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14. ABSTRACT

In order to truly integrate the joint force, coordination methods and processes among the component commanders must be improved. Analysis of a subset of joint fire support in the context of current doctrine and its application shows that the liaison officer-based method of coordination may not support the JFC to the extent required by today's high tempo operations. This is due to the fact t most effective liaisons require geographical co- location and because effects-based operations ofte cross the traditional lines between components. These reasons become particularly evident when integrating the Joint Force Maritime Component Commander (JFMCC). The JFMCC is rarely co-located w the other component commanders (because he is afloat) and yet he can impact operations in many different areas of operation (air, land, and sea). Improved collaboration tools (which lessen the for co-location) and integration at the JFC staff level (as the lines between air, land and sea bec more blurred) are required to ensure that component commanders can integrate their efforts to the l where the synergy of a joint force can be achieved and exploited.

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INTEGRATING THE JOINT FORCE: IMPROVING COORDINATION AMONG THE COMPONENT COMMANDERS

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military 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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16 May 2003

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I. INTRODUCTION.

The current process of coordination and planning among component staffs requires a new process if the Joint Force Commander (JFC) is to achieve operational objectives through truly integrated, synergistic joint actions. This essay examines the requirement for horizontal coordination - the exchange of information and interaction between component commanders' staffs (see Figure 1 for a graphic depiction of horizontal coordination).

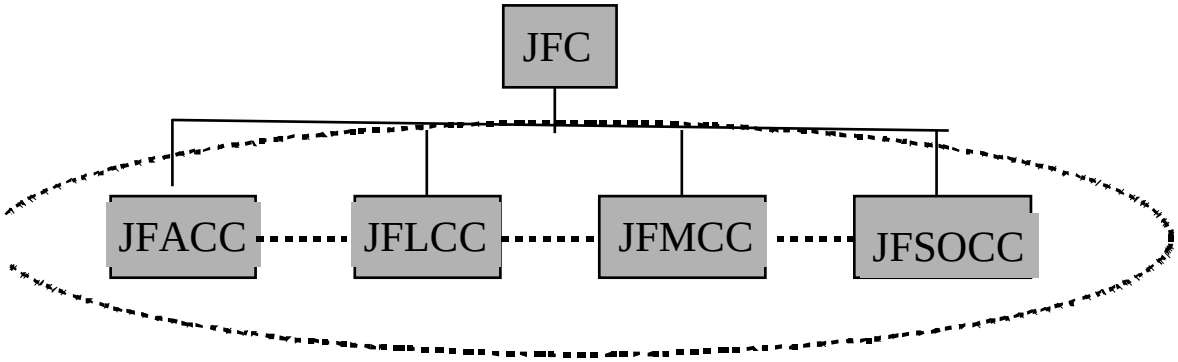

Figure 1: Horizontal Coordination/Integration

Joint fires,[1] which involve forces from two or more components, provide an opportunity to examine coordination and integration issues between component commanders. By examining one aspect of joint fire support,[2] the Fire Support Coordination Line (FSCL), the operational level implications of doctrine, and implications regarding horizontal integration and coordination become clear. The current means of coordination and integration simply do not meet the timelines required by rapid, decisive operations on a dynamic battlefield. The FSCL, representative of the fire support coordination measures that the JFC has to manage,[3] is an element that must remain flexible on the ever-changing battlefield and exemplifies those aspects of the battlespace that must be quickly and effectively coordinated among components. Current doctrine will be reviewed for processes concerning horizontal coordination and the FSCL, in order to delineate the larger issues of horizontal coordination

and planning. Implementation of doctrine in Central Command (CENTCOM) and European Command (EUCOM) will then be reviewed to see how, or if, the joint doctrine "book answer" has been applied. Findings will be presented which show the areas where doctrine (or its implementation) falls short or is not followed. Finally, conclusions and recommendations for process improvement will be made. These recommendations will focus on possible ways for the Joint Force Maritime Component Commander (JFMCC) to organize, plan and equip in order to better integrate with the other Service components as it moves ahead in developing its land attack concept.

II. BACKGROUND.

To date, long-range joint fires have been under the control of the Joint Force Air Component Commander (JFACC) mainly due to the fact that aircraft were the predominant method of delivering operational fires. However, with the fielding of long-range interdiction weapons such as the Army's Multiple Launch Rocket System (MLRS), the Navy's Tomahawk cruise missile and the advent of long-range maritime weapons such as Extended Range Gun Munitions (ERGM), strike aircraft no longer hold a near monopoly on the deep projection of fires to shape the battlespace. Consequently, in order to enable joint fires in support of a well-planned scheme of maneuver and manage the dynamics of the future battlespace, it more imperative than ever that component commanders integrate and coordinate among themselves in a timely manner. This is particularly true for the Navy and its JFMCC concept that will bring new weapons systems and operational planning processes to the JFC.

