

The Case for a Joint Military Decisionmaking Process

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FOLLOWING OPERATION Eagle Claw, the failed attempt to rescue U.S. Embassy hostages held by the Iranian Revolutionary Guard in 1980, Congress decided that the armed services would need help in overcoming the historic aversion to working together as joint forces.¹ The 1986 Goldwater-Nichols Act provides a framework in law to facilitate a more joint perspective by reorganizing the Joint Chiefs of Staff.² Although the services have made great strides since 1986, they still have major hurdles to overcome.

Why cannot a staff of senior interservice officers function together as an effective team? Varying experience and training in military decisionmaking is a significant factor, but there is more. The armed services do not have a joint military decisionmaking process (JMDMP). Each clings to its own parochial method of staff planning, and each approaches military-decisionmaking procedures in radically different ways.³ Such differences ensure friction and obstruct joint interoperability. An agreed-on JMDMP must be taught in the individual service schools if the services are to ever have truly effective joint staffs.

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What's in a Name?

Over time there has been some movement toward developing a joint concept. The U.S. Marine Corps has adopted a military decisionmaking process (MDMP) similar to the Army's. The U.S. Air Force uses a rather eclectic mixture of existing approaches to the process. The U.S. Navy, a late entry into the mix, has its own spin on the process, which it calls the commander's estimate of the situation (CES). Each service's approach has merit, and on the surface, problems appear easy to correct. More than

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enough doctrine exists to cover all requirements. The hitch is in creating an agreed-on lexicon so all services will use the same words to describe the same types of tasks.

Although the distinction between what is art and what is science might appear superfluous, it is anything but. Determining what is art and what is science is the basis for almost all of the differences between the services. For example, in the Army's MDMP, staff procedures are considered science because a litany of tenets, principles, and standard operating procedures govern them. And, in the Army's MDMP, the commander's decision and direction are considered art because they are a culmination of the commander's intuition based on his experience.

As a name, the Army's MDMP could allude to tactical-level operations and, therefore, might not lend itself to the broader aspects of strategic and operational missions. On the other hand, the Navy's CES process is often seen as being too commander-centric and inappropriately art-heavy. The easiest resolution of the problem is for all of the services to agree on a new term that takes its roots in the joint approach. Our recommendation is that the term "commander's estimate of the situation," which is step 4 of the Navy's concept-development phase, should replace the Army term "military decisionmaking process," and all of the services should begin using the same terminology to describe the same processes.³

What Does This Mean?

Deciding how to synthesize the procedure is more important than deciding what name to give the process. Mission analysis, the first aspect of the process, illustrates significant differences among the services. The Navy's approach to the process involves the following seven steps:

1. Analysis of the mission.
2. Analysis of factors affecting possible courses of action (COAs).
3. Analysis of enemy courses of action (ECOAs).
4. Analysis of own COAs.

5. Analysis of ECOAs and own COAs.
6. Comparison of own COAs.
7. Stating the decision.

The Army and Marine Corps' approach involves the following seven steps:

1. Mission receipt.
 - a. Area of operation (AO)/area of interest (AI).
 - b. Terrain and weather analysis.
 - c. Threat models (intelligence preparation of the battlespace (IPB), steps 1 through 3).
2. Mission analysis (CES, steps 1 through 3), including pertinent threat COAs (initial phase of the IPB, step 4).
3. Develop COAs (CES, step 4).
 - a. Refine threat COAs.
 - b. Draft event template.
4. Analyze COAs (CES, step 5).
 - a. Prioritize threat COAs.
 - b. Event template.
 - c. Identify intelligence requirements.
5. Compare COAs (CES, step 6).
 - a. Collection plan.
 - b. Intelligence synchronization matrix.
6. Decision and COA approval (CES, step 7).
7. Write operations order (OPORD).

