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Non-Lethal Operational Fires in Military Operations Other Than War

By

Michael J. Gould
Major, U.S. Army

A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Maritime Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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LTC(P) Davis, USA
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Operational planing today must further develop the use of fires in military operations other than war (MOOTW). Factors such as emerging technologies in information operations and the difficulties of MOOTW planning make non-lethal operational fires the weapons of choice to achieve the operational objectives in an environment restrained by ROE, purpose and scope. The capabilities of non-lethal fires are manifested through PSYOPS, Information Warfare (IW), Military deception, and Electronic Warfare (EW).

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Introduction

Understanding of operational fires and their purpose is firmly rooted in conventional war fighting. Operational planners have a straightforward understanding of the capabilities, employment methods and purpose of these types of fires in high to mid-intensity conflict. However, with the advent of more frequent operations within the spectrum of Military Operations Other Than War (MOOTW), including peacemaking and peacekeeping, the concept of operational fires is less defined. Further, while principles of operational fires are easily applied in terms of defeating industrial age mechanized forces, their use is not as clearly defined in terms of their utility in the emerging information warfare age where military strength is measured more in information dominance than combat power.

The purpose of this paper is to review the purpose and role of operational fires and to highlight the application of non-lethal operational fires in low-intensity conflict. Additionally, the paper will discuss the potential application of non-lethal fires to the emerging era of information warfare and offer some conclusions for future operational commanders.

Key emphasis will be on the premise that non-lethal operational fires are more important and more difficult to achieve in these types of operations. Although considered to be "soft" operational fires, they are nonetheless highly effective in assisting the joint force commander shape the battlefield to accomplish operational objectives.[1]

Background

Before addressing operational fires, it's useful to first review the purpose of strategic and tactical fires to gain a greater understanding of the realm of operational fires. It is easy to confuse the types of fires among the three levels of warfare. Operational fires are not strategic and they are not tactical primarily because of their *purpose*. Moreover, operational fires can be differentiated from other types of fires by additional factors such as type, duration, timing, control echelon and execution responsibility.

Tactical

Tactical fires are intended to support maneuver forces in direct engagement with the enemy. They suppress or destroy the enemy's direct, indirect and air defense weapon systems and are designed to have a direct impact on the given engagement or battle within a given combat sector.[2] They are planned and conducted by the tactical commander in close coordination with the scheme of maneuver whether in the offense or defense. These fires are primarily provided by organic cannon and rocket artillery, but can also include Close Air Support (CAS) and Naval Surface Fire Support (NSFS).[3] Although these fires are executed to achieve tactical objectives, they may have operational or even strategic implications. Either way, their stated purpose is tactical.

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[1] Ducharme
[2] Tokar, p. 8
[3] Vego, p.194

Strategic

The purpose of strategic fires is to have a major impact on an entire campaign or even the outcome of the war.[4] They are planned at the theater-strategic level and usually take place outside of the theater area or beyond where major operations or campaigns are planned or underway.[5] Fires of this nature are beyond the range of conventional artillery, CAS and NSFS. These fires are provided by long-range Air Force and Naval air, Navy Tomahawk Land Attack Missiles (TLAM), Army Tactical Missiles (ATACMS) and nuclear capable systems.

Operational Fires

Although both tactical and strategic fires may have operational consequences, operational fires are specifically planned for the purpose of achieving a decisive impact on a campaign or major operation and have an "inherently joint function".[6] Additionally, they can not be categorized as fire support nor as solely direct or indirect fires. Their purpose is to shape the battlefield and create conditions for success of future operations.[7] More succinctly, Professor Vego highlights the difference: "Unlike tactical fires, operational fires are invariably aimed at targets in the area controlled by hostile forces."[8] Operational fires may be a series of tactical actions or a planned interdiction, but are not limited to certain types of weapons or engagements.