III. ANALYSIS.

Current doctrine tasks component commanders with "coordinating with the other joint task force component commanders to ensure the most efficient support is provided to the

CJTF."[4] The basis for this requirement is to achieve synergy.[5] Doctrine states that the predominant way to achieve horizontal coordination is through liaison,[6] be it accomplished through individuals, elements or teams. Subject matter experts, liaison officers (LNOs) are integrated into the hosting component commanders staffs and represent the interests of the providing commander. However, as advisors, they generally exert influence to the extent that they are allowed to by the hosting component.

Doctrine for the air, land and maritime components provides the following examples of how LNOs function. The JFACC's main task is to generate or build the Air Tasking Order (ATO).[7] Senior service LNOs from components provide input to the JFACC staff.[8] They "help integrate and coordinate their component's participation in joint air operations."[9] by "presenting component perspectives and considerations regarding planning and executing joint air operations."[10] As many as seven liaison elements may be assigned to the JFACC staff, four of whom have direct roles in coordinating their components desires and concerns with regard to air-based fires.[11] They include the Joint Land Force Component Commander's (JFLCC) liaison, the Battlefield Coordination Element (BCE), and the JFMCC's Naval and Amphibious Liaison Element (NALE).

The JFLCC Handbook states that liaison is the primary means by which it will coordinate with other component commanders. Liaison facilitates supporting and supported command relationships and coordinates the planning and execution of land operations,[12] helping "facilitate the synchronization and integration of current operations and future plans between the JFLCC and the JFC or components."[13] When planning joint fires, the JFLCC's primary liaison with the JFACC is the BCE which is co-located with the Air Operations Center and usually led by a field-grade (O-4) officer. The BCE[14] provides the JFACC staff

with ground expertise, expedites the exchange of information, and coordinates air defense matters.[15] Though tasked with many functions,[16] the BCE is not responsible for the planning of JFACC missions.

Emerging JFMCC doctrine (Joint Publication 3-32 (draft), Doctrine for Command and Control of Joint Maritime Operations) follows JFACC and JFLCC doctrine in the sense that liaison is the primary means of coordinating horizontally. Similar to the JFACC's ATO, the result of the JFMCC's planning process is envisioned to be the Maritime Operations Directive (MOD). The MOD is an integrated order that translates operational objectives into a series of tactical-level missions.[17] During this process, the JFMCC will prioritize "liaison with other components in order to coordinate the planning and execution of assigned missions."[18] The current JFMCC position is that liaison personnel "serve to promote understanding of the commander's intent at both the sending and receiving headquarters."[19]

In summary, horizontal coordination among the component commanders essentially comes down to liaison teams/elements attached to component commanders' staffs. These liaison elements are the primary (and apparently only) means provided in doctrine for one component commander to coordinate with another.

Joint fire support doctrine states that the "function of joint fire support binds fire support resources together so that the multiple effects of each asset are integrated and synchronized to support the commander's intent and concept of operation."[20] A discussion of the FSCL will exemplify the doctrinal and operational challenges related to horizontal coordination and will help to delineate the strengths and weaknesses of current doctrine and its application. The FSCL is a line drawn in the battlespace to "facilitate the expeditious

attack of targets of opportunity beyond the coordinating measure."[21] Figure 2 provides a graphic illustration of the FSCL from Joint Publication 3-0.[22]