The major difference between the two processes lies in how each treats intelligence. The Army's approach relies heavily on detailed staff preparation as the process begins on receipt of the mission. The Navy's approach "hand waves" the IPB, perhaps because the Navy commands the seas and feels that it always has situational awareness. In a joint and combined arena, the IPB process is crucial. The staff must perform the IPB up front if the joint process is to be successful. The joint CES process must include this adjustment.

The Air Force approach seems to take its origins from an older Army model that used templates and checklists to help the staff develop the MDMP. The Air Force's CES includes the following six steps:

1. The mission.
2. The situation and COAs.
 - a. Considerations affecting possible COAs.
 - (1) Military geography.
 - (2) Relative combat power.
 - (3) Assumptions.
 - b. Enemy capabilities.
 - c. Own COAs.
3. Analysis of opposing COAs.
4. Comparison of own COAs.
5. The decision.
6. Concept of operations.⁴



The Deputy Air Wing Commander aboard the USS *Harry Truman* conducting a briefing with Carrier Air Wing 3 pilots and a member of Seal Team 8 during Operation Iraqi Freedom, 19 March 2003.

The Navy commander's planning guidance is essentially a briefing, and it is similar to the Army's mission analysis briefing. However, by not recognizing that the briefing is a staff product, the Navy, by virtue of its language, confuses art with science. The Army and Marine Corps' staff briefings keep the distinction clear and provide a more detailed product.

The Air Force also uses a template for creating an OPORD to guide the process. The template frames the major portions of the operation, but it does not provide details for staff analysis. The staff relies on checklists found in U.S. Air Force Manual (AFMAN) 10-401 V2, *Commander's Estimate of the Situation*.⁵ The extensive checklists demonstrate the detail to which the Air Force is committed in the process. Such checklists also have been useful to the Army and the Marine Corps.

The mission analysis briefing (for the Army and the Marine Corps) and the commander's planning guidance (for the Navy) provide similar products by different names. The Air Force does not have a counterpart for these processes. The Army and Marine Corps' mission analysis briefing format contains the following 11 steps:

1. Mission and commander's intent of the headquarters two levels up.
2. Mission, commander's intent, concept of the operation, and deception plan or objectives of the headquarters one level up.
3. Review of commander's initial guidance.
4. Initial IPB products.

5. Specified, implied, and essential tasks.
6. Constraints on the operation.
7. Forces available.
8. Hazards and their risks.
9. Recommended initial commander's critical information requirements (CCIR).
10. Recommended time lines.
11. Proposed restated mission.

The Navy commander's planning guidance includes the following 10 steps:

1. The situation.
2. The restated mission, including essential tasks and associated objectives.
3. Purpose of the forthcoming military action.
4. Information available (or unavailable) at the time.
5. Forces available for planning purposes.
6. Limitations (constraints and restraints), including time constraints for planning.
7. Planning assumptions.
8. Tentative COAs under consideration.
9. Preliminary guidance for use (or non-use) of nuclear weapons.
10. Coordinating instructions.

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The Army's MDMP could allude to tactical-level operations and, therefore, might not lend itself to the broader aspects of strategic and operational missions. On the other hand, the Navy's CES process is often seen as being too commander-centric and inappropriately art-heavy. . . . The easiest solution [is for the] services to agree on a new term that takes its roots in the joint approach.

Army and Marine Corps' staff briefings keep the distinction clear and provide a more detailed product. When the Army and the Marine Corps' process alludes to commander's guidance, it lists a detailed array of commander issues, clearly indicating where science ends and art begins by separating staff and command responsibilities. Referencing CCIR reinforces the joint intelligence preparation of the battlespace (JIPB) process by keeping intelligence tightly integrated into the process. The process includes the following:

1. Specific COAs to consider or not to consider, both friendly and enemy, and the priority for addressing them.
2. Reconnaissance guidance.
3. Risk guidance.
4. Deception guidance.
5. Fire support guidance/deep operations guidance.
6. Mobility and countermobility guidance.
7. Security measures to be implemented.
8. Additional specific priorities for combat support (CS) and combat service support (CSS).
9. Any other information the commander wants the staff to consider.
10. The time plan.
11. The type of order to issue.
12. The type of rehearsal to conduct.⁶

