Operational adaptability of the fires force relies on educating and developing Army and fires leaders alike to be capable of understanding situations in depth, to critically assess situations, and to adapt actions to seize and retain the initiative in support of full spectrum operations by employing offensive and defensive fires. Fires provide a warfighting function through field artillery and air defense artillery capabilities. Over the last couple of years, the Fires Center of Excellence (FCoE), Fort Sill, Okla., has conducted a comprehensive review of the fires warfighting function as it applies to the current and future operational environment.

The U.S. Army Functional Concept (AFC) for Fires, Training and Doctrine Command Pamphlet 525-3-4, takes into account the lessons learned over more than nine years of combat operations and recognizes that the future operating environment will continue to be characterized by complexity and uncertainty. While determining the required capabilities for fires forces confronting future adversaries, the Army recognized that potential adversaries will have access to a wide range of capabilities to counter or interrupt U.S. advantages in communications, surveillance, long-range fires, armor protection and mobility.

There should be little doubt that the Army, in concert with its joint and coalition partners, will continue to conduct full spectrum operations in populated areas. If the security situation permits, intergovernmental, interagency, nongovernmental and private organizations will interact with military forces in stability operations. Complexity and uncertainty will reside throughout the land, air and space domains. Cyberspace and the electromagnetic spectrum will continue to become more crowded and contested
as technology becomes more affordable and available. Just as in today’s operating environment, future adversaries may have reputable “day jobs” but may conduct insurgent activities using cheap technology to terrorize the population or attack our forces.

The AFC for Fires builds upon the ideas presented in The Army Capstone Concept (ACC) and The Army Operating Concept (AOC). Both the ACC and AOC present broad capabilities that the Army will require between 2016 and 2028. Future Army forces will conduct operations as part of the joint force to deter conflict, prevail in war and succeed in a wide range of contingencies in the future operating environment. The AFC for Fires emphasizes the need for operationally adaptable fires and focuses on developing a versatile set of capabilities that future Army forces will employ with increased discrimination to defeat a wide range of threats.

The realities of constrained resources will require Army forces to closely integrate with all joint, interagency, intergovernmental and multinational partners to achieve unity of effort. This demands that all partners share an understanding of the process, roles and responsibilities, objectives, and transparency to improve decision making and effectiveness. The AFC for Fires focuses on five components for the solution to address the challenges to Army fires: expanding the fires warfighting function; employing versatile fires capabilities; identifying, locating, targeting and engaging threats with increased discrimination; integrating joint, Army and multinational capabilities; and distributing fires capabilities for decentralized operations.

The other warfighting functional concepts are nested with the AFC for Fires, and all six support the ACC and AOC within the Army Concept Framework.

### Expand the Fires Warfighting Function

Having just observed the historic 100th anniversary of the establishment of the School of Fire (now the U.S. Army Field Artillery School) at Fort Sill, we are proud to have both the Field Artillery and Air Defense Artillery Schools and Centers colocated there. An expanded fires warfighting function incorporates indirect fires (field artillery and mortars), air and missile defense (AMD), joint fires and electronic attack capabilities as fires. The requirement for future Army units, bases and outposts to have a 360-degree capability to intercept in-flight rockets, artillery, mortars, ballistic and cruise missiles, and manned and unmanned aircraft is a key element in expanding the fires warfighting function. Wide-area security and combined arms maneuver require defensive fires to protect friendly forces, population centers and critical infrastructure.

The future is the fusion of sensors from the air defense artillery and the field artillery within the construct of an integrated mission command system with a range of engagement capabilities. We must leverage this fusion in order to reduce target location error so that we can provide the right offensive and defensive fires for the commander. The capability to sense and engage a wide range of targets with 360-degree coverage with the right weapon to achieve timely, effective and efficient fires from mud to space enhances fires operational adaptability.

### Employ Versatile Fires Capabilities

Our Army requires fires leaders and soldiers to be experts in their fires warfighting tasks and possess the skills to perform a broad range of nonstandard missions. The foundation for employing versatile fires capabilities starts with ensuring that fires organizations and personnel at all levels are trained and certified on core competencies. This is the responsibility of all Army leaders who have fires soldiers in their formations. Training, education, leader development and operational experience form the foundation from which our leaders derive the ability to perform the varied missions and tasks required in full spectrum operations.

Fires organizations demonstrate versatility by task-organizing to meet required capabilities based on mission, enemy, terrain and troops-time available and civilian considerations. Future indirect fires and AMD units may be composed of a mix of fires capabilities placed under the operational control of a fires headquarters. Our fires forces must leverage versatile networked capabilities through mission command systems with fire support and AMD functions so as to enable task-organizing temporary or permanent composite fires organizations.

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Army fires are all-weather capable and effective under any operational condition. Versatile fires capabilities provide multiple means to achieve the right effects and minimize unintended consequences. A wide range of conventional to precision capabilities will provide effects from precision (circular error probable [CEP] of less than 10 meters) to near-precision (CEP of 10 to 50 meters) and area capabilities (CEP greater than 50 meters).

The fires community is committed to precision fires and weapons for today and in the future. The Army’s Capability Portfolio Review (CPR) process validated the Army’s present and future precision weapons developments to fulfill the Army’s full spectrum operations needs. The ongoing CPR revealed that the Army has the right mix of capabilities, employment conditions and the precision fire capability for direct and indirect fire. These weapons include the accelerated precision mortar initiative, Excalibur, Excalibur 1b (currently in development), the 155 mm precision guidance kit, the joint air to ground missile, Hellfire and the guided multiple launch rocket system.