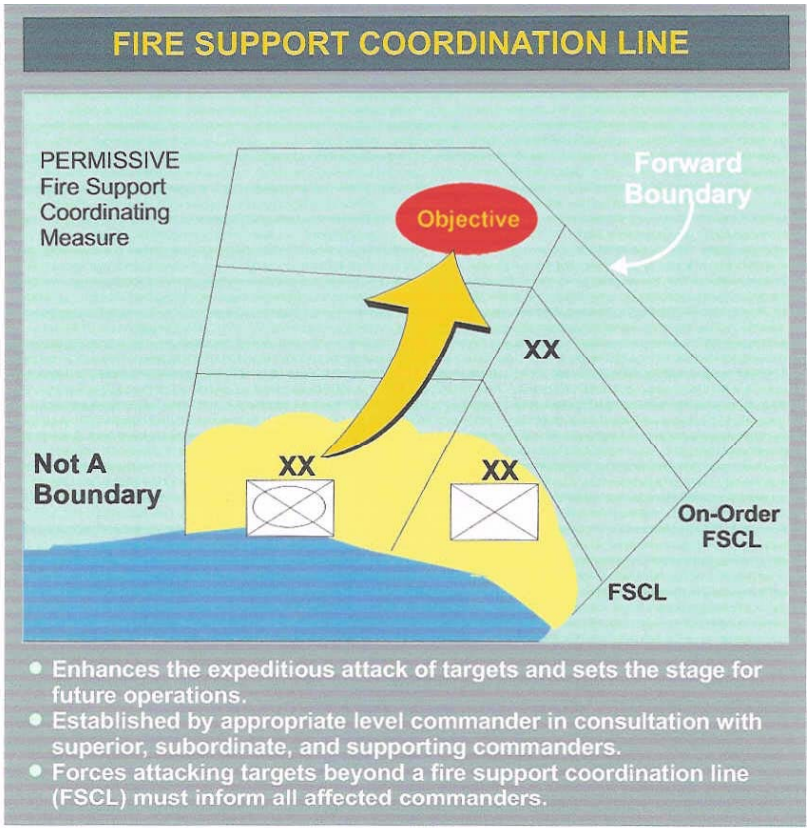

Figure 2: Fire Support Coordination Line

Established and adjusted by the appropriate land or amphibious commander, it applies to all fires from air, land and sea-based weapons systems using any type of ammunition.[23] Forces attacking targets beyond the FSCL must *inform* (emphasis added) all affected commanders in sufficient time to allow the necessary action to avoid fratricide. Short of the FSCL, the appropriate land or amphibious commander controls all attack operations.[24] Although one of the main purposes of the FSCL is to avoid fratricide, the FSCL is not intended to impede expeditious attacks beyond it. JP 3-0 states that "coordination of attacks beyond the FSCL is especially critical to the commanders of air, land, and special operations…in exceptional circumstances, the inability to conduct this coordination will not preclude the attack of targets

beyond the FSCL. However, failure to do so may increase the risk of fratricide and could waste limited resources."[25]

JP 3-0 also states that the FSCL should "strike a balance so as to not unduly inhibit operational tempo while maximizing the effectiveness of organic and joint force interdiction assets. Establishment of the FSCL too far forward of friendly forces can limit the responsiveness of air interdiction sorties and could unduly hinder expeditious attack of adversary forces."[26] Doctrine does *not* (emphasis added) establish a demarcation line between deep and close fires. This is important because "a FSCL does not divide an Area of Operation (AO) by defining a boundary between close and deep operations."[27] Thus, the FSCL provides a line of demarcation between an area where joint fires can be employed without coordination with other commanders (i.e., short of the FSCL) and an area wherein the land or amphibious commander establishing the FSCL needs to inform other component commanders (i.e., beyond the FSCL).

Joint Doctrine for Fire Support (JP 3-09) emphasizes that coordination measures such as the FSCL "must be flexible and responsive to the ever-changing dynamics of warfighting."[28] While planning should be continuous and fires deconflicted, doctrine stresses rapid and less detailed coordination to ensure speed and flexibility with regard to engagements.[29, 30] JP 3-09 states that "rigid coordination procedures may delay the delivery of fires and jeopardize the force,"[31] and that commanders must "establish procedures for the rapid coordination of fire support."[32] Changes in the location of the FSCL should be coordinated as far in advance as possible. This coordination must include the effective time and location of the change and the component operations cells should confirm the changes to ensure that the affected forces are aware of the movement of the FSCL and that control

measures are being followed.[33] The intent of doctrine appears to be focused on the land and amphibious commander's ability to minimize fratricide and duplication of effort, while simultaneously facilitating the position and adjustment of the FSCL consistent with the situation within their AO.

The application of this subset of fire support doctrine can now be examined from the standpoint of two Combatant Commanders, Commander, EUCOM and Commander, CENTCOM. In Europe, operations largely involve procedures developed by NATO during the Cold War. Allied Tactical Publication-27C (ATP-27C), Air Interdiction and Close Support, defines the FSCL as "a line established by a surface commander to denote coordination requirements for fire by other force elements… the FSCL applies to fire of air, ground, or sea weapon systems using any type of ammunition against surface targets."[34] Attacks short of the FSCL must be conducted under the positive control or procedural clearance of the associated surface commander. Commanders attacking targets beyond the FSCL must coordinate with all affected commanders in order to avoid fratricide and to harmonize objectives.[35] Coordination is achieved through liaison elements on the component commanders' staffs.[36]

A NATO term relevant to the FSCL is Battlefield Air Interdiction (BAI). BAI is "air operations to destroy, neutralize or delay the enemy's military potential before it can be brought to bear effectively against friendly forces at such a distance from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required."[37] Why? Because the commander establishing the FSCL determines aircraft control requirements for BAI short of the FSCL. These air attacks require increased synchronization, more communications assets, more restrictive ROE, and positive engagement procedures.[38]

Meanwhile, forces attacking targets beyond the FSCL must coordinate with all affected commanders - air and surface.[39] Targets short of the FSCL can be attacked as long as the platform making the attack (land, sea or air) follows control procedures established by the appropriate commander (typically the JFLCC). Attack of targets beyond the FSCL require coordination with the air commander (JFACC) and any other commander affected (Figure 3).

