

**NEW DIRECTIONS IN THE ARMY EXPLOSIVES SAFETY PROGRAM**

**by**

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## Report Documentation Page

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CHAIRMAN, DDESB, TO ADDRESS THIS 24TH DEPARTMENT OF DEFENSE-SPONSORED EXPLOSIVES SAFETY SEMINAR. MY INTERESTS AND PERSPECTIVES ON AMMUNITION AND EXPLOSIVES SAFETY RUN DEEP AND PROBABLY PARALLEL THE CONCERNS OF MOST OF YOU EXPERTS GATHERED HERE TODAY. OUR OPERATIONAL READINESS AND WARFIGHTING CAPABILITIES RELATE DIRECTLY TO SOUND EXPLOSIVES SAFETY APPLICATIONS. WE MUST HAVE POLICIES AND PROCEDURES THAT SUPPORT THE MISSION WHILE PROTECTING FROM LOSSES OF PERSONNEL AND EQUIPMENT THROUGH EXPLOSIVES ACCIDENTS.

IN MY NEW POSITION AS THE ARMY'S EXECUTIVE DIRECTOR FOR EXPLOSIVES SAFETY AND ALSO AS THE EXECUTIVE DIRECTOR FOR CONVENTIONAL AMMUNITION, I INTEND TO AGGRESSIVELY PURSUE EXPLOSIVES SAFETY IMPROVEMENTS AND CONTINUE MANY OF THE ONGOING EFFORTS TO RESOLVE SEVERAL HARD-TO-FIX EXPLOSIVES SAFETY ISSUES. OUR ABILITY TO PRODUCE AND MANAGE SAFE AND RELIABLE MUNITIONS THROUGHOUT THE LIFE CYCLE MUST CONTINUALLY BE ASSESSED. THE STATE OF THE ART APPLICATIONS AND EXPLOSIVES RESEARCH, DEVELOPMENT, AND TESTING CAPABILITIES OF ALL THE SERVICES WHICH YOU WILL BE DISCUSSING AT THIS SEMINAR ARE KEY TO OUR UNDERSTANDING THE EXPOSURES AND RISKS THAT ARMY COMMANDERS OFTENTIMES MUST ACCEPT TO ACCOMPLISH THEIR MULTI-SERVICE SUPPORT MISSION. THIS POTENTIAL FOR LOSS OF LIFE AND PROPERTY CAN BE OUR MAJOR ENEMY.

THE ARMY, THROUGH ITS NEW EXPLOSIVES SAFETY MANAGEMENT PLAN, IS COMMITTED TO IMPROVING EXPLOSIVES SAFETY AND ADDRESSING THE ISSUES. THE U.S. ARMY TECHNICAL CENTER FOR EXPLOSIVES SAFETY, IN COORDINATION AND CONJUNCTION WITH THE ARMY STAFF, THE DIRECTOR OF ARMY SAFETY, THE MAJOR ARMY COMMANDS, AND THE NAVY AND AIR FORCE HAS TAKEN INITIATIVES IN SEVERAL AREAS OF EXPLOSIVES SAFETY MANAGEMENT.

THE EXPOSURES TO OUR SOLDIERS AND HOST NATION CIVILIANS RELATIVE TO UPLOADED AMMUNITION IN KOREA ARE OF CONCERN. THERE HAVE BEEN, AND CONTINUE TO BE, NUMEROUS CONCERTED ARMY ACTIVITIES IN SUPPORT OF EIGHTH U.S. ARMY TO IMPROVE THIS SITUATION AND PROVIDE FOR THE READINESS AND WARFIGHTING CAPABILITY OF THE 2D INFANTRY DIVISION. THE STORAGE OF LARGE QUANTITIES OF U.S.-TITLED AMMUNITION WITHIN THE REPUBLIC OF KOREA INSTALLATIONS CREATES UNIQUE EXPLOSIVES SAFETY MANAGEMENT CHALLENGES FOR THE U.S. FORCES IN KOREA.

THE JOINT U.S./REPUBLIC OF KOREA MILITARY ASSISTANCE GROUP RESOLVED TO PROVIDE TECHNICAL ASSISTANCE IN JOINTLY DEVELOPING SOLUTIONS TO THE AMMUNITION STORAGE PROBLEMS IN KOREA. THE PRIMARY OBJECTIVE IS A RESEARCH AND DEVELOPMENT EFFORT TO PROVIDE THE GREATEST EXPLOSIVES SAFETY WITH THE MOST EFFICIENT USE OF SCARCE LAND, IMPROVED SECURITY, AND SURVIVABILITY WHILE INCREASING THE COMBAT READINESS.

