U.S. ARMY COMBAT READINESS/SAFETY CENTER

CP-12
SAFETY & OCCUPATIONAL HEALTH

Summer 2014 Edition

Hershell E. Wolfe (Hew)

Message from Mr. Wolfe

Deputy Assistant Secretary of the Army, ESOH and Functional Chief, CP-12

The Army Safety Engineer Professional

Safety engineering involves the generation and/or application of theories, principles, concepts, practices and analytical techniques to systems and processes related to engineering design, design standards and codes, traditional engineering (such as civil, mechanical, electrical and chemical) and physical science disciplines.

Safety engineers support the identification, analysis and control of hazardous conditions, exposures and practices across the spectrum of Army operations. Army safety engineers work predominantly in the fields of system acquisition safety, RDT&E, industrial processes, and facility and infrastructure design and construction, but they apply their knowledge and skills to design and/or evaluate safety features and controls in military-unique, high-risk activities including ammunition and explosives and chemical-biological operations.

Safety engineers are highly trained and qualified to bring an engineering perspective to the risk management process. In addition to meeting Office of Personnel Management professional engineer qualifications, Army safety engineers are required to complete CP-12 core, functional and continued training and education.

My appreciation goes out to all safety engineers across the Army for your dedication to the safety of our Soldiers and civilians. Like all safety professionals, your work behind the scenes to enable successful mission accomplishment is rarely acknowledged. Be assured that leadership appreciates the critical task you perform for our Army and nation.

BG Timothy Edens

Message from the DASAF

Timothy J. Edens
Brigadier General, USA
Director of Army Safety and Commanding General, USACR/Safety Center
Fort Rucker, Ala.

Leveraging Safety Engineers

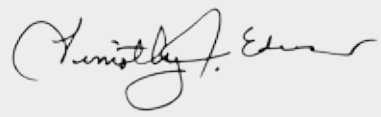
Safety engineers are an integral component of the Army Safety Program and our strategy for loss prevention. Their expertise increases safety in our Army's activities, reduces injuries and losses due to accidents, and enhances our readiness and warfighting capabilities.

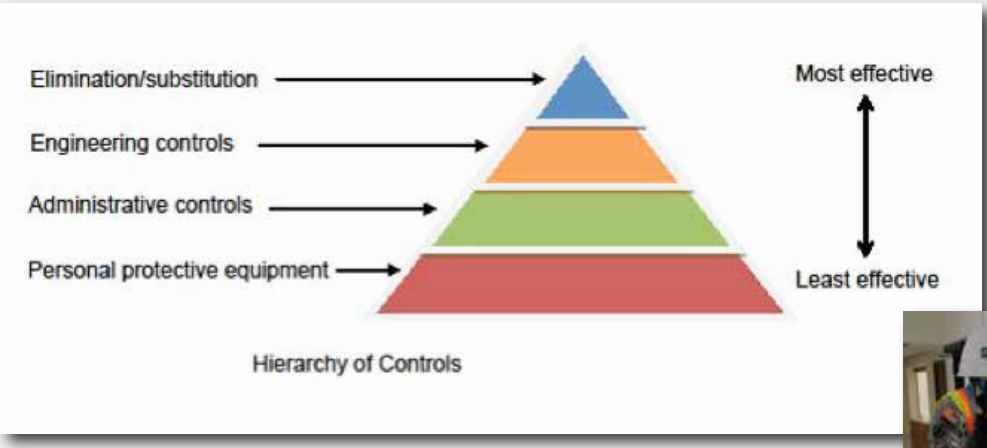
Army safety engineers participate in the design of safe systems, facilities and processes, but also serve as your source for advice on engineering hazard control and provide an engineering perspective in failure analysis and mishap causal analysis.

Commanders and CP-12 safety professionals need to be aware of the role of safety engineers in the risk mitigation process. I recommend reviewing The Commander's Guide to the Safety Engineer, which can be found on the CP-12 website (https://safety.army.mil/cp12/).

A force of approximately 150 Department of the Army Civilian safety engineers support system and facility lifecycle activities; research, design, test and evaluation; industrial base and infrastructure activities; process engineering; logistics; and operations involving hazardous materials. I encourage commanders and safety professionals to work with our safety engineers to leverage engineering solutions to hazard control and risk management.

Army Safe is Army Strong!





Hierarchy of Controls

Dr. Brenda Miller

Where are we?

Dr. Brenda Miller
Senior Safety Advisor, CP-12 Functional Chief Representative
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Message from the FCR

The safety engineering component of CP12 has been active in career development and management for many years.

Army safety engineers have had defined competencies and mandatory and recommended training since the mid-2000s, and in recent years were provided a career ladder template and master training plan and participated in the Civilian Workforce Transformation Competency Management System. Information on these topics can be found on the CP-12 website (https://safety.army.mil/cp12/).

As you will read throughout this edition of the CP-12 newsletter, safety engineers are a critical element of the Army safety program and play a key part in ensuring the safety of our Soldiers and civilians. And you will also read of some significant efforts that are planned to further enhance the qualifications and professionalism of our team of safety engineers.

Jim Patton, in the Office of the Director of Army Safety, is the CP-12 functional proponent for safety engineers. I encourage commanders, managers and supervisors to contact Jim if you would like more information on how safety engineers can benefit your safety program.