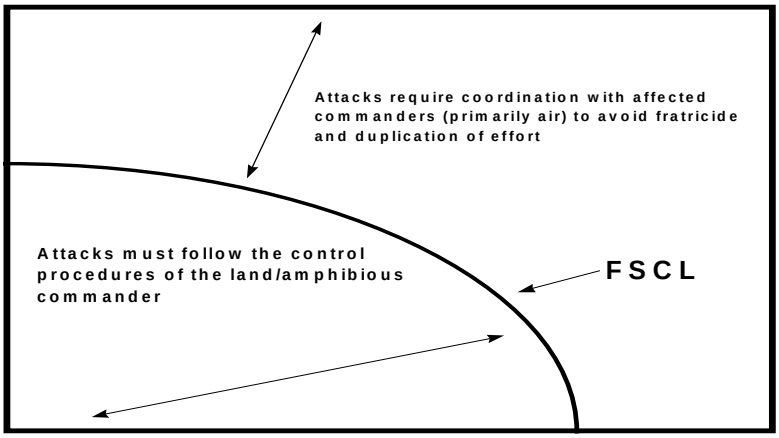

Figure 3: Coordination Requirements With Regard to the FSCL

This means that placement of the FSCL too close to the Forward Line of Troops (FLOT) or an inability to move it expeditiously in response to the ground scheme of maneuver, will hamper the effective and efficient employment of all joint fires. The longer the necessary coordination between the component commanders takes, the more effectiveness and efficiency are lost.

CENTCOM 525-1, Warfighting Instructions, states that the Deputy JFLCC[40] will recommend the location of the FSCL in order to support the ground scheme of maneuver. Coordination of fires short of the FSCL are the responsibility of the Deputy JFLCC and indirect fires beyond the FSCL will be cleared 100% of the time through the tactical air control system run by the JFACC.[41] While the term “cleared” is defined by CENTCOM as informing the JFACC prior to execution in sufficient time to ensure deconfliction,[42] it seems

to imply more than the "coordination" called for in joint doctrine. Further, it implies that the JFACC has control over targets beyond the FSCL since this commander has to clear all attacks beyond it.[43] CENTCOM's operating procedures do not appear to clearly conform to established joint doctrine. The JFLCC's requirements for coordination of attacks beyond the FSCL seem to be more stringent (and, possibly, less flexible) than required by doctrine. More importantly, CENTCOM appears to be treating the FSCL as a boundary between areas where the JFLCC and the JFACC can direct fires. This contradicts Joint Publication 3-0. The area beyond the FSCL, but inside the JFLCC's AO, is shared battlespace unless the FSCL and the forward boundary of the JFLCC's AO exactly coincide. There is no evidence that this is always the case in CENTCOM. In fact, anecdotal evidence from pilots performing BAI and CAS missions during Operation ENDURING FREEDOM in Afghanistan suggests that the ground scheme of maneuver and priorities of fire were not known to the aircrews.[44] Additionally, some strike aircraft during Operation IRAQI FREEDOM had to return to base without dropping their bombs due to a lack of coordination and an identified target.[45] While there are probably several reasons for these incidences, the confusion concerning "who's in charge" of that area of the battlespace and how quickly we can shift the FSCL in response to battlefield dynamics seem to be contributing factors. The bottom line is that we need a more agile operational planning process among the component commanders.

IV. ALTERNATIVE VIEW.

Analysis of the application of the FSCL suggests that the JFLCC, JFACC, and the JFMCC have objectives that overlap their respective AOs. The JFLCC is concerned with the battlespace beyond the FSCL and, like the JFACC, has weapons systems that can reach targets beyond that line. The JFACC is also concerned with targets beyond the FSCL as part of the

BAI effort. Additionally, as the Navy develops its land attack capability and the JFMCC's ability to operationally plan sea-based fires in this overlapping battlespace, he will be concerned with targets beyond the FSCL. All three commanders need to coordinate and deconflict. Doctrine is clear on this point; however, conflict between the components is evident and the challenge of deconfliction continues to become more complex. More importantly, coordinating these fires with the scheme of maneuver will become more difficult as the number of weapons and tempo of operations increase. Failure to find a solution to these challenges may force the CJTF to accept compromises in the tempo of operations and synergy of the force.

Given these issues, some have argued that the solution lies in dividing the battlespace. This scheme would allow each component to exercise control in his own AO to the exclusion of other components' forces and/or fires. For example, if the forward boundary of the JFLCC's AO coincided with the FSCL, it would create a barrier between the JFACC's air interdiction missions beyond the FSCL and the JFLCC's close fight (short of the FSCL). By dividing the battlespace in this manner, each component could operate with a minimum of coordination and deconfliction challenges would be significantly reduced. Although convenient and simple to implement, this concept fails on two accounts. First, it does not capitalize on synergy, mass, and balance. Fighting as a single service does not exploit the advantages of a joint force. Under this construct, the capability of a number of weapons systems and forces may not be employed to their fullest extent. The Apache and ATACMS could be limited to operations short of the FSCL regardless of whether they could effectively strike beyond it. When deployed in the future, the JFMCC's ERGM and other extended range sea-based fires systems would be limited to conventional naval surface fire support (NSFS)

because they would not be permitted to engage further inland. These examples show that dividing the battlespace, as we used to do in the past, is an inefficient use of combat power and resources. As doctrine states,

