

AMERICAN EXPLOSIVE ORDNANCE DISPOSAL HISTORY

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PROLOGUE

The modern history of disarming bombs began more than 65 years before the British mine and bomb disposal units established the formal profession in World War II we know today as Explosive Ordnance Disposal.

Colonel Sir Vivian Dering Majendie, Queen Victoria's chief inspector of explosives, is recognized as one of the first bomb disposal experts, a term frowned on by today's technicians. He pioneered many techniques and defused a clockwork-fused bomb at London's Victoria Station in 1884.

In the first World War, the Germans advanced their development of fuzes, including a delayed-action fuze. A more sophisticated version was first tested in the 1936-1937 Spanish Civil War and caused widespread terror in the civilian population. The Germans continued to improve it with their other fuze designs.

World War II saw a rapid rise of quantity and sophistication of ordnance never seen in the history of warfare. We now needed professional bomb disposal technicians with the formal training and specialized tools to defeat them.

THE BEGINNING

On September 7, 1940, Germany began its air war on Britain with 300 bombers dropping 337 tons of bombs on London. Four hundred and forty-eight civilians were killed that afternoon and evening.

The aerial bombing continued until May, 1941, but the terror of the bombing did not stop. The Luftwaffe left unexploded bombs, known as UXB, all over London. Some simply failed to detonate, but others had the time-delay fuzes and to continue the terror long after the bombers were gone.

Although the British were disarming sea mines in 1939, bomb disposal was still a rudimentary effort with very little training on the German ordnance, and resulted in a high death rate in the new bomb squads. The first night the Germans dropped newly developed and previously unknown booby-trapped fuzes in their bombs, designed

specifically to kill bomb disposal technicians, more than 20 British bomb disposal men died.

By World War II's end on May 8, 1945, these squads lost 389 bomb disposal men disposing of 45,441 unexploded bombs, 6,983 anti-aircraft shells, and more than 300,000 mines.

The world-class EOD units of today's United States Army, Navy, Marine Corps, and Air Force began in those early days of World War II.

EARLY YEARS

The rapid advance of the German military through Europe and chaos from their delayed-action bombs and other ordnance, created fear of German attacks on the continental United States with no capability to counter their advanced ordnance.

The United States first thought that civilians should be trained for bomb disposal and in April, 1941, while bombs were still falling on Britain, the School of Civilian Defense at Edgewood Arsenal, Maryland, added bomb disposal training. However, by November it was decided that military personnel, not civilians, should handle enemy ordnance and the Army was given that responsibility.

During these same months, the U.S. Navy was also sensing the same urgency and established the U.S. Naval Mine Disposal School in Washington, DC. The first class graduated in August.

The first American school focusing on bomb disposal school was also established by the Navy in mid-January 1942 in Washington, DC. The following month, the Army opened its bomb disposal school at Aberdeen Proving Ground, Maryland.

In late January 1942, Army Major Thomas Kane, commandant of the Bomb Disposal School, attended the British Bomb Disposal School with some of his staff to learn procedures that helped establish the first U.S. Army bomb disposal school.

The British then sent a team of bomb disposal men to Aberdeen the next month to teach the first class of the Army bomb disposal school. The graduates became the instructors for the following classes.

With three schools operating, the United States was rapidly developing the capability to disarm unexploded German, and later, Japanese enemy ordnance. The Navy completed the first class of graduates, which included four Army officers.

Army and Navy bomb disposal school graduates were used throughout the European and Pacific regions of World War II operations, serving in an extremely hazardous line of work with many unknowns to be learned – the hard way.

They were sent out with very limited training, crude tools and equipment. All services experienced heavy casualties. Aircraft bombs, the fear at the beginning, made up only 20-25 percent of their wartime work, with booby traps and other ordnance making up the remaining percentage.

At the end of the war, many bomb disposal units were deactivated, including the Army Bomb Disposal School at Aberdeen. Limited training was shifted to the Army Ordnance School as a sub-course.