Following the commander's guidance, the Army and Marine Corps discipline the process by restating the mission to ensure everyone focuses on the task and the purpose of the operation. Restating the mission also presents a picture of what must be accomplished. The components of the restated mission include the five "Ws":

1. WHO (the type of forces that will execute the action with which available assets).

2. WHAT (the type of action; that is, attack or defend and the essential tasks the force will perform).

3. WHEN (the action will begin).

4. WHERE (the action will occur; that is, in what AO with what objectives).

5. WHY (each component will conduct its part of the mission; that is, to what purpose). The restated mission also includes on-order missions. The concept of operations (CONOPs) addresses be-prepared missions.

The Army and Marine Corps also use a specific list of items in the warning order (WO) to ensure subordinates have the needed information for continued planning. The CCIR are reinforced during this step to ensure intelligence synchronization throughout the planning process. The WO also includes related issues, such as reconnaissance, security, deception, management of time, and guidance for rehearsals.

The Navy's next step is grounded in operational art in the attempt to circumscribe the panoptic elements of space, forces, and time. The purpose is to determine how the battlespace affects both friendly and enemy operations. The staff begins the process by identifying and analyzing all militarily significant environmental characteristics of each battlespace dimension. The staff analyzes these factors by using matrixes to determine the factors' effects on enemy and friendly forces' capabilities and broad COAs.

Using matrixes to list factors associated with space, forces, and time might be useful for orienting the staff to the issues, but using matrixes does not facilitate a facile understanding of interactions. The Army and Marines might say that a better way to capture the interactions of these complex factors is by using the synchronization matrix, based on integrating battlefield operating systems (forces) across terrain (space) and synchronized in time. Such interactions become critical when developing COAs. In the Navy's process, steps 3 and 4, developing ECOAs and own COAs, include the following:

1. Project possible enemy objectives.
2. List own critical strengths and weaknesses.
3. List own centers of gravity (COGs).
4. List own critical vulnerabilities.
5. List own decisive points.
6. Identify individual enemy capabilities.
7. Develop ECOAs: ECOA/vulnerabilities matrix.
8. Prioritize ECOAs.

The steps for developing the Navy's own COAs are—

1. Review/restate mission and pertinent data.
2. List own objectives.
3. List enemy critical factors.



A 25th Infantry Division company commander and his platoon leaders conduct mission analysis near Mount Fuji, Japan, during Operation Keen Sword, 2003.

The product of the mission analysis is the restated mission, which must be a clear, concise statement of the essential (specified and implied) tasks the command must accomplish and the purposes of those tasks. The commander normally issues an initial intent with his planning guidance and the warning order. The commander's intent should focus on the aim of the forthcoming action for subordinates two levels down.

4. List enemy COGs.
5. List enemy critical vulnerabilities.
6. List enemy decisive points.
7. Develop tentative COAs (mutually exclusive and collectively exhaustive), including—
 - a. Focus of direction of main effort.
 - b. Scheme of maneuver.
 - c. Task organization/phasing.
 - d. Use of reserves.
 - e. Combat employment/method of mission accomplishment.
 - f. Logistics plan/execution.
8. List tentative COAs.
9. Conduct tests for adequacy, feasibility, and acceptability (with matrixes), including risk assessment (matrix).
10. List retained COAs.
11. Develop CONOPs for each COA.

The steps the Army and Marine Corps use in COA development follow:

1. Analyze relative combat power.
2. Generate conceptual possibilities.
3. Array initial forces.

- a. Identify the main effort, then supporting effort forces two levels down.
- b. Identify purpose(s) for main and supporting efforts.
- c. Determine task(s) that will accomplish stated purpose(s) for main and supporting efforts.
4. Develop scheme of maneuver.
5. Determine command and control (C2) means.
 - a. Assign headquarters (HQ) to each unit grouping.
 - b. Assign graphic control measures.
6. Prepare COA statement(s) and sketch(es).

