spots, the soldiers and civilians learned to respect each other and to define their separate responsibilities more clearly. Major James Brooks, an experienced combat engineer, quickly found that he had to satisfy the basic quality-of-life requirements of the civilians so they could focus on the task at hand. The soldiers respected the courage it took for civilians to leave their comfortable homes, go through training as overseas replacements, and travel half way around the world to an uncertain, dangerous environment. In January and February, civilians and soldiers alike went to bed wondering when and where the next Iraqi Scud missile would hit.⁴⁰

Observations

Over 160 Corps members served in Saudi Arabia during Operation DESERT SHIELD/DESERT STORM. They came from many disciplines such as engineering, real estate, and contracting and represented 36 of the Corps' major subordinate commands, districts, and laboratories. Those who deployed were supported by hundreds of Corps members back in the United States.

Corps civilians were and will continue to be needed to support contingency operations overseas. They made up 90 percent of the construction management and real estate capability in the Gulf War. Yet, no policy existed that clearly outlined the support structure necessary for civilians in a hostile environment. The Defense Department and the Army had comprehensive regulations governing the uniformed military but had no equally comprehensive policies governing the deployment, sustainment, and rights of civilians in a war zone.

With little experience in deploying civilians for overseas contingencies, Corps leaders rapidly set up the necessary mechanisms to ensure these civilians were well prepared and protected. The contributions of Corps personnel—civilian and military—were great. They provided desperately needed design, contract construction, and real estate capabilities.

Ordnance Program Division

For 25 years, the Corps' Ordnance Program Division (OPD) had provided direct and general support maintenance and supply to the Saudi Arabian Army Ordnance Corps. The division, an element of MEAPO headquartered in Riyadh, Saudi Arabia, executed and administered maintenance contracts and managed foreign military sales cases for the Saudi Arabian Army Ordnance Corps. When the Iraqi invasion occurred, the Ordnance Program Division was the only Army element in Saudi Arabia that had permanent advisors throughout the country. Its personnel assisted arriving U.S. forces and helped the Saudis provide critical logistics and maintenance support to the Royal Saudi Land Forces.

Assistance to Arriving U.S. Forces

OPD's involvement with Operation DESERT SHIELD began on the evening of 6 August when Lieutenant General Charles Horner, acting for the CENTCOM commander, called all U.S. military commanders in Saudi Arabia to a meeting at the U.S. Military Training Mission facility in Riyadh and informed them that American troops would be arriving. The military commanders were then assigned as advisors to arriving CENTCOM general officers. The OPD commander, Colonel Brent Laurence, was assigned to General Starling whom he accompanied to the Ministry of Defense and Aviation's headquarters to arrange to receive the 82d Airborne Division. Meanwhile, an OPD officer, Captain Tim Bilderback, hurried to Dhahran to coordinate the troop arrival with the Saudi area commander. By the next night, the Saudis had pitched tents for the 82d Airborne Division and had food and water ready.

In those first chaotic weeks, OPD personnel acted as U.S. sponsors for many incoming units, helping them adjust to the harsh, unfamiliar environment. They continued to assist CENTCOM generals who had arrived without their support staffs. Colonel Laurence helped CENTCOM establish its command center in the basement of the Saudi Ministry of Defense and Aviation building.¹

Assistance to Saudi Arabian Forces

The Ordnance Program Division's primary mission, however, was to advise and support the Saudi Arabian Army Ordnance Corps. Specifically, it helped ensure that the Royal Saudi Land Forces' equipment was well maintained and available. As Operation DESERT SHIELD progressed, the base maintenance directorates at Hafar al Batin, Dhahran, and Jeddah, and the ordnance depot at Al Kharj faced increased workloads. These directorates formed the basic maintenance organization for the Royal Saudi Land Forces. Each directorate included Saudi soldiers, OPD civilians, and Saudi Operations and Maintenance Company contractors.

In late August, the maintenance backlog at the Hafar al Batin base maintenance directorate mounted because of the increased pace of operations near the border. By February, this directorate had become the main support of Arab forces at the front.

At OPD's northern province base maintenance directorate, Major Knute Hankins worked with the forward support maintenance units to support the Saudi maneuver brigades and the directorate. He introduced aerial resupply missions to the furthestmost deployed Royal Saudi Land Forces unit. With the 526th Special Forces Unit, he instructed more than 2,000 Saudi soldiers in individual chemical defense.

Major Ed Decker divided his time between the base maintenance directorates at Dhahran and An Nu' ayriyah. These directorates repaired battle-damaged equipment and served as a collection point for captured enemy equipment.