IN JANUARY 1990, THIS U.S./REPUBLIC OF KOREA GROUP SELECTED THE UNDERGROUND STORAGE TECHNOLOGY AS THE CANDIDATE FOR A JOINT RESEARCH AND DEVELOPMENT PROJECT. SIX RESEARCH AND DEVELOPMENT PROJECT CANDIDATES WERE SUBMITTED BY THE ARMY, NAVY, AND AIR FORCE.

A DRAFT MEMORANDUM OF UNDERSTANDING AND A MILESTONE SCHEDULE WERE ADOPTED FOR APPROVAL BY THE RESPECTIVE GOVERNMENTS. THE MEMORANDUM OF UNDERSTANDING IS EXPECTED TO BE RATIFIED BY EACH GOVERNMENT BY THIS FALL. THE ARMY IS EXPECTED TO PROVIDE A PROGRAM MANAGER IN THIS JOINT EFFORT.

THE STORAGE OF AMMUNITION IN JAPAN HAS REQUIRED STRONG SUPPORT BY HEADQUARTERS, DEPARTMENT OF THE ARMY, FOR THE COMMANDING GENERAL, U.S. ARMY, JAPAN, TO ASSURE FUNDING FOR CONSTRUCTION OF 61 EARTH-COVERED MAGAZINES NEEDED TO ELIMINATE EXPLOSIVES SAFETY VIOLATIONS.

ANOTHER MAJOR AREA OF REVIEW IS THE MOVEMENT OF AMMUNITION THROUGH COMMERCIAL SEAPORTS WORLDWIDE IN SUPPORT OF THE DEPARTMENT OF DEFENSE MISSION.

THE ARMY'S PLANNING AND IMPLEMENTATION OF A WORLDWIDE AMMUNITION PORT SURVEY, WHICH YOU WILL HEAR MORE ABOUT IN AN UPCOMING PRESENTATION, HAS A LONG IMPROVEMENT POTENTIAL IN THIS VITAL AREA.

EXPLOSIVES SAFETY ASSISTANCE HAS BEEN PROVIDED BY A HEADQUARTERS, DEPARTMENT OF THE ARMY, TASK FORCE IN AN EFFORT TO ADDRESS PREPOSITIONED SHIPS AFLOAT IN THE PACIFIC. OPTIONS HAVE BEEN UNDER REVIEW TO DETERMINE WHERE THE DOWNLOAD OF LARGE QUANTITIES OF AMMUNITION CAN BE ACCOMPLISHED SAFELY. THIS EFFORT WAS IN SUPPORT OF THE COMMANDING GENERALS, U.S. ARMY WESTERN COMMAND, AND U.S. ARMY JAPAN. THE POLITICAL REALITIES OF THAT PART OF THE WORLD HAVE REQUIRED PURSUIT OF ALTERNATIVES TO THE USE OF SUBIC BAY,

PHILIPPINES. THE U.S. NAVY AND U.S. AIR FORCE HAVE PROVIDED MUCH NEEDED ASSISTANCE IN THIS EFFORT.

THE WORK IN DEVELOPING A COMPREHENSIVE ARMY EXPLOSIVES SAFETY REGULATION IS KEY TO ESTABLISHING A SOLID ARMY PROGRAM. THE LAST MEETING OF THE DEPARTMENT OF THE ARMY EXPLOSIVES SAFETY COUNCIL RESULTED IN A GOAL OF PUBLICATION BEFORE THE END OF THE CALENDAR YEAR 1990. EFFORTS ARE ONGOING TO ACCOMPLISH IT.

WE ARE PROGRESSING TOWARD THE IMPLEMENTATION OF AN ARMY EXPLOSIVES TESTING PROGRAM. THE NEED TO EXPAND RESEARCH AND DEVELOPMENT AND TEST EFFORTS IN SUPPORT OF OUR MAJOR ARMY COMMANDS, AS WELL AS THE OTHER SERVICES, REQUIREMENTS IS UNDERSTOOD. THE INTERSERVICE RELATIONSHIPS ARE BEING WORKED TO ELIMINATE REDUNDANT TESTING AND TO SHARE AND ADDRESS THE AREAS OF COMMON INTEREST, LIKE INSENSITIVE MUNITIONS. THE TRI-SERVICE SYMPOSIUM ON EXPLOSIVES TESTING, WHICH THE ARMY HOSTED IN MARCH OF THIS YEAR AT WATERWAYS EXPERIMENT STATION, IS A PRIME EXAMPLE OF THE NECESSARY COORDINATION AND COOPERATION TO DEVELOP WAYS AND MEANS OF BETTER DEFINING OUR EXPLOSIVES SAFETY REQUIREMENTS. ALSO WE CAN GAIN THE MAXIMUM BENEFIT FROM THE DECLINING FUNDING AND FACILITIES AVAILABLE FOR TESTING. THIS IS KEY TO THIS EFFORT. I AM SURE MANY HERE WERE IN ATTENDANCE AT THAT SYMPOSIUM. WE NEED TO CONTINUE THIS FORUM OF INFORMATION EXCHANGE.