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[4] Tokar, p.9
[5] Vego, p. 195
[6] Ibid, p. 195
[7] Hammond, pp. 3-4
[8] Vego, p. 196

Fundamentals

There are some fundamental attributes that distinguish operational fires from other types of fires that are critical to their employment. As discussed above, the purpose of operational fires is to have a decisive effect on the outcome of major operations. They are undertaken to achieve specific operational results. In light of this, operational fires can be characterized in seven ways. First, these fires are usually separate from the operational scheme. This is critical to the planner as he must insure that the operational fires plan is sequenced and synchronized with the operational scheme in order for the fires to have the intended effect. Second, because these fires are conducted outside the operational scheme, they are normally executed outside the area in which the major operation is being conducted. Third, in order to have maximum impact on an operation, these fires must be conducted in both the strategic and operational depth of the enemy's defenses. This approach provides the best method to interrupt and minimize as many options available to the enemy as possible outside of the tactical realm. Fourth, operational fires are meant to create favorable conditions for future operations. These fires must either eliminate the enemy's ability to react, or convince him that he has a very limited selection of options. Fifth, these fires must deceive the enemy as to our intentions. Sixth, they are aimed at targets and functions that are controlled by hostile forces. And lastly, operational fires are planned in a top down manner.[9]

Types

There are two types of operational fires, lethal and non-lethal. *Lethal* fires delay, disrupt, destroy or degrade enemy operational forces or critical functions or facilities. They can be both conventional and unconventional. They employ any combination of missiles, bombs, conventional artillery, torpedoes and mines.[10]

Non-lethal operational fires impair, disrupt or delay the performance of enemy operational forces, functions and facilities. These fires are difficult to concentrate and are primarily manifested in Electronic Warfare (EW), Psychological Operations (PSYOPS) and deception.[11] Non-lethal operational fires incorporate theater-wide employment of deception, disruption and neutralization of enemy electronic sensors, thus locating his forces, intercepting his communications and disrupting his command and control. PSYOPS are employed to degrade enemy morale and influence decision-making through leaflets, broadcast and other methods.[12] An additional non-lethal fire is operations security (OPSEC) which, although passive, is key to protecting the commander's intentions, communications and control of his own forces.

IO/IW/C2W as non-lethal fires

In broad terms, non-lethal fires are a subset of a developing area of Information Operations (IO). Information operations are defined as "actions taken to affect adversary information and information systems, while defending

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[9] Ibid
[10] Ibid, p. 197
[11] Ibid, p. 197

one's own information and information system."[13] IO incorporates all national assets to achieve national objectives and permeates the entire spectrum from national and strategic down to operational and tactical. By definition, IO encompasses all activities in peacetime and are conducted continuously as part of the CINC's Theater Engagement Plan. (see Enclosure 1) In time of crisis, IO is manifested in Information Warfare (IW) whose purpose is to "achieve or promote specific objectives over a specific adversary or adversaries."[14] The application of IW in conflict is found in the integration of five pillars of what is known as Command and Control Warfare (C2W). The pillars of C2W are EW, PSYOPS, military deception, OPSEC and physical destruction.[15] Physical destruction is an element of lethal fires and not the subject of this paper. The other four pillars are the primary non-lethal means available to joint force commanders today to accomplish operational objectives.

Purposes of non-lethal operational fires

In general, there are four primary purposes of operational fires that are particularly important to MOOTW. These are to isolate and shape the battlefield, facilitate one's own or friendly operational maneuver, deceive the enemy as to the time and place of major operations and protect one's own base of operations.

As the transition continues from industrial age to information age warfare, it is expected that the incident of MOOTW will continue to dominate as the type of operation we will face. As a result, the focus of operational fires must shift

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[12] Ibid, p. 200
[13] DoD Dir. S-3600.1, 9 Dec 1996
[14] Ibid

from lethal means to non-lethal means. Operational planners in MOOTW are forced to focus predominantly on non-lethal fires to accomplish operational objectives. Why? Because conflicts of this nature are more restrained by political considerations such as limiting collateral damage to civilians and infrastructure, destruction of property and maintenance of public support for military operations. Further, because our own capabilities rely so heavily on information dominance, we must focus on protecting these assets as much as our conventional systems in order to effectively maintain our advantage.