> "it is difficult to view the contributions of air, land, sea, space, and special operations forces in isolation. Each may be critical to the success of the joint force and each has certain unique capabilities that cannot be duplicated by other types of forces…any type of combat power can be dominant - and even decisive - in certain aspects of an operation or phase of a campaign."[46]

Second, dividing the battlespace into separate areas wherein only one component operates fails to address a basic issue exemplified by the FSCL. As previously discussed, although the FSCL is clearly defined, it's use by combatant commanders is not uniform. Operational experience in Afghanistan[47] and in Iraq suggests that the FSCL may not be flexible enough to meet this requirement. Horizontal coordination is challenging enough. Any increased coordination requirement imposed by combatant commanders further reduces the ability to shift the FSCL in support of the ground scheme of maneuver. Dividing the battlespace does not address this key issue at all since it does not address how to effect changes in the organization of the battlespace, such as shifting the position of the FSCL.

Thus, dividing the battlespace does not seem to be the best alternative for improving horizontal coordination. In fact, it reduces (perhaps eliminates) coordination, along with the associated loss of combat power.

V. CONCLUSIONS.

Given this review of doctrine, its application, and an alternate view, two issues need to be addressed to improve horizontal coordination among components. First, since horizontal coordination is currently basely entirely on liaison elements, will this method of coordination

be sufficient to support effects-based operations? Second, application of the FSCL raises questions regarding the ability of components to adjust control measures quickly and clearly enough to maintain operational tempo and flexibility.

The first point focuses on the fact that current doctrine uses liaison elements/teams as the key coordination means between component commanders. Components therefore rely on these component and Service liaison elements in their planning and coordination processes. Indeed, some CJTF's have seen them as crucial.[48] While there seems to be little doubt that liaisons play a crucial role in our joint force today, can they provide the horizontal coordination necessary to achieve and maintain synergy on the battlefield? The answer is no for one main reason. To be effective, a liaison officer, team, or element needs to be the subject matter expert for the hosting component. If not, then the liaison cannot provide the hosting commander with the requisite professional and operational knowledge to fulfill the liaison role. Do we have experts in every field? Sure. Will they be available to every component and echelon that requires their expertise? Maybe. Can they be collocated with the hosting component all the time? Doubtful. For instance, Joint Publication 3-56.1 discusses transitions of JFACC responsibilities from one command to another.[49] The reasons for shifting are well delineated; however, the glaring omission is where do the liaison elements for the "new" JFACC come from? Indeed, liaison elements are not mentioned as a consideration when transitioning JFACC. If the JFACC was afloat and shifted shore, how long would it take to fully reconstitute the full JFACC capability ashore, including liaisons? In a dynamic operational environment, no one knows for sure, but it will probably be days, not hours.

The second point addresses the fact that timeliness and flexibility are key in order to be able to shift the FSCL quickly enough to allow the JFLCC to maintain tempo while minimizing fratricide. The challenge is not so much the JFLCC's ability to shift the FSCL (and the associated shift in artillery, ATACMS, MLRS and helicopter-borne fires), but the JFACC's ability to respond to the change in FSCL in a manner timely enough to support the JFLCC while maintaining apportionment and target allocation and priority controls. Analysis of the JFACC's process for generating the Air Tasking Order (ATO) is well beyond the scope of this essay; however, two key issues need to be addressed. The first issue is the JFACC's visibility into all fires (and thus the ability to completely deconflict). The second issue is the ATO process itself.

First, visibility into fires. The Joint Force Fires Coordinator Study noted that the "JFACC is unique among joint force components because of theater-wide/JOA-wide joint fires responsibilities and, usually, majority ownership of deep-attack capabilities.[50] It further noted, however, that the "JFACC has some limitations regarding control of fires resources (e.g., TLAM, ATACMS) and awareness of special operations and nonlethal strategies. Thus an opportunity may exist where not all joint fires aspects are considered during development of the air plan."[51] If JFACC is not aware of all fires, how can it deconflict attacks beyond the FSCL as required by doctrine? The point here is not to belittle the JFACC. No component commander has visibility into all fires. That is exactly the point. Horizontal coordination among the components has not evolved to the point where each component commander has the same situational understanding of the battlespace and thus can integrate the efforts his forces with those of other components. Planning processes must be improved and an

alternative to the liaison-based method of coordination between the components must be found.