I want to thank all of the Army safety engineers for the work you do to provide for the safety of our workforce. Jim Patton is your advocate in CP-12. Please feel free to contact Jim if you are in need of career support or are interested in being a part of the upcoming changes to safety engineering career management. And a special thanks to the individuals who contributed to this edition of the CP-12 Newsletter.

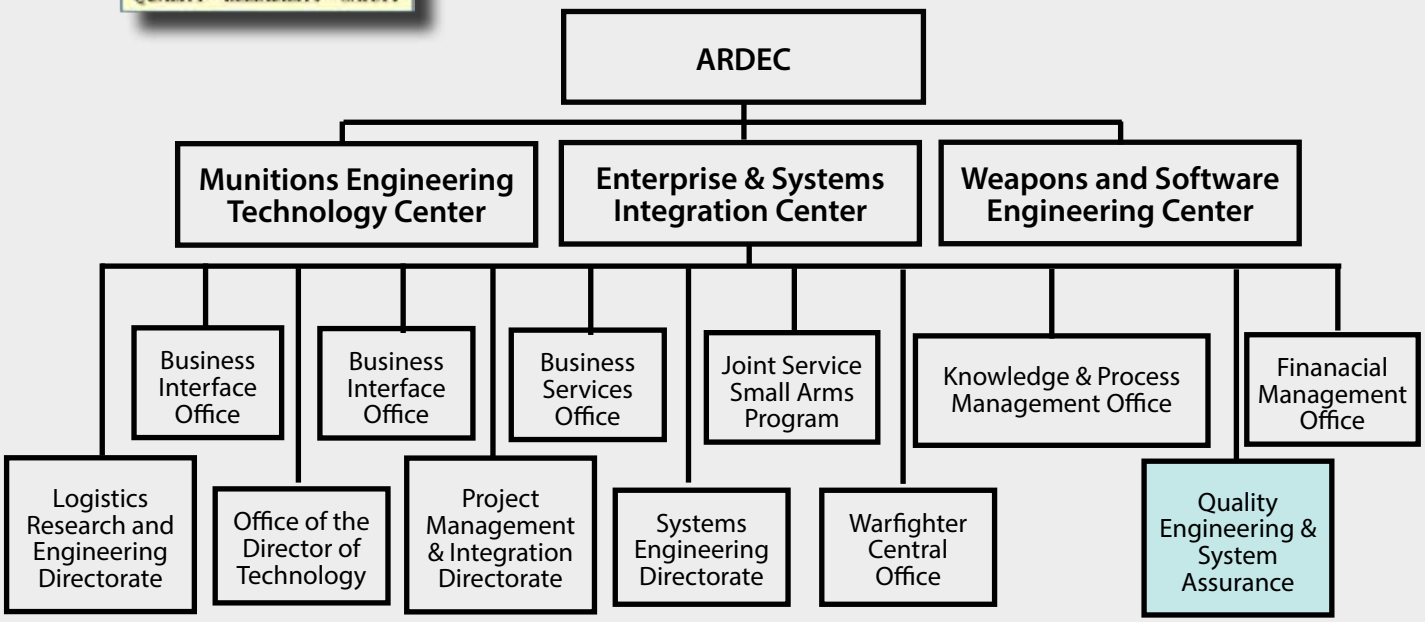
Who we are and our integration with the Armament Research, Development, and Engineering Center (ARDEC) Research & Development (R&D) programs

Nghi Vo
Chief, Weapons Safety and Health Physics Branch
QE&SA, ARDEC
Picatinny Arsenal, N.J.

Duran Durga
System Safety Engineer
QE&SA, ARDEC
Picatinny Arsenal, N.J.

ARDEC, located at Picatinny Arsenal, New Jersey, is an internationally acknowledged hub for the advancement of armament technologies and engineering innovation. ARDEC provides life-cycle support for nearly 90 percent of the lethal Army systems used by U.S. Warfighters.

The System Safety Office is structurally organized under the Enterprise & Systems Integration Center (ESIC) – Quality Engineering & System Assurance (QE&SA) Directorate.



The System Safety Office is structurally organized under the Enterprise & Systems Integration Center (ESIC) – Quality Engineering & System Assurance (QE&SA) Directorate.

The primary mission of the QE&SA Directorate is to execute and manage an integrated life-cycle quality and system assurance program required for the research, development, production, and field support of ammunition, weapons and associated items. Overall, QE&SA provides ARDEC programs with essential technical competencies that assure the systems and subcomponents are safe, quality, and reliable. QE&SA has seven core competencies which are comprised of the Quality Engineering (QE), Reliability Engineering (RE), System Safety Engineering (SSE), Product Quality Management (PQM), Software Quality (SQ), Product Verification (PV), and Radiation Protection (RP). The safety mission plays an important role in the QE&SA organization and is prevalent across all competencies. The System Safety Office becomes integrated with all core competencies within QESA, QESA processes, and services to ensure the Warfighters are equipped with the best systems. The System Safety Office consists of 37 staff members and is composed of three main groups which are SSE, RP, and Hazard Classification (HC).