The Navy training course was re-named Explosive Ordnance Disposal from the lessons learned in WWII that bombs were not the major workload, and moved to Indian Head, Maryland, in 1946. This was the beginning of the EOD designation. Army officers and senior enlisted men, along with airmen from the newly-established Air Force, began training at the Navy school in 1947. The Army continued training junior enlisted men at Aberdeen.

In 1951, EOD training and support was consolidated. The Navy was assigned joint-service responsibilities for basic EOD training, research, and development of tools and equipment. In 1954, the Army established the U.S. Army Explosive Ordnance Disposal Center at Aberdeen as a focal point for developing render-safe procedures on Army ordnance, doctrine, and other operational areas. This office moved to Picatinny Arsenal in 1960. In 1955 the US Army ended EOD training at Aberdeen when EOD training for all military services was consolidated at the Naval School Explosive Ordnance Disposal.

EOD TRAINING

The 1946 Navy school, now the joint-service Naval School Explosive Ordnance Disposal, moved from Indian Head, Maryland, in 1988 to Eglin Air Force Base in Florida. The school trains personnel from the U.S. Navy, Marine Corps, Army, Air Force, certain Department of Defense civilian personnel and select international military students.

The course reflects the growth in the scope of the world's military ordnance and improvised devices since the beginning of EOD. Covering all U.S. and foreign ordnance, the course is taught in eight divisions to students from all military services.

The course divisions are demolition, tools and methods, core fundamentals of EOD, ground ordnance, air ordnance, improvised explosive devices, biological/chemical, radiological/nuclear and underwater ordnance for Navy students.

The unique school, which has officers and enlisted personnel of military services training together, gives U.S. combat units the ability to have EOD teams from all units and services work seamlessly together as integrated teams.

Navy EOD technicians have additional training and requirements to support the worldwide air, surface, underwater, and special operation missions of the Navy. Integrated with, and available to support, all military special operation missions, they have additional training in underwater ordnance, and are qualified as divers and parachutists. They also receive additional combat training to operate with special operation forces.

Jump-qualified Army EOD soldiers support the nation's Immediate Response Force, a brigade combat team of the 82nd Airborne Division ready to deploy anywhere in the world in 18 hours with no advance notice. The Army's 28th EOD Company is also jump-qualified and combat trained to go with the 75th Ranger Regiment on short-notice worldwide missions.

KOREA TO SOUTH VIETNAM

The inter-war period saw little interest in the services in EOD in manpower or money. The Army converted a few of their bomb disposal squads to a reserve status at the end of WWII. In 1949, the Army renamed their bomb disposal squads as Explosive Ordnance Disposal squads.

When the Korean War started, the Army was faced with the urgent need for EOD squads but realized they lacked the personnel, training and equipment because of the down-sizing after WWII. There was no refresher EOD training requirement for the Army's EOD reservists.

An EOD training school was quickly established at Raritan Arsenal, New Jersey, in 1951 to supplement the training at Aberdeen, and another school by the Navy to bring men up to date on enemy ordnance and procedures. While this was helpful, just as in WWII the first units in Korea had to learn as they went, having not seen much of the ordnance in training.

The Army wasn't completely unprepared and had sent the first Army EOD unit to Korea in 1950, almost a year before Raritan training began. In spite of the lack of training, a shortage of equipment, the extreme weather, and the enemy, EOD personnel again excelled in their work.

In the years between the Korean and Vietnam wars, the Army EOD mission expanded, beginning in 1954 with the mission of nuclear weapons render-safe and disposal. This role was later diminished as other government agencies assumed selected responsibilities for nuclear weapons incidents and accidents. In 1962, they began the chemical and biological munition disposal mission that included the Technical Escort mission in 1964 for these munitions in which Army EOD had a major role.

Beginning in the 1960s, the use of improvised explosive devices increased in the civilian population and cities. Army EOD responded to calls throughout the United States. This mission has been replaced by public safety bomb technicians, or PSBT, trained at the FBI's Hazardous Devices School at the Army's Redstone Arsenal, Alabama. The school, established in 1971, was run jointly by the FBI and the U.S. Army until 2017 when the FBI accepted primary responsibility. EOD technicians from all services are still available to local PSBTs if called for assistance on military ordnance.