The Navy's approach has some utility. Using objectives, critical strengths, and weaknesses, COGs, critical vulnerabilities, and decisive points for analysis is a great way to visualize conceptual possibilities. The steps are generally intuitive in the Army and Marine Corps' process, but specifying these steps would be a better way for the Army and Marine Corps to more rigidly frame COA development. This type of analysis could be used before arraying initial forces in step 3. By design, the Army and Marine Corps' method lends itself to preparing for the

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war game and will result in schemes of maneuver and C2 means. The specificity of the Army and Marine Corps' COA development process is critical to a meaningful wargame.

The Navy's method for analyzing enemy and own COAs includes the following:

1. Reexamine the mission statement.
2. Review own/enemy physical objectives (matrix).
3. Determine measures of effectiveness (MOEs) (matrix).
4. Conduct wargame/gaming (matrix and spreadsheet).
5. Interpret results.
6. List COAs retained (matrix and spreadsheet).

The Army and Marine Corps' method of analysis includes the following:

1. An attempt to visualize the flow of an operation, given—
 - a. Friendly strength, disposition, and COA(s).
 - b. Enemy assets and probable COA(s).
 - c. Terrain and or environment (battlespace).
2. Modification or change of COA tasks to subordinate unit(s).
3. Change to organization(s) of maneuver force(s).
4. Application of the efforts of combat, CS, and CSS to improve the COA and enhance mission accomplishment by subordinates.

This is not an exercise to validate the COA, and it is not a "what if" drill to develop branches and sequels.

The wargame method the Army and Marines use is much more visual in its approach. The Navy's method is data-centric and is a mathematical approach to problem solving. The focus on spreadsheets and MOEs is not conducive to visualizing the battlespace and the coming campaign. There is a major break in continuity here; the Navy's process does not build to a meaningful wargame of the upcoming battle.

The Navy's approach in comparing COAs is no less confusing in its approach. The Army and Ma-

rine Corps' approach again differentiates between art and science. The actual COA comparison is critical. The staff can use any technique that helps them reach the best recommendation and for the commander to make the best decision. The most common technique is using the decision matrix, which employs evaluation criteria, or governing factors, to assess the effectiveness and efficiency of each COA. These matrixes provide staff officers a tool with which to compare several competing COAs against criteria, which when met will produce operational success.

Service examples of the steps to the Navy's comparison of own COAs include the following:

1. Determine governing factors.
2. List advantages and disadvantages of each COA retained.
3. Identify actions to overcome disadvantages.
4. Make final test for feasibility.
5. Make final test for acceptability.
6. Compare merits of each COA (using the decision matrix and comparison matrix [+/-]).

When the Army and Marine Corps conduct COA comparison, all COAs must be adequate, feasible, and acceptable, which can be determined by the following:

1. Weighing criteria for evaluation.
2. Evaluating strengths and weaknesses of each COA.
3. Considering estimates from the entire staff.
4. Providing conclusion and recommendation.

The Navy assessment makes no mention of the staff, which again makes it difficult to determine how the interaction of science and art is to take place. The Navy approach comes across as theoretical because it uses a textbook approach based on "chop logic" and is not utilitarian. The Army and Marine Corps' method uses the estimates of the entire staff in a process that maximizes science for the staff and art for the commander.

The Navy's step 7, The decision, is another name for the orders brief, which again causes a language and art and science problem. The implication is that the product is the commander's decision, or art. While not altogether incorrect, the orders brief itself is a staff product, or science, with commander's guidance providing the influence of art. The commander's guidance expresses the commander's intent and addresses the CONOPs in terms of objectives, scheme of maneuver, sector of main effort, phasing, deception, fires, and reserves.