Second, the ATO process of tasking sorties and missions to components and subordinates. This process is key to understanding the ability of the JFACC to respond to the changing dynamics of the battlefield - for our purposes a shift in FSCL. ATO-generation is designed to accommodate changing tactical situations, JFC guidance, and requests from other component commanders.[52] Currently, this requirement is met mostly through use of on call/alert or loitering aircraft awaiting target assignment.[53] So what happens if changes occur inside of the planning window? Currently, target requirements, coordination, and prioritization begin to occur approximately 48 hours prior to ATO execution.[54] Given this process, if the FSCL needs to be shifted within six hours to support the JFLCC's scheme of maneuver, the ATO process may not be dynamic enough to accommodate changes. While improvements have been made providing timely sorties for missions such as time critical targets and CAS, this improvement has largely been accomplished through tasking of alert and on call aircraft. This solution is arguably an inefficient use of sorties. This inefficiency is exacerbated by a shift of the FSCL since this shift has the potential to make significant changes to the target list apportioned to the JFACC; removing some targets close to the FLOT, while potentially adding many deeper in the battlespace as the force advances. Under current ATO process timelines, the FSCL could be shifted, but ATO efficiency would suffer as targets and missions were reworked.

VI. RECOMMENDATIONS.

If horizontal coordination is to be improved to the point where true synergy of joint action can be achieved, two actions need to be taken. First, we need continued development

of collaboration systems and that can reduce or eliminate the need for LNOs. Second, the JFMCC process must include coordination elements at the JFC staff level. The following recommendations to address these two actions, although stated in terms of the JFMCC process, may be applicable to all component commanders.

First, it is clear that liaison elements, while perhaps the best we have to offer at present, may not be sufficient to provide horizontal coordination and planning to the level required to conduct true joint actions, especially with regard to the JFMCC's ability to provide joint fires (e.g., rail gun and DD(X)). The current de facto requirement to be physically collocated to accomplish the task places sacrifices on the command providing the liaison. Additionally, requirements to shift duties between commands, such as shifting JFACC from afloat to ashore, complicate the management of liaisons. How do these teams get ashore in a timely enough manner to provide continuity of effort and allow the JFACC to continue to safely and efficiently achieve the JFC's objectives? What happens when it shifts back, or to a third party?

Clearly, methods to improve horizontal collaboration need to be devised. One joint command and control study has concluded that one of the key enablers of agile command and control is "an expanded set of vertical and horizontal linkages to effectively share information, make superior decisions and direct operations.[55] One potential way to achieve these improved linkages is to continue development of the Collaborative Information Environment (CIE). Simply, the CIE uses distributed tools and virtual collaboration to facilitate parallel operations among headquarters, component commanders and other organizations separated by time and geography.[56] Within this construct, component commanders could reduce (possibly eliminate) their liaison element requirements while simultaneously increasing their integration

with other components. This environment could help mitigate the time-oriented processes we use now (e.g., the ATO generation process) and reduce the need for in-person liaisons. Though not fully developed, these networks and collaboration environments show promise. While Millennium Challenge 02 showed that the collaboration network was not optimal for cross-component collaboration and better supported vertical collaboration between the components and the CJTF,[57] this appears to be due to the emphasis placed on passing information down the chain of command for execution. Progress in development of these systems should continue with increased emphasis on horizontal coordination. Indeed, improved collaboration at the component level might allow adoption of different command and control architectures and planning processes that are truly interactive and synergistic. We might not need component commanders in the traditional sense due to intensive collaboration at all levels of the joint force. Instead of geographically oriented components (air, land, and sea), component commanders may be effects-based (joint fires, sea control/access, etc.) resulting in an increase in synergy and effective combat power. While well beyond the scope of this essay, this is a potential outcome if collaboration networks are developed with joint warfighting in mind. Experiments during Millennium Challenge 02 with virtual collaboration systems, such as InfoWork Space (IWS),[58] and legacy systems such as the Army's Advanced Field Artillery Target Designation System's (AFATDS) interface with CTAPS might be models from where to build.

Second, the JFMCC must ensure that it is part of the operational fire support coordination process. Current doctrine allows or ensures target coordination at the JFC level in the form of the Joint Target Coordination Board.[59] This board integrates the targeting functions for the joint force and normally disseminates targeting guidance, objectives and

effectiveness to the component commanders.[60] Additionally, the JFC may form a Joint Fires Element (JFE) to provide a capability to accomplish fires planning and coordination.[61] Given the requirement for fires to be integrated into the scheme of maneuver, and the multitude of platforms that will be able to deliver joint fires in the future, the best method for coordinating fires will be at the JFC level. Given its near-term capability to provide joint fires, it is imperative that the JFMCC be represented on these boards. If not, the potential combat power of sea-based fires might not be exploited. Traditional naval fire coordination bodies such as the Supporting Arms Coordination Center and the Naval Surface Fire Support cell will need to evolve to become full-fledged players in the JFE. Even if liaison elements continue to be used in the near term, as a (future) provider of joint operational fires, the JFMCC must ensure two things: (1) coordination with the other components (particularly JFACC and JFLCC) and, (2) that the Maritime Operations Directive (MOD) provides for the fire support requirements of the joint force. Again, coordination must be at the JCTB and JFE level to provide for the effective use of all of the combat power of the joint force.