SSE provides acquisition life cycle engineering support focusing in the R&D of munitions and weapons programs. The objective is to integrate safety, identify design solutions early in development to reduce overall acquisition life cycle cost, and provide effective design and procedural mitigations to proactively prevent significant safety issues at the end of the life cycle. Our goal is to eliminate hazards before the item is fielded and to provide an overall safety assessment of our products for Type Classification (TC) and Materiel Release (MR) decisions. We execute our goals through the establishment of System Safety Program, conducting System Safety Working Groups, engaging with Program Managers (PMs), and Integrated Product Teams (IPTs) to incorporate safety into the system design. Through PMs and IPT engagement, we are able to identify safety requirements in the Statement Of Work (SOW), influence design changes in Engineer Change Proposals (ECPs), develop Technical Data Packages (TDPs), make decisions on Safety Critical Characteristics, perform critical system safety tasks and activities for Acquisition, Science and Technology (S&T) and R&D programs while following military standards (MIL-STD-882).

Three diciplines of QE&SA's System Safety Office

QE&SA

Science Division Safety Office

- **System Safety Engineering**
- **Health Physics/ Radiation Protection**
- **Hazard Classification**

The RPO is another essential safety area within the System Safety Office with the mission to provide radiation safety support and health physics services in support of all on-site Picatinny ARDEC testing and operations involving ionizing or non-ionizing radiation. The office also works to identify and eliminate or control radiation safety hazards of new or modified weapon systems. The RPO works closely with Army Nuclear Regulatory Commission (NRC) license holders and Command Radiation Safety Staff Officers (RSSOs) to ensure that all radiological exposures of soldiers during operations are kept as low as reasonably achievable (ALARA). The third component of the System Safety Office is Hazard Classification. HC ensures safe and legal transportation of ammunition and explosives. This group provides HC for shipping, handling, and storage of the energetic materials as regulated by the U.S. Department of Transportation (DoT).

The System Safety Office is proactively engaged and continuously integrated with ARDEC counterparts and customers throughout the PM Office to ensure safe, quality, and reliable system designs. The System Safety Office provides technical safety decisions in multiple internal and external panels and boards including the Army Fuze Safety Review Board (AFSRB), the Energetic Materiel Qualification Board, the Critical Characteristic Review Panel, the

Materiel Release Review Board (MRRB), the ARDEC Software Subgroup (SSG), the Joint Weapon Safety Working Group and the Joint Services-software Safety Authorities, and NATO System Safety Committee. Recently, the System Safety Office showcased its capabilities during ARDEC's annual QE&SA Quality Stand Down Day and Science & Technology (S&T) Networking Day at Picatinny Arsenal. During the QE&SA Quality Stand Down Day, the System Safety Office took the lead in presenting our capabilities to QE&SA and ARDEC members. In addition, System Safety Office representatives engaged in multiple critical safety discussions where they showcased to our community the safety supports that are provided to our PMs and IPTs throughout the year. The presentations focused on various types of hazard analyses, safety requirements development, safety shipment, storage of ammunitions and explosives, and radiation safety for operations performed at Picatinny Arsenal. At the conclusion of the event, our community gained a better understanding of system safety functions and how safety is integrated to other QESA capabilities.

System Safety Office involvement in ARDEC programs

Recently, the System Safety Office completed a critical TC Standard and Full MR assessment for the Excalibur program. The System Safety Office led the hardware and software safety efforts of the Excalibur effort from development, testing, and qualification. The System Safety engineers were also provided technical safety decision during the MRRB, SSG, and the AFSRB in order to ensure that system safety topics and concerns were addressed.

Overall, the System Safety Office plays an important role in Army Acquisition and R&D programs at ARDEC. The System Safety Office is essential to ARDEC programs and daily operations at Picatinny Arsenal where we ensure that the Warfighter is well equipped with safe and superior products.

Contact Information:

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Wil Vega, Acting Chief, Munitions Safety and Hazard Classification Branch, wilfredo.vega28.civ@mail.mil, (973) 724-8672
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Facility System Safety and Green Designs

William J. Eggleston, III
Safety Engineer
US Army Corps of Engineers
Huntsville, Ala.

The FASS program is designed to incorporate system safety into the facility design process as prescribed in Military Standard 882E (Standard Practice System Safety), AR 385-10 (Army Safety Program), and DA Pam 385-16 (System Safety Engineering and Management).

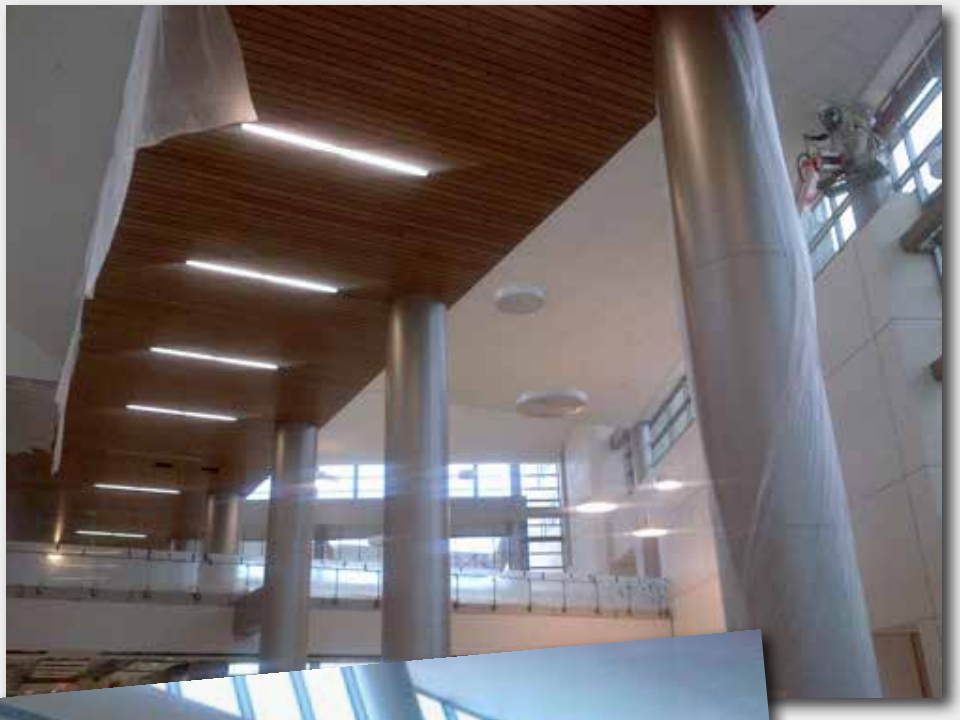
FASS process is used in the conceptual phase, planning stages, construction of facilities, and facility reduction (demolition) to examine the specifics of the hazards involved, the level of risk, and the potential effectiveness of existing codes and standards. Following this discovery and analysis process, a decision is made to eliminate or reduce the risk through the use of controls set forth in codes and standards and specially designed controls. The FASS program has been structured to guide designers toward elimination and control of hazards during criteria development and design of facilities.