The Army and Marine Corps' method uses the science of the MDMP to circumscribe the information the commander needs to assess the product. The commander provides guidance on the approved or refined COA. This form of intuition, or art, further

refines the staff's product before it is disseminated to the command's subordinates. Subsequently, the commander issues a warning order followed by the production of an OPORD or operation plan (OPLAN) with appropriate annexes. Science becomes secondary to art, but the staff (science) clearly drives the process. The distinction made during the Army and Marine Corps' MDMP approach is critical to overall understanding of the selected COA and for the continuity of the operation. An understanding of the proper interface between art and science is essential to creating a meaningful joint CES process.

Where Do We Go From Here?

Military commanders must make decisions constantly. They and their staffs resolve simple, routine, or complex problems every day. To help them think through their options when faced with a force-employment decision while applying knowledge, experience, and judgment, military commanders need a decisionmaking tool to facilitate the process. The Joint Military Operations (JMO) Department at the Naval War College (NWC) has revised the Navy's CES process in the NWC 4111E workbook to help with this effort.⁷ The faculty uses the eclectic combination of service practices to great advantage in the classroom and offers a better solution to the joint CES process.

Joint Publication (JP) 5-0, *Doctrine for Planning Joint Operations*, defines CES as "a logical process of reasoning by which a commander considers all of the circumstances affecting the military situation and arrives at a decision as to a course of action to be taken to accomplish the mission."⁸ In the estimate, the commander evaluates all of the elements of employing forces and assets. The COA selected is the basis for developing plans and issuing combat orders. The commander's estimate is also a means by which to transmit the decision to the next higher command echelon for approval.

Although the commander's estimate process provides a comprehensive framework, rigid adherence to the form or faulty application of the commander's estimate might lead to a strictly mechanistic process of rationalization. Thus, spending mental effort on the mechanics of the process rather than on the estimate itself could undermine clarity of thinking. The result might or might not be a sound decision.

The commander's estimate should lead to the adoption of a COA that is—

- Suitable, accomplishing the mission and complying with the supported commander's guidance, while also being consistent with doctrine.

- Feasible, accomplishing the mission within established time, space, and resource constraints.

- Acceptable, balancing costs (forces, resources, risk, and so on) with advantages gained by executing a particular COA.

- Distinguishable, preparing COAs that are significantly different (unique) from each other.

- Complete, incorporating major operations and tasks to be accomplished, including forces required, logistics concept, deployment concept, employment concept, time estimates for reaching objectives, reserve force concept, and the desired end state.⁹

The commander's estimate is the first and most critical phase in the military planning process and occurs at all command echelons: tactical, operational, and theater-strategic. Normally, a geographic combatant commander (a commander in chief) will also prepare a strategic estimate during peacetime as an

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integral part of the deliberate planning process. Within available time constraints, the estimate should be as comprehensive as possible. However, it could vary from a short, almost instantaneous mental estimate to a carefully written document that requires days of preparation and the collaboration of many staff officers. Time available to complete the estimate is an important factor in the CES process.

The staff might expand or condense the steps in the CES according to the nature of a problem. However, to maintain the logical sequence of reasoning and to ensure consideration of pertinent factors, all the steps of the estimate should be generally followed when possible. The format of the estimate process should not prevent a commander from selecting the best method of arriving at a sound solution to a military problem. Staff-section-specific estimates support the process. Most of the staff (J1, J2, J3, and so on, or service counterparts) prepare their own estimates of the situation. The staff inserts pertinent parts of these staff estimates, verbatim or in modified form, into the CES.

JP 5-03.1, *Joint Operation Planning and Execution System (JOPES)*, vol. I, "Planning Policies and Procedures," discusses the requirement for submission of a CES, but it does not provide guidance for preparing one.¹⁰ The NWC 4111E workbook, which discusses how to conduct a CES regardless of the scope of military action the force is to take, includes elements most command echelons use in

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the CES.¹¹ Where appropriate, NWC 4111E provides references to formats or guidance that joint doctrine publications contain.¹² A CES that another service conducts might differ in format and detail but will address issues similar to those in this discussion.