Farther to the west at the Taif base maintenance directorate, Captain Kurt Slocum divided his efforts between Jeddah and Taif. He met dozens of ships at Jeddah and oversaw the offloading of thousands of pieces of tactical and combat equipment for the Royal Saudi Land Forces. As the only U.S. Army security assistance officer at the Port of Jeddah, Slocum became the keystone for the massive amounts of arriving Army equipment that Saudi Arabia had purchased from the United States.²

Other OPD personnel working at the Saudi Arabian Army Ordnance Center and School were heavily involved in preparing to field the Bradley tank and establish a training base for the new series of vehicles and equipment arriving in Saudi Arabia in response to the crisis. OPD representatives remained heavily engaged in supporting the Saudi war effort. They rebuilt engines and processed repair parts at Al Kharj and repaired tanks and heavy equipment transporters at Khamis Mushayt and Tabuk.³

Logistics Support for Saudi Arabian Forces

The Ordnance Program Division's two most significant actions were facilitating the large purchase of trucks and establishing comprehensive logistics support supply agreement cases to provide repair parts and major assemblies for the Royal Saudi Land Forces.

As the Royal Saudi Land Forces began moving north, Saudi officials informed the OPD that they needed trucks. The Saudi Arabian government initially requested 7,413 tactical wheeled vehicles—valued at \$84.3 million—to support themselves and coalition forces. At the request of the chief of the U.S. military training mission, multiple foreign military sales cases were combined into a single case that provided 10,000 trucks. Congress approved the sale in November 1990. In December, the Royal Saudi Land Forces requested that the case be modified to include additional vehicles. The monumental effort to acquire trucks was successful. The Saudis' short-term and long-term needs were met. OPD helped the Royal Saudi Land Forces purchase nearly 17,000 tactical vehicles from the United States for \$1.7 billion.⁴

The Ordnance Program Division also helped the Saudi Arabian Army Ordnance Corps purchase from the United States desperately needed repair parts for the Saudi and coalition forces' equipment. OPD ensured that a logistics support agreement worth \$400 million was in place. Before 2 August 1990, the Saudis had requisitioned repair parts at

a rate of \$500,000 a month. After 2 August, requisitions rose to roughly \$15 million a month. To keep up, OPD began processing a \$157.4 million increase to an existing \$770 million foreign military sales case.⁵

The Ordnance Program Division helped a team of supply experts from Al Kharij depot rescue a failed general supply operation at the eastern province base maintenance directorate, thus averting a maintenance disaster for the Royal Saudi Land Forces defending the area. OPD was the only U.S. representative in place to coordinate the arrival, inspection, and in processing of the equipment that the Saudi Arabian government had purchased from the United States. OPD personnel ensured that the 2,000-person technical service contract, vital to the Royal Saudi Land Forces, continued to function in a hostile environment. They devised procedures to recruit and mobilize roughly 100 highly skilled technical contractor employees per month during the crisis.⁶

Strengthened Relationship with Saudi Arabia

The Ordnance Program Division's activities during the Gulf War helped strengthen the relationship with the Saudis. The division's leaders found that Saudi officials became more receptive to their advice. Before August 1990, the Royal Saudi Land Forces was a garrison-type army and rarely deployed to the field. If deployed, it moved its tanks on heavy equipment transporters. But in August 1990, when officials found that they had to move a large force forward, they sought advice from OPD. The Saudis also grappled with the problem of performing maintenance in the field. At OPD's suggestion, they outfitted vans with repair parts to service the forward units.⁷

The Ordnance Program Division's activities not only helped ensure that Saudi and coalition forces were adequately equipped during the Gulf War, they also helped forge stronger relations between American and Saudi forces that continued long after the war ended.

Individual Mobilization Augmentees

As the first U.S. troops deployed to Saudi Arabia in mid-August 1990, the U.S. Army Reserve Personnel Center in St. Louis, Missouri, issued guidance that individual mobilization augmentee (IMA) officers could be ordered to active duty under a presidential 200,000-person call up, partial mobilization, or full mobilization. The center directed organizations to identify—but not yet request—IMAs to be mobilized under each contingency outlined.

In response, the Corps' resource management directorate instructed each field activity to identify its requirements, though no funding or authority existed yet to bring IMAs on active duty. At the time, only the Corps' Engineering and Housing Support Center at Fort Belvoir, Virginia—now the U.S. Army Center for Public Works—responded with a requirement. Meanwhile, MEAPO went directly to the Army Reserve Personnel Center for approval for two IMAs.