Over the last decade the terms "LEED" and "GREEN BUILDING" have moved to the forefront with regards to new building construction. Green design priorities measure the performance in key areas such as sustainability, water & energy efficiency, materials, indoor air quality, etc. Sometimes the same Green initiatives that benefit the environment can unintentionally produce safety risks – especially to maintenance operations (see examples). Therefore, it is essential that facility system safety requirements be defined at the earliest possible time and can vary from project to project in scope and complexity. In other words, the system safety requirements must be tailored to a specific project and the effort expended should be commensurate with the degree of risk involved.

US Army Corps of Engineers is responsible for the development and the implementation of the Facility System Safety Program Plan (SSPP). The purpose of the Facility SSPP is to tailor the designer's plan for conducting the system safety process for a specific project from the concept design phase to the acceptance of the completed facility. The plan describes in detail how each applicable element of FASS is to be implemented. Each Facility SSPP will address the proposed approach to the requirement, the content, and format of the deliverables, and indicate the level of effort for each area. Each Facility SSPP will be an individually tailored approach based on the contract-specified requirements, the anticipated hazards, and the level of risk involved with the facility in question.

For Example:
Bassett Army Hospital at Ft. Wainwright. Beautiful facility, state of the art and is operational... but no maintenance consideration was incorporated in the design phase for accessing the light ballasts and other high rise equipment that are approximately 92' from the ground level.

The facility manager spent $125,000 to install reels on the lights for future servicing. If reels had been designed in the conceptual phase and installed during construction, the cost would have only been estimated at $25,000. **Cost savings of $100,000**



For Example:
Martin Army Community Hospital at Ft. Benning, Georgia. Same issue, if reels had been designed in the conceptual phase and installed during construction, the cost would have only been estimated at $25,000. **Cost savings of $100,000**

Communications-Electronics Command's (CECOM) System Safety Efforts in Rapid Acquisition Environments

John M. Tobias, PhD, PE
Chief, Intelligence Electronics Warfare and Sensors Branch
US Army Communications Electronics Command Directorate for Safety
Aberdeen Proving Ground, Md.

Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) technology evolves rapidly. Consequently, acquisition processes and lifecycles follow this rapid evolution to take advantage of emerging technologies.

Rapid acquisition processes are generally characterized by a significantly abbreviated system lifecycle to fulfill a specific contingency operational requirement, with limited development, high visibility on results and quite often, partially acceptable solutions. In many cases, the rapid acquisition may transition to a 'normal' acquisition program, or program of record.

These aspects of the rapid acquisition environment affects safety engineering efforts. In particular, the 'partial solution' is often manifest as the possibility of additional risks in the equipment sent to the field. To minimize these risks, the CECOM Directorate for Safety, Systems Engineering Division uses an eclectic approach adaptive to the acquisition situation.

The overriding principle is to add value to the acquisition process by assisting the project manager to field equipment safely through assistance in navigating the safety engineering process. To do this, maximum participation with the engineering team is essential.

Under any circumstances, early engagement is important. Ideally, our engineers get involved with the basic design and development as early as possible to assure application of the appropriate design safety standards and thorough consideration of the potential hazards. Early engagement is especially critical in the rapid acquisition process, due to very short developmental cycles. In addition to the traditional contractor-government production there are two very common rapid acquisition activities: government facility design/build and commercial-off-the-shelf (COTS) insertion/integration.

Acquisition processes where a government activity designs and builds the equipment requires a full-service engineering approach. During such a process we perform many functions traditionally done by a contractor, working with the project engineers in the design/build phase to develop the Safety Assessment Report and other deliverables, as needed, to track and characterize hazards.

Our engineers visit the production facility and inspect the equipment several times. Additional safety engineers specializing in different areas (e.g., electrical, electromagnetics, software, HAZMAT and environmental impact) may get involved to assist during this phase. Following the initial work, the project safety engineer will then function in a fashion similar to a traditional developmental project, coordinating safety testing products and health hazard evaluations in support of the documents necessary for materiel release to the field.