The proposed generic CES consists of five principal steps:

1. JIPB (part I) and mission analysis (part II).
2. Develop friendly COAs.
3. Analyze friendly COAs.
4. Compare friendly COAs.
5. Make the decision.

As a reminder, in practice these steps always occur sequentially, even if only mentally. For example, staffs cannot compare COAs before they actually develop the COAs. More important, subordinate, or even superior commanders, will conduct parallel planning for their own CES that requires input from the command's CES process. Briefly, these steps include the following:

Step 1, JIPB, part I, supports the commander's decisionmaking and planning for a major operation or campaign by identifying, assessing, and estimating the adversary's COGs; critical vulnerabilities, capabilities, limitations, intentions; and COAs that the force is most likely to encounter based on the situation. There is a general agreement on the four major steps of JIPB:

1. Define the battlespace environment. Identify the AO and AI. Determine the significant characteristics of the environment. Evaluate existing databases. Identify intelligence gaps and priorities.
2. Describe battlespace effects. Analyze factors, space, and time of the battlespace environment. Determine battlespace effects on enemy and friendly capabilities and broad COAs.
3. Evaluate the enemy. Identify enemy COGs. Consider enemy general COAs. Determine the current enemy situation. Identify enemy capabilities.
4. Determine enemy ECOAs. Identify the enemy's likely objectives and desired end state. Identify friendly critical factors, as seen from the enemy's perspective. Identify enemy critical factors, COGs, critical vulnerabilities, and decisive points.

Identify the full set of ECOAs available to the enemy. Evaluate and prioritize each ECOA. Develop each ECOA in the amount of detail time allows. Identify initial collection requirements.

Step 1, mission analysis, part II, is a problem-solving technique for studying the assigned mission and to identify all tasks necessary to accomplish it. Mission analysis is critical because it provides direction to the commander and the staff, enabling them to focus effectively on the problem at hand. Mission analysis normally consists of the following steps:

1. Determine the source(s) of the mission.
2. Determine who are the supporting and supported commander.
3. Identify available forces and assets.
4. State the higher commander's mission.
5. State the higher commander's intent.
6. Determine specified, implied, and essential tasks.
7. Identify externally imposed limitations affecting the mission.
8. Identify (planning) facts.
9. Identify (planning) assumptions.

The product of the mission analysis is the restated mission, which must be a clear, concise statement of the essential (specified and implied) tasks the command must accomplish and the purposes of those tasks. The commander normally issues an initial intent with his planning guidance and the warning order. The commander's intent should focus on the aim of the forthcoming action for subordinates two levels down. Paragraph 3, Execution, in an OPORD or OPLAN, contains the intent statement. The purpose of the commander's guidance is to focus staff effort in a meaningful direction to develop COAs that reflect the commander's style and expectations. The content of planning guidance varies from commander to commander and is dependent on the situation and time available.

Step 2, develop friendly COAs, allows the commander to develop concepts of operation that, if adopted, result in mission accomplishment. The commander must envision employing his own forces and assets as a whole, normally two levels down, taking into account externally imposed limitations, the factual situation in the AO, and the conclusions arrived at during step 1 for each COA. Staffs developing COAs must ensure that COAs are suitable, feasible, acceptable, distinguishable, and complete. COAs are developed based on the mission and own (friendly) capabilities. Normally, there are six steps in COA development:

1. Analyze relative combat power, including risk assessment and risk management.
2. Generate options, brainstorming being the preferred technique.

3. Array initial forces.
4. Develop tentative CONOPs.
5. Recommend C2.
6. Prepare COA statements and sketches.

At this stage of the process the staff might propose, or the commander require, a briefing on the COAs developed and retained to gain the commander's approval of the COAs to be further analyzed; to receive guidance on comparing and evaluating COAs; or to receive guidance for revising briefed COAs or developing additional COAs.