THE IMPORTANCE OF HAVING KNOWLEDGEABLE, TRAINED OPERATORS AND SOLDIERS GOES WITHOUT SAYING. ACCIDENTS HAVE VERIFIED WHAT HAPPENS WHEN THIS IS LACKING. WHETHER ON A LOAD, ASSEMBLY, AND PACK LINE OR IN AN M1 TANK IN GERMANY, UNDERSTANDING THE HAZARDS WHILE KNOWING AND FOLLOWING PROCEDURES IS A MUST. COOPERATIVE EFFORTS IN DEFINING ACCIDENT CAUSES AND LESSONS-LEARNED HAVE BEEN AT THE FOREFRONT.

THE NEED FOR OUR AMMUNITION MALFUNCTION INVESTIGATION EFFORTS TO TIE IN CLOSELY WITH EXPLOSIVES ACCIDENT INVESTIGATION PROCEDURES HAS BEEN RECOGNIZED IN THE ARMY AND IS BEING WORKED BY THE OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS AND THE U.S. ARMY SAFETY CENTER.

THE ARMY'S TECHNICAL LIBRARY AT THE U.S. ARMY TECHNICAL CENTER FOR EXPLOSIVES SAFETY IS BECOMING AN ESTABLISHED SOURCE OF INFORMATION FOR AMMUNITION PEOPLE THROUGHOUT THE DEPARTMENT OF DEFENSE. NOT ONLY DOES THE LIBRARY PROVIDE ACCESS TO OTHER DATA BASES UPON REQUEST, IT MAINTAINS UNIQUE HOLDINGS OF ITS OWN. AN INITIATIVE UNDERWAY RIGHT NOW IS TO AUTOMATE THE LIBRARY CATALOG AS PART OF A BULLETIN BOARD SYSTEM WHICH WILL ALLOW AUTHORIZED USERS WORLDWIDE TO BROWSE THE LIBRARY CATALOG 24 HOURS A DAY. A MESSAGE LEFT ON THE BULLETIN BOARD OR CALL TO THE EXISTING HOT LINE, WILL TRIGGER AN IMMEDIATE RESPONSE.

WE HAVE BROUGHT ONLINE AN EXPLOSIVES SAFETY INFORMATION DATA BASE USING THE PRIME COMPUTER AT U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND. USERS WORLDWIDE WILL BE ABLE TO ACCESS ONE LOCATION AND REACH NUMEROUS SOURCES OF INFORMATION PREVIOUSLY KNOWN

ONLY TO SPECIALISTS FAR REMOVED FROM THE SOLDIER, SAILOR, OR AIRMAN IN THE FIELD.

IN OUR CONTINUING EFFORTS TO GET EXPLOSIVES SAFETY INFORMATION TO THE USERS, WE HAVE PREPARED AN EXPLOSIVES SAFETY BULLETIN. MILITARY PERSONNEL AND DEPARTMENT OF DEFENSE CIVILIANS WORLDWIDE ARE NOW RECEIVING COPIES. THE FIRST ISSUE OF THIS USER-FRIENDLY PUBLICATION WAS MAILED TO OVER 2,000 ADDRESSEES IN MAY 1990 AND THE FEEDBACK HAS BEEN TREMENDOUS. I BELIEVE IN THIS KIND OF AWARENESS EFFORT. IN THAT LIGHT, I INCLUDED A PERSONAL MESSAGE IN THE AUGUST BULLETIN. AS I SAID EARLIER, LIKE ALL OF YOU, I AM DEEPLY CONCERNED ABOUT MAINTAINING A SAFE WORKING ENVIRONMENT, ESPECIALLY IN THIS ERA OF UNCERTAIN EMPLOYMENT LEVELS AND SHRINKING RESOURCES.

IN AN EFFORT TO ELIMINATE AMMUNITION AND EXPLOSIVES ACCIDENTS AT OUR AMMUNITION PRODUCTION FACILITIES AND TO BETTER EDUCATE EXPLOSIVES WORKERS AT BOTH GOVERNMENT-OWNED/CONTRACTOR-OPERATED AND GOVERNMENT-OWNED/GOVERNMENT-OPERATED DEPOTS AND AMMUNITION PRODUCTION FACILITIES, WE ARE REVIEWING WAYS TO CERTIFY THOSE PERSONNEL WORKING IN AMMUNITION AND EXPLOSIVES OPERATIONS TO HIGHER EDUCATION AND AWARENESS LEVELS. A DRAFT MODEL CERTIFICATION PROGRAM HAS BEEN PREPARED FOR THE MAJOR COMMANDS WHICH WILL ALLOW THEM TO:

1. ESTABLISH CERTIFICATION PROGRAMS FOR PERSONNEL WORKING WITH AMMUNITION OR EXPLOSIVES OR,
2. IMPROVE LOCAL EXISTING CERTIFICATION PROGRAMS.