A variation on this situation occurs when the proponent has

RDECOM C4ISR Ground Activity Prototyping and Test Facility, Range 1, Ft. Dix, New Jersey. CECOM Directorate for Safety provides embedded safety support for this activity involved in rapid acquisition prototyping and testing.

equipment that was already built (either by government facility or by a contractor) and has some test documentation from the Army as well as health hazard assessments. Typically design safety is an afterthought in these situations. When this occurs, we almost always find that the test products (like the US Army Test and Evaluation Command's (USATEC) Safety Confirmation) and Health Hazard Assessment produced by the US Army Public Health Command, while useful, do not comprise a total safety evaluation. This is the most difficult situation for the performance of a good system safety engineering program, as it is late in the prototyping phase or even early in the production phase. Time constraints, cost and production difficulties impose real challenges to improve the safety of the equipment if hazards are found.

Where design safety is an afterthought, additional effort is almost always needed to fully characterize and resolve hazards before proceeding to the materiel release process. Consequently, we never proceed to materiel release without thorough evaluation and hands-on inspection of any equipment. After such an evaluation, we find that design changes or procedural workarounds are often needed to adequately minimize risk in order to proceed with materiel release to the field. Unfortunately this situation poses the greatest chance that risks remain in the equipment when fielded. Yet another acquisition situation occurs when COTS equipment is used. This situation is commonplace in C4ISR acquisitions where rapid commercial technology development is leveraged for insertion to military equipment.

Contractors or government facilities may assemble these items, or integrate them into existing equipment. In these situations, our engineers begin a painstaking review of all available COTS product literature to identify possible contribution to system hazards and judge their effect in the military application. Often the most serious problem with COTS is that equipment designed to meet commercial

safety standards may not remain safe in the intended environment imposed by military use. Our engineers may specify and impose additional safeguards to minimize risk in these cases.

Software poses a special challenge in any acquisition process as it is always evolving. To address the fluid nature of software, the CECOM Directorate for Safety has a process established with the CECOM Software Engineering Directorate invoking a joint review for safety. In this process, safety-related aspects of the software functionality are examined for possible hazards. Based on the initial evaluation, the degree and depth of further safety analysis and testing is determined and implemented. Systems that are software intensive with safety critical functionality require close scrutiny. It is extremely important that safety requirements are built in and documented from the outset to ensure the appropriate level of rigor for safety evaluation and testing is performed.

Lastly, as part of our support to rapid prototyping and acquisition efforts, CECOM Directorate for Safety is fully integrated into the US Army Research and Development Command's C4ISR Prototyping and Testbed Activity at Ft. Dix, NJ. Safety is an integral process embedded to this activity since inception, where equipment and emerging technologies are carefully reviewed, inspected and assessed for safety in cooperation with USATEC prior to any test event.

Using these approaches and maintaining close relations with project managers and the research & development community, CECOM Directorate for Safety has participated in dozens of rapid acquisition fieldings, most notably in the area of Counter-IED devices, C4ISR platforms based on Mine-Resistant Ambush Protected (MRAP) vehicles and tactical radios. Early integration of safety engineering to the rapid acquisition process makes the fielding proceed more smoothly, minimizes risks to soldiers and facilitates the transition of rapid acquisition processes to programs of record.

Rapid acquisition is a growing means of delivering materiel solutions to the soldier, proactive safety engineering involvement is essential to maximize materiel safety and minimize risk.

Engineering Safety Controls: The Essential Mechanism in Accident Prevention

CPT Emeka Nzeocha
US Army
595th Transportation Brigade (SDDC)
Camp Arifjan, Kuwait

Safety Engineering is a term that basically calls for risk reduction through mechanisms that will prevent accidents and injuries from occurring.

The general premise for safety engineering is that if workplaces and equipment could be built (engineered) with utmost safety concerns in mind, it would go a long way towards mitigating accidents and injuries. That is a correct assessment. The fact is that through Risk Management processes and regular dialogue and contingency safety considerations in our operations, we can alleviate most of the
The general premise for safety engineering is that if workplaces and equipment could be built (engineered) with utmost safety concerns in mind, it would go a long way towards mitigating accidents and injuries. That is a correct assessment. The fact is that through Risk Management processes and regular dialogue and contingency safety considerations in our operations, we can alleviate most of the accidents and injuries that we experience in our workplaces and during our operations. Absent of those, the best safety net for the most part remains safety engineering controls that save lives and prevent equipment damages.

Some accidents appear senseless, and quite candidly produce jaw-dropping moments when one reads about them in the Preliminary Loss Reports (PLRs) or the Weekly Fatality/ Catastrophe Report released by the Department of Labor. No one ascribes to the senseless nature of some of those incidents because there is nothing comprehensible about a deadly accident, especially one caused by total negligence. The "wow" moments and chuckles could be attributed to the nervous realization of a "did-that-actually-happen" shock and impact upon reading some of those reports.

For the week ending March 29, the Occupational Safety & Health Administration (OSHA) reported 627 fatalities since FY14. Example: 3/14/2014 - Evergreen Golf Design Inc., Marysville, WA 98271, Worker killed when riding lawnmower flipped over onto him! Shocked?