VII. SUMMARY.

Horizontal coordination and planning in support of the joint force relies on liaison elements/teams. Shifting the FSCL to support the JFLCC's scheme of maneuver demonstrates that the liaison method, while relatively easy to implement, does not support coordination that is timely or integrated enough to provide the flexibility to fully adjust to a dynamic battlefield. Nor does the current de facto requirement for in-person liaisons provide geographically separated commanders (like the JFMCC at sea) the ability to conduct effective liaison. This reduces horizontal coordination and communication and, arguably, the effectiveness of the joint force. These findings result in two main implications for the

JFMCC. First, a method of collaboration must be devised to improve the quality and depth of coordination and reduce the need for liaison elements. Systems that help establish a CIE might be one part of the answer. Second, the JFMCC must ensure that a planning process integrates at the JCTB and/or JFE level to ensure that joint fires provided from the sea are synchronized with the scheme of maneuver. Only then will synergy of joint fires be realized. Progress is being made. The "instant lessons" from Operation IRAQI FREEDOM point to "major advances in computerization and integration at every level."[62] Joint warfare is team warfare. It is the integrated and synchronized application of all appropriate capabililities.[63] To achieve this, components need to enhance horizontal coordination. The JFMCC must ensure that time and space do not prevent this. The collaborative environment and integration at the JFC-level are part of the long term answer.

NOTES

[1]Joint Chiefs of Staff, Department of Defense Dictionary of Military and Associated Terms, Joint Pub 1-02 (Washington, DC: 12 April 2001), 234. Joint fires are defined as "fires produced during the employment of forces from two or more components in coordinated action toward a common objective."

[2]Ibid. Joint fire support is defined as "fires that assist air, land, maritime, amphibious, and special operations forces to move, maneuver, and control territory, populations, airspace, and key waters."

[3]Vertical coordination, the interaction between different echelons of the command structure, will not be addressed in this essay.

[4]Joint Chiefs of Staff, Doctrine for Joint Fire Support, Joint Pub 3-09 (Washington DC: 12 May 1998), II-6.

[5]Joint Chiefs of Staff, Joint Task Force Planning Guidance and Procedures, Joint Pub 5-00.2 (Washington DC: 13 January 1999), III-6, III-7, III-9.

[6]Joint Chiefs of Staff, Department of Defense Dictionary of Military and Associated Terms, Joint Pub 1-02 (Washington DC: 12 April 2001), 256. Liaison is defined in Joint Publication 1-02 as "that contact or intercommunication maintained between elements of military forces to ensure mutual understanding and unity of purpose and action."

[7]Joint Chiefs of Staff, Joint Doctrine Encyclopedia (Washington, DC: 16 July 1997), 366/7 and Joint Chiefs of Staff, Department of Defense Dictionary of Military and Associated Terms , Joint Pub 1-02 (Washington DC: 12 April 2001), 24. The Air Tasking Order is generated through a repetitive process that plans, coordinates, allocates and tasks joint air missions/sorties. The process typically spans 72 hours. The 24-hour execution phase is preceded by 48 hours of target allocation and mission planning (The ATO is then disseminated to components, units subordinate to the JFACC and command and control agencies (Currently, other forms of fires (land-based and sea-based (with the exception of TLAM)) are not tasked as part of the ATO.
.

[8]Joint Chiefs of Staff, Joint Doctrine Encyclopedia (Washington, DC: 16 July 1997), 366.

[9]Joint Chiefs of Staff, Doctrine for Command and Control of Joint Air Operations, Joint Pub 3-56.1 (Washington DC: Office of Joint Chiefs of Staff, 1994), II-7.

[10]Ibid.

[11]Ibid., B-1 - B-3.

[12]Army Department, Joint Land Forces Component Commander Handbook, (Fort Monroe, VA: 2001), II-8.

[13]Ibid., II-9.

[14]Joint Chiefs of Staff, Doctrine for Command and Control of Joint Air Operations, Joint Pub 3-56.1 (Washington DC: 14 November 1994), B-1. JP 3-56.1 tasks for the BCE include processing land force requests for air support, monitoring and interpreting the land battle situation for the AOC and providing the necessary interface for the exchange of current operational and intelligence data."

[15]Ibid.

[16]Army Department, Joint Land Forces Component Commander Handbook, (Fort Monroe, VA: 2001), II-8. The BCE is responsible for understanding the mission, being familiar with issues, knowing the current situation, informing the JFACC's staff of the JFLCC's intent, updating the JFACC on priorities and timing, monitoring and interpreting the land battle and, finally, keeping the JFACC informed of the operational status of units.

[17]Joint Chiefs of Staff, Doctrine for Command and Control of Joint Maritime Operations (draft), Joint Pub 3-32 (Washington DC: 4 June 2002), II-8.

[18]Ibid.

[19]Naval Warfare Development Command, Tactical Memorandum 3-32-03, Joint Force Maritime Component Commander Maritime Operations Process (JFMCC MOP) (second draft) (Newport, RI: 11 March 2003), 16.