IN CONJUNCTION WITH THE PERSONNEL CERTIFICATION INITIATIVE, AN AMMUNITION PRODUCTION LINE VALIDATION PROGRAM IS ALSO BEING DEVELOPED TO PRESCRIBE THE RESPONSIBILITIES, POLICIES, AND PROCEDURES NECESSARY TO CONDUCT A PRODUCTION LINE VALIDATION OF BUILDINGS, EQUIPMENT, AND SYSTEMS. THE GOAL OF A PRODUCTION LINE VALIDATION PROGRAM IS TO MINIMIZE THE RISK BY ASSURING STATE-OF-THE-ART APPLICATIONS AND THE SAFEST PROCESS POSSIBLE PRIOR TO THE INTRODUCTION OF HAZARDOUS MATERIALS INTO A LINE.

WE WILL CONTINUE TO EXPAND THIS EXPLOSIVES SAFETY EFFORT. I AM PLEASED TO BE INVOLVED WITH THE PROGRAM. OUR CHALLENGE THROUGHOUT THE DEPARTMENT OF DEFENSE IN THE FUTURE WILL BE TO CONTINUE WITH REDUCED MANPOWER AND DOLLARS. THE IMPORTANCE OF EXPLOSIVES SAFETY WILL BE COMPOUNDED BY THE EXPANDING NEED TO RETROGRADE, STORE, AND MAINTAIN AS WELL AS DISPOSE OF THE DEMILITARIZED AMMUNITION. THE LARGE ROCKET MOTOR DEMILITARIZATION PROGRAM IS A PRIME EXAMPLE HERE.

DISPOSAL REQUIREMENTS OF LARGE ROCKET MOTORS ARE CURRENTLY GENERATED BY STRATEGIC ARMS REDUCTION TREATIES AND NORMAL LIFE CYCLE MANAGEMENT FUNCTIONS. OVER 84 MILLION POUNDS OF HAZARD CLASSIFICATION 1.1 AND HAZARD CLASSIFICATION 1.3 PROPELLANTS CONTAINED IN SYSTEMS SUCH AS THE MINUTEMAN II AND POLARIS WILL BE DESIGNATED FOR DISPOSAL BY 1996.

AS A RESULT OF INCREASINGLY STRINGENT ENVIRONMENTAL REGULATIONS AND PUBLIC PRESSURES, THE CURRENT METHOD OF DISPOSAL, OPEN BURNING/OPEN DETONATION, MAY BE DISCONTINUED IN THE FUTURE. STORAGE AND MAINTENANCE OF THE MOTORS WILL EXCEED THE CAPACITY OF THE DEPARTMENT OF DEFENSE LOGISTICS BASES BY 1993, UNLESS NEW FACILITIES ARE BUILT.

THE JOINT ORDNANCE COMMANDERS GROUP HAS STUDIED THIS ISSUE AND DETERMINED FOUR PROMISING DISPOSAL TECHNOLOGIES:

1. BIODEGRADATION.
2. SUPERCRITICAL WATER OXIDATION.
3. PROPELLANT REMOVAL TECHNOLOGY.
4. CONTAINED FIRING WITH SCRUBBER.

DOING ALL OF THE ABOVE WITHIN ENVIRONMENTAL CONSTRAINTS MAKE THE CHALLENGES ALL THE GREATER.

IT'S AN INTERESTING TIME IN OUR HISTORY AND MANY EXTERNAL INFLUENCES ARE GOING TO DICTATE OUR PRIORITIES. HOWEVER, NONE RATE HIGHER THAN PROTECTING OUR MILITARY AND CIVILIAN PERSONNEL FROM UNNECESSARY LOSSES DUE TO EXPLOSIVES AND AMMUNITION ACCIDENTS IN THIS PROCESS OF DRAWDOWN AND MAINTENANCE OF OUR DEPARTMENT OF DEFENSE MISSION.

I CHALLENGE YOU TO CONTINUE AND TO EXPAND YOUR EXTRAORDINARY EFFORTS. IMPROVEMENTS CAN BE REALIZED BY OUR CONCERTED EFFORTS AND AWARENESS GAINED AT SEMINARS SUCH AS THIS. I AND MY STAFF ARE AVAILABLE FOR ASSISTANCE IN OUR COMMON DEPARTMENT OF DEFENSE GOAL OF IMPROVED EXPLOSIVES SAFETY. GOOD LUCK TO ALL OF YOU AND HAVE A SUCCESSFUL SEMINAR.