In light of this, the operational commander must employ the four pillars of C2W (non-lethal fires) to accomplish his operational objectives in MOOTW. The following discussion establishes how non-lethal fires can be used effectively as operational fires in conducting low intensity conflict operations.

Isolate/Shape the Battlefield

This purpose is the most common use of operational fires and serves as a critical method to disrupt, delay or severely hinder the enemy's ability to introduce forces into the operational area to affect ongoing or future operations. In MOOTW terms, isolating and shaping the battlefield is the process of setting the conditions for success of peacekeeping, peacemaking and humanitarian relief efforts. Further, the purpose of operational fires must facilitate the safe conduct of these types of operations in the non-linear environment in which MOOTW is conducted. Through the use of EW, deception and PSYOPS, the operational commander can shape the enemy's responses and activities. These fires must

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[15] Ibid

reach deep with their effects just as in lethal fires. Depth in MOOTW terms may not correspond to space in miles or kilometers, but rather to reaching the maximum number of factions, adversaries and/or the general population. In order to do this in MOOTW, the key planning factor is determination of the threat. The threat may be from organized military forces or paramilitary, guerilla, and police forces or political, religious and social factions. In the case of organized military forces an active EW, deception and PSYOPS fires plan may be effective. In the case of political, social or religious factions a more passive fires plan to protect one's own C2 may be most effective. In the latter example, the assistance of interagency and or multinational intelligence, law enforcement, diplomatic and public affairs may be better equipped to implement the active non-lethal fires plan.[16]

Facilitate one's own/friendly maneuver (objectives)

Non-lethal fires can assist in the maneuver of operational forces as well. In MOOTW, the operational commander seeks to gain and maintain freedom of action. If the commander can conduct tactical operations freely without interference, then his operational objectives are more easily met. Again, the use of EW, deception and PSYOPS are effective means to either deny the enemy information about operations, deceive him about friendly intentions or convince him that the operations are not a threat to his activities.

[16] Joint pub 3-13.1 p. V-7

Deceive the enemy as to the place and time of a major operation

Non-lethal fires are very effective in deceiving the enemy as to friendly intentions through the use of military deception. As mentioned before, the use of EW to disrupt the enemy's ability to gather information can also be used to send deceptive signals of bogus plans and operations. Moreover, PSYOPS can be effective in shaping perceptions of operations such that the populace and/or potential belligerents feel less threatened by operations.

Protect one's own base of operations

The most effective way to protect one's own area of operation in the information age is through OPSEC. While the focus of non-lethal operational fires to this point has been on the enemy's communications and intelligence systems, the protection of our own systems is critical to the planning and execution of the operational commander's mission. Significant emphasis on the protection of our own systems in the entire spectrum of conflict is a critical element of the operational fires plan.

Duration of non-lethal operational fires

Non-lethal fires are most likely conducted over a longer period than lethal fires. They potentially take longer to produce results and sometimes have no visible effects. In the latter case, their success can only be defined in the broader perspective of reducing the level of difficulty of achieving operational objectives. Another differing factor is in the period in which non-lethal fires are

most effective. The typical life cycle of an operation is one that transitions from peace, to crisis, then conflict and post hostilities. In most cases, conflict may never arise if deterrence is successful. Effective use of non-lethal fires may be the difference in successful deterrence. Frequently, the entire MOOTW may be characterized as a continuous deterrence and post-hostilities environment where the operational commander is maintaining or enforcing the peace or providing humanitarian assistance. The use of PSYOPS as operational fires may be most effective in maintaining the peace. At this phase of the operation the adversary's operational center of gravity may be "perception of fairness" of the peacekeepers.[17] Operational fires must do all that it can to reinforce this perception. An example of this is in the execution of a humanitarian relief operation. As part of the operational fires plan, PSYOPS informs the local populace of a relief effort. Simultaneously, public affairs may try to insure the operation is well known and publicized. Wide dissemination of the event and truthful public information will portray the effort as being fair to all.[18] PSYOPS could also play a key role in notifying any potential belligerent of the scope and purpose of the operation and the consequences if they attack.[19] While these actions could be considered tactical, they are critical to the operational commander's plan to be perceived as fair throughout his area of operation and directly contribute to accomplishing the operational objective. This effort of PSYOPS through civil affairs and public affairs, must be coordinated at the

[17] Murphy, p. 7
[18] Ibid, p. 7
[19] Ibid, p. 7

operational level so that relief operations in the whole do not favor one faction or another.