The Corps was slow to call up its IMAs to support Operation DESERT SHIELD/DESERT STORM for various reasons. One was lack of authority. President Bush did not authorize a 200,000-person call up initially. Moreover, during the first months of Operation DESERT SHIELD, Army headquarters refused to grant the Corps authority to call up IMA officers on an involuntary basis. The Army's deputy chief of staff for operations directed that major commands call up only critically needed IMAs in direct support of Operation DESERT SHIELD. The use of IMAs was to be kept to a minimum in those early months because the hostilities might continue after their 90- to 180-day tours of duty expired.

Despite some of these obstacles, the Corps brought in a few volunteers. The Office of the Assistant Chief of Engineers used them to help staff the engineer desk in the Army's operations center in the basement of the Pentagon. Field elements used IMAs for a broad range of functions. For example, two supported the Engineering and Housing Support Center, one served in MEAPO as a nuclear, biological and chemical officer to train and equip deploying personnel, and two helped staff the South Atlantic Division's emergency operations center.

The system within Corps headquarters for managing IMAs was cumbersome and confusing. No office in the headquarters was responsible for managing the program. No office was responsible for setting priorities, identifying IMAs, beginning the staff action to activate them formally, and coordinating with the Army Reserve Personnel Center. [The Corps' field offices generally used their emergency operations centers or their equivalents to do this.]

Engineer Regulation 140-1-2, dated 3 March 1986, tasked the director of civil works to manage and oversee the IMA program, but other offices and directorates also had certain responsibilities. When individual offices identified a need for support, the resource management directorate verified that need. It also maintained the mobilization tables of distribution and allowances. The human resources directorate processed the personnel actions required to activate the IMAs. Each directorate or office independently

requested and negotiated the assignments. The Assistant Chief of Engineers for Mobilization, Reserve Affairs, and Logistics had some undefined responsibilities for IMAs but did not manage the program. Corps officials did not complete the required administrative procedures for activating IMAs or reach an agreement as to which staff element was responsible for the program. None of the staff elements wanted to assume the additional workload and responsibilities.

After months of delay, in early January, Army headquarters approved three IMAs to support Operation DESERT SHIELD in the Corps headquarters on an involuntary basis. Two of them supported the crisis management team in the headquarters and one worked in the Pentagon on the staff of Major General Gary Stemley, an IMA brought in to serve in the newly created position of Deputy Chief of Engineers for DESERT SHIELD. Stemley served as a link between the Army staff and Forces Command and worked with the Office of the Secretary of Defense and the Joint Chiefs of Staff. He held regular meetings in his Pentagon office with engineers from the other services to improve communication and coordination.

At the end of January, the Army staff approved 6 of the 11 IMAs the Corps headquarters had requested for involuntary call up for duty in the Washington, D.C. area, and indicated that the voluntary Temporary Tour of Active Duty Program would provide the rest. After the Gulf War, several IMAs continued to work in the Corps' military programs directorate and its emergency operations center to support the Kuwait recovery operations .¹

Funding Corps Activities

The standard financing procedures were not flexible or responsive enough to deploy Corps personnel. Initially—in accordance with a 1986 memorandum of agreement—Third Army officials provided \$100,000 to cover the cost of deploying Corps personnel.¹ On 11 August, Third Army tried to pull the funds back saying that deploying Corps civilians was unnecessary and too expensive and the Corps should fund all its own costs. The chief of staff, Colonel Jorgenson, now indicated that the agreement was invalid. The Corps responded that it had already acknowledged receipt of the \$100,000 and would not return it. Meanwhile, General Hatch, who was concerned about the lack of contracting and real estate support in the theater, agreed to use the Corps' operation and maintenance, Army (OMA) funds to deploy up to 30 people by commercial air and sustain them temporarily until the Corps and Third Army could sort out the funding issue.

Corps officials scrambled to find money wherever they could. This was difficult coming so late in the fiscal year. Also, unlike the commanders of other Army major commands, the Chief of Engineers did not have a separate OMA fund for his headquarters. He had to rely on his districts and divisions to return OMA funds that they had not already obligated.²

Faced with opposition from Third Army, the Corps tried unsuccessfully to arrange funding through other sources such as Army headquarters. Forces Command said that it had no OMA funds available to cover the Corps' costs. General Pagonis recommended that the Corps use its own funds to support MEAPO.³ Pagonis apparently did not understand that General Hatch had agreed to cover the cost of deploying the first MEAPO personnel, not the cost of maintaining them indefinitely.