Puzzled? Asking yourself, "How in the world could that happen"? If so, then there is an opportunity for safety engineers to investigate what happened, and most importantly what could have prevented that from happening? A trip mechanism that could have stopped the mower at a certain incline or decline? Perhaps an overhead guard structure for roll-over injury prevention for mowers of certain sizes? And many other questions that could help prevent such an incident from happening again. Perhaps, those in the field of Reliability Centered Maintenance (RCM) could assist in testing, determining potential failures, and recommending engineering fixes.

About 25% of the national budget goes to Defense spending, equaling $0.8 trillion for FY13. Part of that spending obviously goes towards military safety training, and research and development, which aims to engineer the latest, strongest, and efficient tools in the hands of Soldiers for personal and equipment protection. As sustainment operations ramp up in the drawdown efforts, Soldiers at the tip of the spear, such as the 595th Transportation Brigade Military Surface Deployment and Distribution Command (SDDC), the 831st and the 840th Transportation Battalions rely on extensive command driven safety training and awareness in all phases of their operations. Ultimately, the best line of defense against accidents remains implementing engineering controls against potential human errors to protect Soldiers

The tragic number of 627 accident fatalities are simply too many and unacceptable. We obviously agree that incidents indeed happen due to lack of training, negligence, and many other human errors. Thus, when all else fails, safety engineering control measures for the most part appear to be the first line of defense in preventing many of the accidents and fatalities that cost lives, money, and productivity.

CP-12 Contract Safety Survey 2013

Hibert C. Hurd, Jr.
Quality Assurance Specialist
(Ammo Surveillance) (QASAS)
Fort Rucker, Ala.

In coordination with the Office of the Director of Army Safety, CP-12 is working to improve the training and support necessary to help SOH professionals fully and properly implement Army contract safety requirements. As part of this initiative we launched a survey in April 2013 to determine if existing training and support programs are sufficient to help SOH professionals perform their contract safety responsibilities.

THANK YOU to the more than 450 CP-12s who responded to this effort! Our ultimate goal is to reduce the risk to government personnel, equipment, and facilities as the result of contracted operations.

The survey results show that…

• substantial opportunities for improvement exist in implementation of safety practices across all contract safety areas (policy, procedures, training, and collaboration),

• CP-12s have a high level of responsibility for contract safety tasks (about 6 in 10 report some level of responsibility),

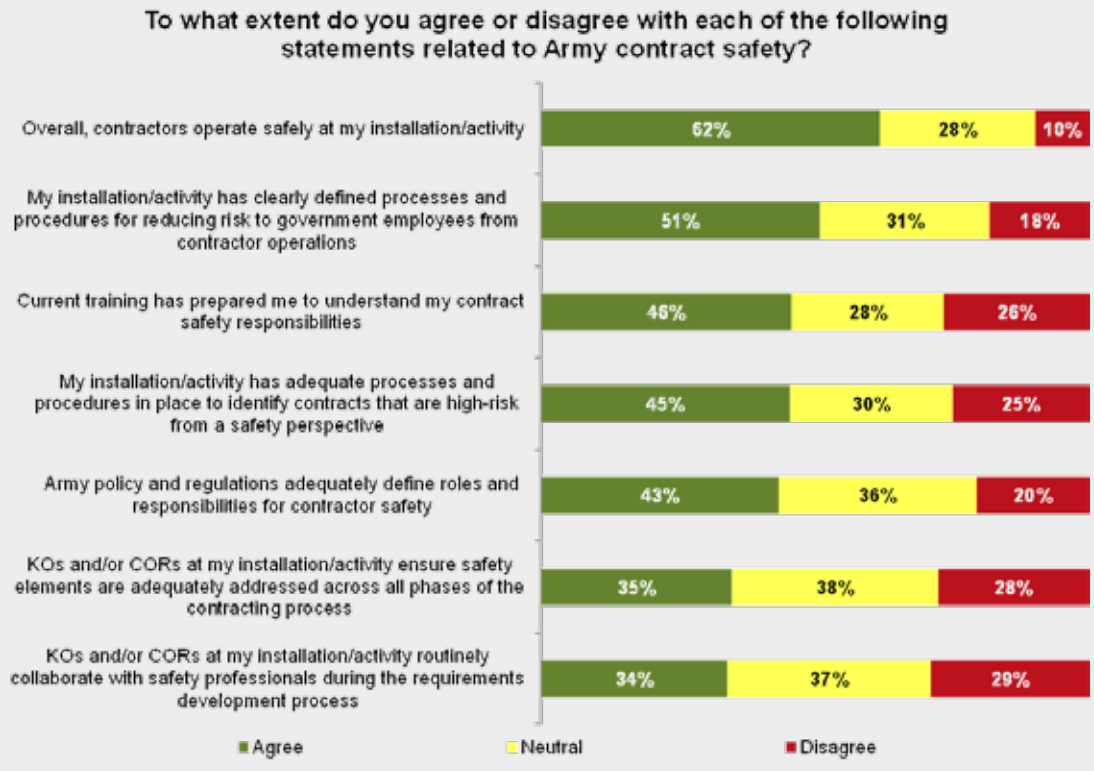
• existing training on contract safety is not meeting CP-12 requirements,

• CP-12s are confident in their ability to support contract safety despite a lack of formal training,

• there is a relatively low level of collaboration between Army contracting personnel and SOH professionals on contract safety considerations,

• contract safety roles and responsibilities are unclear to personnel working in this critical area, and

• safety professionals desire greater clarity in contract safety policy and processes and a defined curriculum for contract safety training.