One could argue that categorizing this operation as operational fires violates the fundamentals previously discussed. However, in MOOTW, the strategic and operational depth of the enemy may only be the next town over from where the operation is to take place. Further, while technically within the area of operation, the impact of the PSYOPS will have the same desired operational effect on the overall relief operation. This highlights the fact that, in MOOTW, tactical actions can quickly have operational or strategic effects and the operating area is significantly more compressed than in a major conventional conflict.

Timing of non-lethal operational fires

The timing of non-lethal fires is considered in two ways: the level at which it is conducted and the method by which it is controlled. The effects produced by EW, deception, and PSYOPS manifest themselves through capabilities that go beyond the assets organic to the operational commander. As a result, agencies such as the CIA, DEA, the FBI and others may play a significant role in the operational fires plan all dependent on the type of operation to be conducted. Additionally, national sensor and communication assets may be part of the overall EW plan. In this light, non-lethal operational fires are then conducted using assets at multiple levels from multiple sources. This fact complicates planning significantly for the joint forces commander. He must be cognizant of all

the types of assets that can be brought to bear to accomplish his objectives, but must also synchronize these assets provided by outside players at the operational level in order to be effective.

Control of non-lethal fires is done using a top down method. National and strategic assets will be employed according to the national and strategic objectives and the operational commander will have to request assistance to augment his capabilities. As a result, planning is conducted and executed on multiple levels, but non-organic assets must be tied together by the operational commander to accomplish his objectives.

The future of non-lethal fires in the information age

The use of non-lethal fires at the lower end of the spectrum of conflict will be enhanced significantly as technology continues to advance. As this capability expands, so too does the scope of responsibility of the operational commander in planning non-lethal operational fires. As the sophistication of sensors, computers and communications equipment advances, the commander will have ever-increasing non-lethal fires capabilities. However, the advanced technology, while helpful to disrupting the enemy, also makes friendly systems more vulnerable. This increases the necessity for OPSEC and threat denial systems that minimizes the threat to our own systems. Further, the commander must adapt to the information environment with staff systems that prevent the overload of information, which could obscure the critical intelligence needed to execute successful operations. The operational commander's staff will also have to

successfully integrate all of the national and strategic assets available that are allocated to the operation.

What will remain a constant in the future of operational fires is the use of PSYOPS and military deception in shaping the battlefield. EW will also remain, but will become more sophisticated and more capable as a result of technology requiring continuous reassessment of its capabilities and employment methods. As such, the operational commander and his staff must continually improve the effectiveness of these non-lethal fires. Lessons learned about what works and doesn't work in low intensity conflict are as important as emerging technologies in non-lethal fires. Commanders faced with limited flexibility to use lethal fires must effectively employ non-lethal ones to shape the battlefield.

Cyber Warfare

An emerging non-lethal fire is Cyber warfare or "computer network attack."[20] Cyber warfare is a double-edged sword because, while it presents the opportunity for offensive warfare, it also presents great risk to our own systems. This statistic gives an idea of the scope of this emerging warfare area: computer hacker attacks cost U.S. businesses between $100 and $300 billion each year. As this aspect of non-lethal fires develops, its application to MOOTW will give the operational commander a full range of options from catastrophic destruction of the enemies finances and financial system to the presentation on enemy

[20] USACOM JWC Newsletter, Defensive IO, Oct 1998

computers of virtual military units conducting operations in a sector opposite from where the real mission is taking place.[21]

The effectiveness of cyber warfare as an offensive non-lethal operational fire will depend on the sophistication of the enemy. In order to produce decisive effects, the enemy must possess sophisticated computer systems. In this age of low intensity conflict, the enemy or belligerent is not likely to have these types of systems, but may have the ability to interfere with our networked systems and disrupt our operations. In that sense, operational commanders in the future must consider OPSEC, both active and passive, as more critical in the overall operational fires planning.