Precision target-location capability (less than 10 meters target location error) is required for use of precision munitions. Part of this balanced approach is providing accurate target-location capability for both mounted and dismounted soldiers. The capability for target-location sensors to provide more accurate target locations enhances the effectiveness of all our engagement munitions, precision and area alike.

The Army also leverages the sister services’ precision capabilities, precluding duplication of capability. The quantity required for each of the munitions discussed to support full spectrum operations is constantly adjusted as the national military strategy changes, new warfighting capabilities are introduced, and predecessor systems and munitions are retired.

The current and future operating environment will require platoon and smaller firing elements distributed over the area of operations that can mass in space and time against multiple targets, while maintaining the capability to mass at battery and battalion levels. This ability is enabled by system range capabilities, the mission command network, weapon platform capabilities (such as firing computations calculated on the weapon) and extended-range communications.

Fires organizations will exhibit versatile capabilities by task-organizing indirect fires and AMD forces within field artillery and air defense artillery organizations. As seen on the battlefield today, fires battalions may consist of a composite organization of 105 mm M119A3, 155 mm M777A2 howitzers and 120 mm M120 mortars, providing a range of capabilities for the supported maneuver commander to accomplish the mission. Future versatile, networked fire-control capabilities will enable fires battalions to compute technical and/or tactical fire direction for field artillery and mortars on the same system. Air defense artillery units will task-organize units, adding sensors and/or weapons to allow commanders to tailor forces to support the fight. Future fires organizations will take advantage of improved mission command networks and extended-range communications to provide even more versatile fires for wide-area security and combined arms maneuver.

The battlefield of the future will require fires units to have the versatility to conduct other missions not requiring the delivery of offensive and defensive fires, just as we have seen over the recent years of combat. Fires organizations and leaders must have the capability to accept and employ any non-fires units and enablers necessary to accomplish these other missions.

**Identify, Locate, Target and Engage Threats With Increased Discrimination**

Our Army has experienced the challenges of operating in environments that require precision fires and a proportional use of force so as not to alienate the very populations we are securing. To prevent fratricide and mitigate collateral damage, we must accurately and precisely identify, classify, locate and track threats. By rapidly differentiating friend from foe, we contribute to situational awareness on the joint common operational picture.

Situational awareness depends on aggressive physical reconnaissance and surveillance. Commanders improve situational understanding for future operations through
analyzing intelligence gained from each operation and through dialogue between staffs and commanders. This is a continuous process. Sensors and human sources together will provide more reliable targeting and fire-control quality data.

Discriminate electronic attack capabilities must also provide discrete effects to minimize collateral damage, prevent disruption of friendly force operations and prevent the disruption of an increasingly crowded civilian electromagnetic spectrum. Electronic attack capabilities provide commanders with another option to engage targets in environments with the high potential for fratricide and/or collateral damage.

The accurate engagement of targets also requires determining the accurate locations of firing units and sensors. The Global Positioning System (GPS) provides the critical positioning function that allows these sensors and firing units to be accurately located. We must never allow ourselves, however, to become completely reliant on space-based GPS without retaining a terrestrial-based traditional survey capability for situations in which GPS is degraded or denied.

**Integrate Joint, Army and Multinational Fires Capabilities**

Fires leaders are the integrators of joint, Army and multinational fires capabilities, developing and sustaining the trust and confidence of our commanders. As Winston Churchill once said, “There is at least one thing worse than fighting with allies, and that is to fight without them.” The capabilities of our joint and multinational partners must be coordinated and integrated to achieve efficiencies, contribute to the common operational picture, and provide offensive and defensive fires across the battlefield. Being able to link sensors and fire-control systems across components and with our multinational partners will create some redundancies but will ensure mitigation of coverage gaps, restrictions or resource shortfalls. Communication among the varying systems throughout our services and with multinational partners is essential to integrating our collective capabilities.

Fires leaders at all echelons must possess the proper education and training to coordinate, integrate, and effectively manage all the assets and resources of the joint fires team. As GEN Martin E. Dempsey noted in his article “Leader Development” (ARMY Magazine, February 2011), we must align and connect our leader-development programs and policies to ensure that they stay connected with conceptual and doctrinal changes. To be proficient at warfighting, leaders at every level must reflect upon where their organizations are, where they are going and who they are taking with them into the fight. Training and education is paramount to building capabilities within our organizations and will allow us to provide fires in support of full spectrum operations, from combined arms maneuver to wide-area security.

**Fires Capabilities for Decentralized Operations**

Soldiers and leaders today must be comfortable operating with uncertainty. We empower our soldiers and leaders to conduct operations over vast areas in decentralized operations.

The joint, Army and multinational warfighter must have timely and responsive fires in support of combined arms maneuver and wide-area security. Communication on the network is essential to enabling the execution of fires tasks, and the network must enable both centralized and decentralized execution of fires.

Warfighters must have the access, availability and authority at the lowest appropriate level to employ timely and responsive fires assets in combat. The capability to communicate over long distances, from the warfighter on the ground to the fire-control or fire-direction assets and to the delivery platforms, is of critical importance.

The Fires Center of Excellence remains completely engaged with the force as we move forward with the two-year revision process for Army concepts. Our required fires capabilities, along with the other five Army warfighting functions, will remain nested at all levels with the Army Concept Framework. We look forward to the intellectual work required to ensure that the fires force remains operationally adaptable in support of full spectrum operations and to providing warfighters with timely and responsive fires as the only all-weather, 24/7 fires capability for the warfighter.

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SPC Sean McConnell (left) and SPC Scott Shaver, armament electrical avionics repairers with the 1st Cavalry Division, load a Hellfire missile onto the mounting bracket of an AH-64D Apache helicopter in Iraq in October 2009.