[20]Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0 (Washington DC: 10 September 2001), III-42.

[21]Ibid.

[22]Ibid., III-43.

[23]Ibid., III-42.

[24]Ibid., III-43.

[25]Ibid., III-43.

[26]Ibid., III-44.

[27]Ibid., III-42.

[28]Joint Chiefs of Staff, Doctrine for Joint Fire Support, Joint Pub 3-09 (Washington DC: 12 May 1998), III-7.

[29]Ibid. Joint Pub 3-09 states that "planning is continuous and keeps pace with the dynamics of the battle." This theme is prevalent in discussions of all fire support coordination measures, particularly the FSCL.

[30]Ibid., III-11. Joint Pub 3-09 specifically addresses the deconfliction of surface-based indirect fires and air operations, stating that conflicts between these two types of fires be "minimized".

[31]Ibid., III-12.

[32]Ibid., III-12.

[33]Ibid., III-13.

[34]North Atlantic Treaty Organization, ATP-27C, Air Interdiction and Close Air Support (Brussels, BE: Military Agency for Standardization, 1999), 2-1.

[35]Ibid.

[36]Ibid., 2-5.

[37]Ibid., 2-1.

[38]Ibid., 3-2.

[39]Ibid., 3-3. NATO doctrine, like U.S. doctrine, does state that the inability to coordinate will *not* (emphasis added) preclude attack, provided the attack will not produce adverse affects on or short of the FSCL.

[40]The Commander, Central Command has typically retained duties as the Joint Land Force Component Commander in recent operations (e.g., Desert Storm). This makes the Army Service Component Commander, Army Forces, Central (ARFORCENT) the Deputy JFLCC.

[41]US Central Command, CENTCOM Reg 525-1, Warfighting Instructions (McDill AFB, Tampa, FL: 1996), II-1.

[42]Barbee, Michael, J., Minimizing Coordination Problems Between the JFACC and JFLCC in the Coordination of Joint Fires Between the FSCL and Land Component Commander forward Boundary. (Army Command and General Staff College, Fort Leavenworth, KA: 1997), 52.

[43]Ibid.

[44]Jansen, John, M. et al, "*JCAS in Afghanistan, Fixing the Tower of Babel*", Field Artillery Magazine, 27.

[45]Senior naval officer, US Naval War College, Newport, RI, 2003.

[46]Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0 (Washington DC: 10 September 2001), III-10.

[47]Jansen, John, M. et al, "*JCAS in Afghanistan, Fixing the Tower of Babel*", Field Artillery Magazine, Fort Sill OK: March-April 3002, 27.

[48]Joint Chiefs of Staff, Joint Task Force Planning Guidance and Procedures, Joint Pub 5-00.2 (Washington DC: 13 January 1999), II-29. LTG C. W. Stiner, USA, Commander of Joint Task Force South, Operation JUST CAUSE stated, "I had good, competent liaison officers: not just to keep me informed of what their respective units were doing, but also to convey to their units how the battle was going…they were crucial to success and you have to pick your best people." This remark seems to typify the reliance on and importance of liaison elements today.

[49]Joint Chiefs of Staff, Doctrine for Command and Control of Joint Air Operations, Joint Pub 3-56.1 (Washington DC: 14 November 1994), II-9.

[50]Joint Warfighting Center, Joint Force Fires Coordinator Study (Fort Monroe, VA: 1997), EX-7.

[51]Ibid.

[52]Joint Chiefs of Staff, Joint Doctrine Encyclopedia (Washington DC: 16 July 1997), 367.

[53]Richardson, Walter, J., Lecture entitled "US Air Force Capabilities and Employment Considerations", US Naval War College, Newport, RI, 17 April 2003. One of the point addressed in this lecture was the current ability of the JFACC to respond to immediate/emerging tasking.

[54]Joint Chiefs of Staff, Joint Doctrine Encyclopedia (Washington DC: 16 July 1997), 367.

[55]Joint Chiefs of Staff, Joint Force Command and Control Concept to Guide Standing Joint Force Headquarters Development by 2005, (Washington, DC: 23 January 2003), viii.

[56]Ibid., 37.

[57]Naval Warfare Development Command, Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) Change Recommendation Package (Newport, RI: December 2002), 13.

[58]Ezenia Products, Inc., InfoWorkSpace White Paper, (http://www.ezenia.com/products/IWS-WP.cfm, 2003), 1 through 4.

[59]Joint Chiefs of Staff, Joint Task Force Planning Guidance and Procedures, Joint Pub 5-00.2 (Washington DC: 13 January 1999), VII-5.

[60]Ibid.

[61]Ibid., VII-6.

[62]Center for Strategic and International Studies, The "Instant Lessons" of the Iraq War Main Report (third working draft) (Washington, DC: 14 April 2003), 5.

[63]Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0 (Washington DC: 10 September 2001), I-1.

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