EOD technicians from all military services were sent to South Vietnam, beginning with Army advisors and EOD units in 1965. They stayed until all U.S. forces left the country in 1973. The Vietnam war was considerably different than previous conflicts with endless numbers of booby traps, later called improvised explosive devices, and an unconventional war without the front lines of previous wars.

Army EOD units in South Vietnam supported all U.S. and allied forces and were assigned to geographical areas of operation throughout the country. They grew from the World War II seven-man units and eight-man Korean war units, to 12-man units in detachments and ammunition battalion sections.

The Air Force operated mobile EOD units supporting the air bases. The Navy conducted extensive clearance operations in harbors and waterways from units on shore and ships. Marine EOD units supported Marine Corps air and ground operations.

During 1969, the U.S. had more than 500,000 military personnel in South Vietnam. During the same time, it is estimated there were less than 300 EOD personnel supporting U.S. forces.

Following Vietnam, there was again a post-war decline EOD activity as the work was concentrated on peacetime response calls. There were also significant changes for the Army EOD field as military planners realized the World War II model of small, independent squads needed to change.

Units changed significantly from detachments to a more familiar Army structure with companies, battalions and groups. For the first time, Army EOD was attached directly to combat units instead of being small stand-alone units. EOD units also expanded into the Army National Guard and the Reserves for future conflicts. EOD had finally joined the Army.

WOMEN IN EOD

In the mid-1970s, the EOD community had one of the most significant changes in its history as women joined the "brotherhood" of EOD.

The first women to complete the EOD school while it was still at Indian Head was Air Force Sgt. Linda Cranford (later Fox) in August 1974, Army Staff Sgt. Paula Fowler (now Bushon) in 1975, Marine 2nd Lt. Beth A. Salamanca and 2nd Lt. Marcia M. Shaffer in 1978, and Navy Ensign Julie Modrak (later Neely) in 1980.

Women are serving today throughout world in Army, Navy, Marine Corps and Air Force EOD units, deploying with their brothers into combat. They are equal partners, sharing the comradery, successes, pain, and losses of the profession.

EOD TODAY

Operation Desert Storm began on Aug. 2, 1990, with EOD units supporting the combat operation. Although this was a short conflict, the extent of captured and unexploded munitions kept EOD units busy. It was also to be the beginning of decades of conflicts that would re-define combat engagements, and the growth of EOD employment in all those conflicts.

Desert Storm was the first large-scale application of the Army's reorganized EOD organization. Units performed their missions, but also identified additional training and equipment needed for a rapidly evolving threat from improvised explosives and large-scale disposal of captured munitions.

Navy EOD units, working with special operations units, were continually employed as the Global War on Terror routinely used the unconventional tactics of these units to attack the enemy.

The attention to the EOD mission continued to grow, as did the arrival of new equipment and training. Since 2000, the EOD field has seen the greatest growth of research, technology, new equipment and training, particularly with foreign allied military forces.

The EOD Memorial at Eglin Air Force Base has the names of 341 men and women killed performing the EOD mission. Many were lost in the early years of the profession when their greatest strengths were their intelligence, strength, and courage.

Constant training and state-of-the-art equipment have increased the success rate of EOD technicians – but not enough.

Each year on the first Saturday in May, observed as National EOD day by an act of Congress, the EOD Memorial Ceremony honors the service of the fallen as their names are added to the cenotaphs of the Army, Navy, Marine Corps, and Navy, and all the names of the fallen before them are read in solemn remembrance.

Today's robotics, electronic sensors, bomb suits, armored vehicles, and military working dogs cannot completely protect technicians from advances in military munitions, bomb-making skills, and the ever-present unpredictability of explosives. It still takes a person with a special blend of intelligence, strength, and courage to be an EOD technician.

EOD men and women of the Navy, Army, Marine Corps and Air Force, with full knowledge of the history and dangers of the profession, are responding today without hesitation as all those who preceded them.

This history was written with considerable assistance from Robert Leiendecker, NATEODA historian, and Mike Vining.

Learn more about the EOD Memorial and consider supporting the work of the [EOD Warrior Foundation](#).