Step 3, analyze friendly COAs, is the heart of the CES process. This step equates to analyzing opposing COAs; analysis is nothing more than wargaming. This step is a dynamic analysis of the probable effect each ECOA has on the chances of success of each COA. The aim is to develop a sound basis for determining each COA's feasibility and acceptability. Predicted outcomes might also show the need to consider additional modifications to the COAs that could mitigate risk or improve expected performance. Analysis also provides the planning staff with greatly improved understanding of the COAs and the relationship between them. The staff follows eight steps during the wargaming process:

1. Gather the tools.
2. List all friendly forces.
3. List assumptions.
4. List known critical events and decision points.
5. Determine evaluation criteria and/or MOEs.
6. Select the wargame method.
7. Record and display the results.
8. Wargame the operation and assess the results.

Step 4, compare friendly COAs, compares the remaining COAs. The commander and staff develop and evaluate important governing factors, considering each COA's advantages and disadvantages; identifying actions to overcome disadvantages; making final tests of feasibility and acceptability; and weighing the relative merits of each. The reconciliation of objectives in this step must be tied to the mission.

Step 5, the decision, occurs after the staff identifies the preferred COA and makes a recommendation to the commander after completing its analysis and comparison. If the staff cannot reach a decision, the J3, J5, or chief of staff decides which COA to recommend at the commander's decision briefing. The staff then briefs the commander. The chief of the operations planning group (OPG)/joint planning group (JPG) highlights any changes to the

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COA as a result of the wargaming process. Component commanders might be present, but they are not required to be there for the decision brief. However, their participation, either in person or via video-conference, enhances the planning process. After the decision briefing, the commander selects the COA most likely to accomplish the mission and issues any additional guidance on priorities for operational functions, orders preparation, rehearsal, and preparation of mission execution.

Adopting the Navy's CES Approach

To ensure continuity of effort at the operational level of warfare, the services should adopt the Navy's approach for CES staff operations. Joint planners should consider the Navy's amalgam, or portions of it, for inclusion in JOPES to serve as the animus for change in the services' staff colleges. A further refined joint CES staff process in JOPES would provide clear guidance to the services to ensure that we all speak the same language and approach the decisionmaking process the same way. This is a simple, yet poignant, step toward actualizing the objective of the Goldwater-Nichols Act. Inculcation of the practices at the service colleges would better prepare staff officers for joint duty and preclude the type of staff confusion that brought planning to a halt during the Persian Gulf war and ensure success in the COE by way of a standard approach to the decisionmaking process.

Using NWC 4111E is a move in the right direction; it provides a CES for military problems requiring the employment of combat forces. The workbook's format accommodates estimate requirements regardless of the size of the forces involved and the environment and the scale of the objectives the force is to accomplish. The estimate's format is also intended to apply across the full range of military operations. **MR**

NOTES

1. For a history of Operation Eagle Claw, see on-line at <www.specwarnet.com/miscinfo/eagleclaw.htm>.
2. To learn more about the 1986 Goldwater-Nichols Act, see on-line at <www.chaplain.navy.mil/Attachments/JPME.pdf>.
3. Joint Forces Staff College (JFSC) Publication 1, *The Joint Staff Officer's Guide* (formerly AFSC Publication 1) (Norfolk, VA: National Defense University Joint Forces Staff College, 2000).
4. U.S. Air Force Manual (AFMAN) 10-401 V2, *Planning Formats and Guidance* (Washington, DC: U.S. Government Printing Office [GPO] 1 May 1998).

5. Ibid.
6. Naval War College (NWC) 5111E, Workbook (13 April 1995). Electronic copies are available on-line at <www.nwc.navy.mil/jmo> or by calling (401) 841-6458 or DSN 948-6458.
7. JP 5-0, *Doctrine for Planning Joint Operations*.
8. JP 5-00.2, *Joint Task Force Planning Guidance and Procedures*.
9. JP 5-03.1, *Joint Operation Planning and Execution System*, vol. 1, "Planning Policies and Procedures."
10. NWC 4111E.
11. NWC 4111E.
12. Ibid.