Conclusion

Military operations other than war are the predominant military operations conducted today and will be for the foreseeable future. In recognition of the uniqueness of each individual MOOTW, operational planning must be adaptive and flexible in determining the best way to accomplish the joint force commander's mission. Critical to this planning is the effective use of non-lethal fires as the primary means to leverage the commander's ability to shape the area of operations and maintain his freedom of action. The nature of MOOTW and its restraints on the commander require him to rely less on conventional lethal fires and seek softer, but no less effective ways to be successful. Although limiting lethal fires reduces his options somewhat, the emergence of IW and C2W and

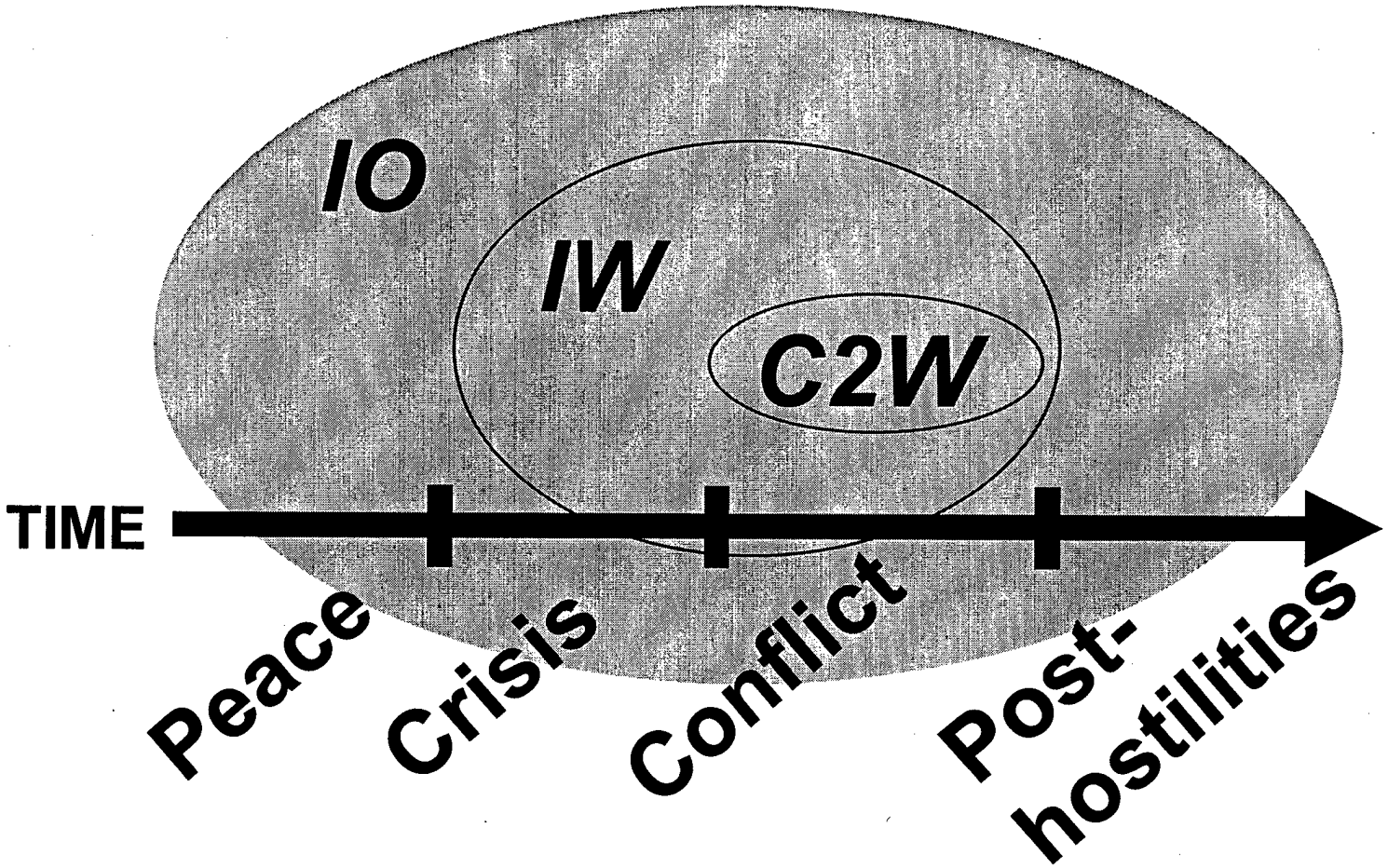
[21] Kennedy, p.6

their rapidly expanded capabilities actually enhance the joint force commander's ability to influence his operations through fires.

Given the current environment, operational commanders must be cognizant of the effectiveness of non-lethal fires while paying close attention to the vulnerabilities of his own systems. As the information age progresses, both active (IW, EW, PSYOPS, deception) and passive (OPSEC) non-lethal fires will be the key to successful accomplishment of the mission.

Lastly, there is a growing necessity for operational commanders and their staffs to better control and synchronize national and strategic assets that provide elements of non-lethal operational fires. These assets, provided by a host of governmental agencies will increasingly put pressure on joint force commanders to get their arms around inter-agency coordination. These other agencies provide critical means to help the operational commander, but require significant effort to integrate them into the operational plan.

IO / IW / C2W



Bibliography

U.S. Joint Chiefs of Staff. Doctrine for Joint Operations. (Joint Pub 3.0) Washington D.C.: February 1995.

Department of the Army. Operations. (FM 100-5) Washington D.C. : June 1993.

U.S. Joint Chiefs of Staff. Joint Vision 2010. Washington D.C.: n.d.