Where we go next…

Based on your survey feedback and other research, CP-12 is planning a number of improvements to Army contract safety training and support, including

• new and improved training on contract safety considerations,

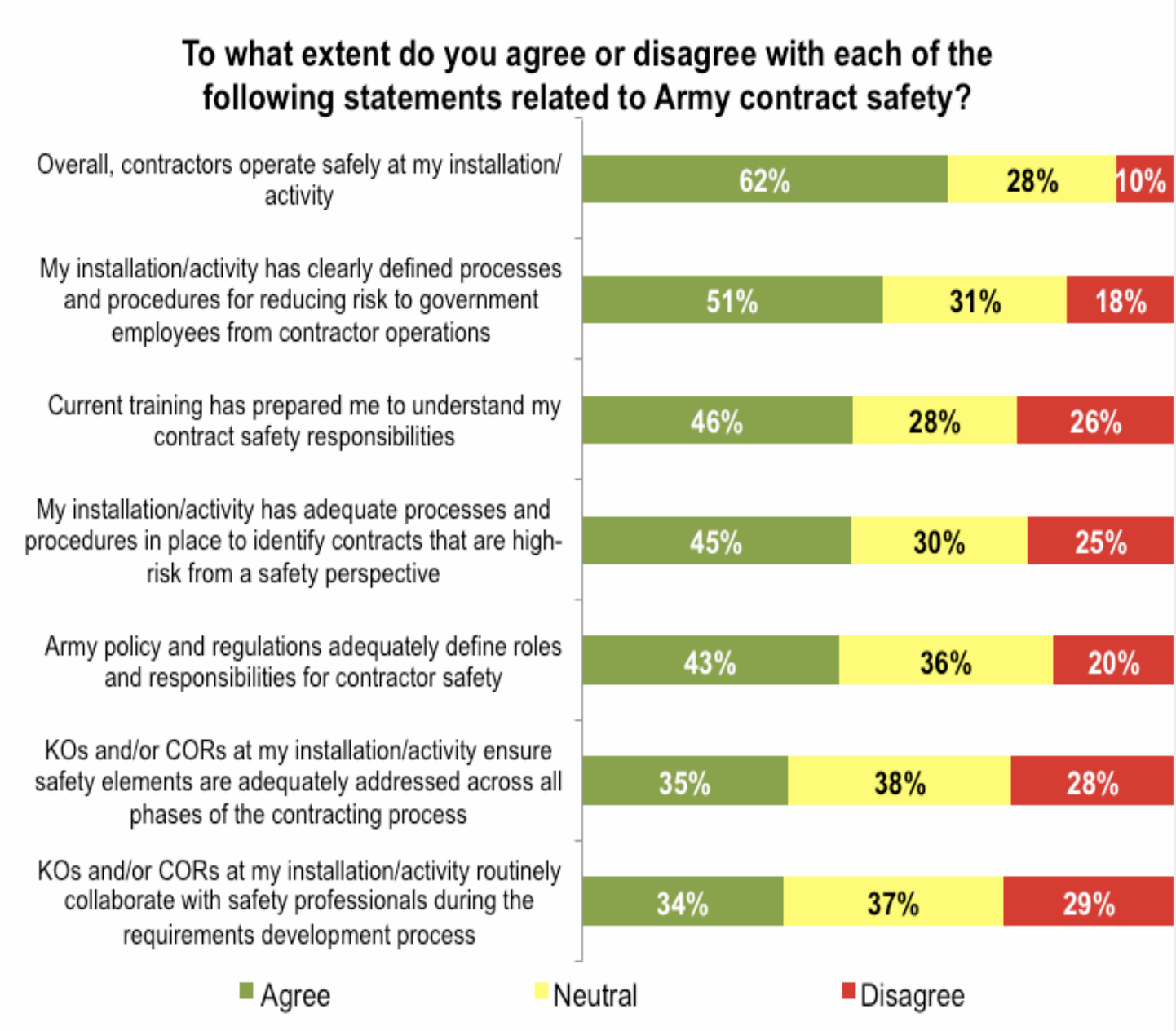
• improved access to guidance and information including the development of an Army Contract Safety Handbook,

• revised ES policies to clarify roles and responsibilities,

• enhanced opportunities for and focus on collaboration between Army safety and contract personnel.

A more in-depth summary of the 2013 Contract Safety Survey results is available at [enter link to the survey briefing].

Thank you again for helping to improve this critical safety area!



Fire Alarm and Fire Suppression Systems Impairments and Work Order Priority:

Gerald Adams
Chief, Fire and Emergency Services Branch
Command Provost Marshal/ Protection Office
HQ Installation Management Command (IMCOM)
Fort Sam Houston, Texas

To protect the lives of Soldiers, Family Members and the Civilian workforce and reduce Fire Alarms and False Calls, all installed Fire Alarm and Fire Suppression Systems must receive the highest priority for inspection, maintenance and repair.

Senior and Garrison Commanders should be reminded that the Unified Facilities Criteria (UFC) 3-601-02 mandates that impairments affecting the performance of installed fire protection features shall be corrected immediately when identified using the highest priority in the appropriate work identification and management system.

The UFC 3-601-02 provides requirements for inspection, testing, and maintenance (ITM) of engineered fire protection features in DOD facilities and cannot be deviated from without prior approval of the U.S. Army: Headquarters U.S. Army Corps of Engineers (HQ USACE/CECW-CE).