The Corps was not the only Army agency experiencing funding difficulties. On 14 August, the Army's vice chief of staff, General Gordon R. Sullivan, directed all secretariat and Army staff elements and their field operating agencies to eliminate all nonessential fiscal year 1990 programs. He also asked them to estimate the amount of money they could withdraw from their budgets. The director of the Army staff, Lieutenant General Ellis D. Parker, explained that since it was unclear what additional funds the Office of the Secretary of Defense and Congress would provide, this withdrawal was "essential to provide support to Operation DESERT SHIELD."⁴

By the time Corps personnel had received the vice chief's message, they had already begun pulling back unobligated OMA funds to support their Gulf operations. The Corps had already spent roughly \$2.5 million on Operation DESERT SHIELD. Now, after reviewing its programs as General Sullivan requested, the Corps offered up an additional \$800,000 to the Army's assistant secretary for financial management. Sullivan was pleased with the response from the Army agencies and major commands. Virtually all staff agencies and activities had cut their funds, and together they had returned nearly \$2

million. He warned, however, that the 1991 fiscal year would also present "difficult fiscal challenges."⁵

The Corps ultimately paid for all its costs—such as labor and transportation—except construction and leasing costs that ARCENT paid. Third Army never reimbursed the Corps for its operating costs. From 2 August to 30 September, MEAPO costs approached \$2 million. To raise that money, as noted, Corps headquarters reprogrammed existing OMA funds. MEAPO suddenly received a large sum of OMA money from Corps headquarters that it had to obligate by the end of fiscal year 1990. Since the money came in increments, the MEAPO staff did not know exactly how much it had at any given time and had difficulty planning expenditures. To complicate matters further, the OMA money came from different programs. MEAPO personnel, who normally handled only small amounts, quickly had to familiarize themselves with the appropriate funding regulations and procedures.⁶

Meanwhile, the Defense Department and Congress looked for a way to cover the increasing cost of deploying and maintaining U.S. troops in the Persian Gulf. Both were anxious that the allies share the cost of the conflict. From the Defense Department's perspective, the financial assistance that other countries provided would encourage them to stay involved in the Persian Gulf region.

On 1 October 1990, as part of the continuing appropriations bill for fiscal year 1990, Congress expanded the Secretary of Defense's authority to accept contributions of money and property from individuals, foreign governments, and international organizations. Congress also established a special defense cooperation account in the U.S. Treasury for these contributions, which would be the "source of first resort" for covering Operation DESERT SHIELD costs. The law specified that Congress had to appropriate these funds from the account before the Secretary of Defense could allocate them to the services.

The Defense appropriations act for fiscal year 1991 authorized the transfer of \$1 billion from the account to the services to defray the cost of Operation DESERT SHIELD. The Army received \$600 million as its share of the \$1 billion appropriation. The Corps was anxious to tap into any Defense Department reimbursements for its DESERT SHIELD costs. Corps officials asked the Defense Department's comptroller to reimburse the military construction funds used to construct six life support areas in Saudi Arabia and the operation and maintenance funds it had used for MEAPO's activities.⁷

Money from the defense cooperation account, however, did not cover all the Army's costs. The Army staff planned to withhold fourth quarter, fiscal year 1990 funds from its major commands and use the money to fund Operation DESERT SHIELD until Congress passed a supplemental appropriation. These fourth quarter funds combined with the defense cooperation account allocation would presumably let the Army fund its operations through late March. If Congress passed a supplemental appropriations bill, Army officials planned to return these funds to the major commands. If Congress did not pass a supplemental appropriations bill by the end of March, however, Army headquarters could be responsible for over obligating funds. Army officials recognized the risk involved but believed it was appropriate considering the urgency of the requirements.

On 22 February 1991, on the eve of the ground war against Iraq, the Bush administration finally submitted to Congress its request for an emergency supplemental appropriations bill to fund the incremental costs of Operation DESERT SHIELD/DESERT STORM. Specifically, it requested \$15 billion in budget authority for the Defense Department for fiscal year 1991. The supplemental budget request included \$30 million for the six life support areas and \$5 million in military construction funds to pay for the Corps' planning and design work.

On 13 March, the House approved an appropriations bill, which the Senate amended a few days later. On 21 March 1991, both houses passed a compromise supplemental appropriations bill, which authorized transferring to the Defense Department the current and future funds deposited in the defense cooperation account.⁸