Ducharme, Lee. "IW/C2W Planning Process," Lecture, U.S. Naval War College, Newport, RI: 6 June 1996.

Bowman, Michael. "Synchronizing Operational Fires and Maneuver." Unpublished research paper, U.S. Naval War College, Newport, RI: 1998.

Saunders, Michael L. "Joint Vision 2010, Priority of Effort and Airspace Management: The Long Pole in the Tent." Unpublished research paper, U.S. Naval War College, Newport, RI:1998.

Kennedy, Jon T. "Operational Fires Through Cyberspace." Unpublished research paper, U.S. Naval War College, Newport, RI: 1997.

Nolan, Daniel A. III. "Targeting Command and Control Warfare as Operational Fires." Unpublished research paper, U.S. Naval War College, Newport, RI: 1998.

Kluba, Robert F. "De-mystifying Joint Targeting." Field Artillery Journal. January 1996.

Irrig, Christopher. "Altitude Separation at the National Training Center." Armor Magazine. September 1998.

Murphy Dennis M. and Bledsoe Robert G. "The Div Arty's Role in the Division as an ARFOR." Field Artillery Journal. July 1996.

Naval War College. Operational Functions (NWC 4103A) Newport, RI: U.S. Naval War College. Joint Maritime Operations Department, n.d.

Naval War College. On Operational Art, 3d Draft (NWC 1035) Newport, RI: U.S. Naval War College. Joint Maritime Operations Department, 1998.

Naval War College. The Loose Marble and the Origins of Operational Art. (NWC 4004) Newport, RI: U.S. Naval War College. Joint Maritime Operations Department, 1998.

Bibliography continued

Naval War College. Operational Factors. (NWC 4092A) Newport, RI: U.S. Naval War College. Joint Maritime Operations Department, n.d.

Naval War College. Elements of Operational Warfare. (NWC 4096A) Newport, RI: U.S. Naval War College. Joint Maritime Operations Department, 1997.

Supnick, Gary J. "Command and Control of Operational Fires: How will it be done?" Unpublished research paper, U.S. Naval War College, Newport, RI: 1998.

Tokar, Leonard G. "U.S. Doctrine for Command and Control of Operational Fires." A monograph, School of Advanced Military Studies, U.S. Army Command and Staff College, Fort Leavenworth, KS: 1996.