These processes meet the OSHA general industry standards requirements for repair or correction of impairments (29 CFR Part 1910.160(b)(2) and 160(b)(6)). In addition, the Garrison must regularly inform Senior and tenant activity commanders, not less than twice a year, of the system impairments, compensatory measures in place, projected correction completions, and corrections completed since the last report.

Carrerist on the Move

James T. Patton
CP-12 Safety Engineer Proponent
Office of the Director of Army Safety
Fort Belvoir, Va.

TRADOC Senior Safety Engineer completes Army War College

COL Michelle Rose, TRADOC Senior Safety Engineer, will be graduating the Army War College Distance Education program next month. As safety engineer for TRADOC, Michelle manages TRADOC's role as the user's representative for safety in system acquisition. A Colonel in the Virginia Army National Guard, she completed two combat tours, first as a platoon leader during Operation Desert Shield/Storm and later as company executive officer, during Operation Restore Hope, Somalia. From 2008-2010 Michelle commanded the 529th Combat Sustainment Support Battalion, which deployed to Shindand, Afghanistan in support of Operation Enduring Freedom. In May 2012, she took command of the 329th Regional Support Group. Her education includes a bachelor's degree in Industrial Engineering, a master's of business administration degree, and she is a graduate of the Command and General Staff College.

Michelle has been a student in the Army War College Distance Education program for the past two years. She has successfully juggled her duties as TRADOC Senior Safety Engineer, her commitment to the Guard, and wife and mother of three, while getting this vital leadership experience. Our congratulations go out to Michelle for completing the Army War College as well as for her leadership in Army system safety and her

USACE Senior Safety Engineer Honored by American Society of Safety Engineers

Ellen Stewart, Senior Safety Engineering at Headquarters, USACE, has been honored by the American Society of Safety Engineers (ASSE) as one of 100 women from around the world for making a difference in the safety, health and environmental (SH&E) field. In her role as USACE Senior Safety Engineer, Ellen is the primary editor for Engineer Manual 385-1-1, Safety and Health Requirements, and is the proponent for safety engineering in facility design and construction.

We join ASSE in congratulating Ellen for her outstanding achievements and contributions to workplace safety and health and her role as a leader in the Army Safety Program.

What's New

Revitalizing Career Program-12 Safety Engineering

James T. Patton
CP-12 Safety Engineer Proponent
Office of the Director of Army Safety
Fort Belvoir, Va.

The CP12 safety engineering community has been active for many years in defining job series competencies and identifying required and recommended training to support these competencies.

Office of Personnel Management uses the occupational requirements for professional engineering positions (professional engineering degree or combination of college-level education, training, and/or technical experience that furnished a thorough knowledge of the physical and mathematical sciences underlying professional engineering and a good understanding of engineering sciences and techniques and their applications) to qualify individuals as safety engineers. Although CP-12 safety engineering community has yet to progress to the stage of having a certificate program similar to the ANSI/CP-12 safety and occupational health professional and the ANSI/ CP-12 Explosives Safety Professional certificate programs, Army Safety Engineers are required to complete specialized core training in addition to meeting OPM's minimum qualifications. These core courses are: System Safety (Basic); Advanced System Safety Engineering; Process Safety Management; Accident Analysis for Engineers; and Software System Safety. In addition, there are over ninety courses that have been identified as recommended for safety engineers (depending on the engineer's career track), and many Army commands have specialized training requirements for safety engineers. radiation exposure records dating back to 1954. A cross-reference database query was performed by the ADC, which provided the NCRP exposure data from positive matches. A formal NCRP report will be published at the conclusion of the study.

Over the past year, Army safety engineers have been involved in two major career program-12 initiatives.

First, as part of the Strategic Workforce Initiative a team of subject matter experts has been busy updating safety engineering competencies, analyzing competency gaps, and developing competency gap closure strategies. Priorities for safety engineering competency gap closure strategies are:
1 – establish and secure funding for a CP-12 Safety Engineer Certification Program;
2 – establish and secure funding for a CP-12 803 Intern Program;
3 – program funding to enable Safety Engineers to complete core safety engineering courses;
4 – establish a formalized mentoring program;

What's New

Revitalizing Career Program-12 Safety Engineering (Continuation)

5 – establish and secure funding for a safety engineer professional development program;
6 – encourage safety engineers to obtain Certified Safety Professional designation and secure funding for preparatory courses.

Second, a team of subject matter experts has been working with the University of Texas, Arlington to develop in-house advanced safety engineering courses. Of the five mandatory core safety engineering courses, two have limited availability, are expensive and difficult to schedule, and consequently many Army safety engineers have yet to complete. Development of in-house courses in these subjects will provide cost savings and increase the competencies of safety engineers. The two courses – "Hazard Analysis Techniques and Accident Analysis for Engineers" and "Advanced System Safety Engineering" – are scheduled for completion in September 2014.

Advanced Safety engineering course development team
From l-r: Jay Hanrahan (CECOM), Henry Vandyke (ARDEC), Bill Edmonds (AMC), Ken Rose (AMCOM), Will Eggleston (USACE), Pat Kelly (TACOM), Bob Braun (UT Arlington), Jim Patton (ODASAF), John Reed (ARDEC), Jack Dixon (UT Arlington)

FCR CP-12 Management Branch

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SAFETY & OCCUPATIONAL HEALTH