United States General Accounting Office

GAO

Report to Congressional Committees

December 2003

MILITARY TRANSFORMATION

The Army and OSD Met Legislative Requirements for First Stryker Brigade Design Evaluation, but Issues Remain for Future Brigades

G A O

Accountability * Integrity * Reliability

GAO-04-188

December 2003

GAO
Accountability • Integrity • Reliability

Highlights

Highlights of GAO-04-188, a report to congressional committees

MILITARY TRANSFORMATION

The Army and OSD Met Legislative Requirements for First Stryker Brigade Design Evaluation, but Issues Remain for Future Brigades

Why GAO Did This Study

The Army continues to transform units, known as Stryker brigades, into lighter, rapidly deployable, and more capable forces. Because Stryker brigades are an entirely new design, the fiscal year 2002 National Defense Authorization Act required the Army to conduct an evaluation of the design, to include deployment of the brigade and execution of combat missions across the full spectrum of potential threats. The act also required the Secretary of Defense to certify that the evaluation results indicate the design is both operationally effective and suitable.

As one in a series of reviews of Army transformation, GAO monitored the evaluation to assess (1) whether the Army and the Secretary of Defense met legislative requirements, (2) how the Army evaluated both the operational effectiveness and suitability of the brigade's design, (3) what the brigade's performance was during the evaluation, and (4) how the Army plans to mitigate issues identified during the evaluation.

What GAO Recommends

GAO recommends that OSD direct the Army to complete all mitigation efforts and apply, as applicable, adjustments made to the brigade design to future Stryker brigades. In commenting on a draft of this report, OSD concurred with the recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-04-188.

To view the full product, including the scope and methodology, click on the link above. For more information, contact William M. Solis at (202) 512-8365 or solisw@gao.gov.

What GAO Found

The Army and the Office of the Secretary of Defense (OSD) met the legislative requirements of the fiscal year 2002 National Defense Authorization Act. The Army developed a plan for conducting an operational evaluation of the first Stryker brigade; obtained the plan's approval from the Department of Defense Director of Operational Test and Evaluation; and from April through May 2003, the brigade deployed to the evaluation sites and conducted combat missions across the full spectrum of potential threats—from major theater of war to security and stability operations. In September 2003, OSD certified to Congress that the brigade design is both operationally effective and suitable. The Army has deployed the first Stryker brigade to Iraq.

The Army developed an evaluation plan and established a control cell that used independent evaluators to monitor and collect data on the brigade's performance. The cell compiled and analyzed the data and submitted a report to the I Corps commander, who declared the design as operationally effective and operationally suitable. The commander noted that performance difficulties were due to an accelerated fielding schedule and inadequate training time. The U.S. Forces Command endorsed the report.

GAO determined, based on its observations and analyses, that the brigade's performance showed strengths and weaknesses. The brigade could perform as designed but did not consistently demonstrate its capabilities. The brigade's strengths were its ability to conduct combat missions, including deployment using different transportation modes and the ability to use the Stryker vehicle's speed and agility. The weaknesses related to staff planning, digital system usage, sustainment, and executing company-level combat missions. Contractors were also used ineffectively. GAO concluded that the primary cause of the weaknesses was insufficient training proficiency.

The Army is implementing a plan to mitigate most operational evaluation issues. The Army concluded that the issues were largely training related, although some were related to design or equipment. The brigade, in preparation for deployment to Iraq, conducted additional training to address the issues the Army and GAO identified. The brigade's training performance indicates that these issues are being mitigated. The Army is addressing the training and equipment issues for the first Stryker brigade; however, it has deferred some critical issues that have implications for future brigades.

Contents

Letter		1
	Results in Brief	2
	Background	5
	The Army and OSD Met the Requirements of the Act to Assess the Stryker Brigade	6
	Army Evaluated Key Operational Aspects and Used Subject Matter Experts to Assess Effectiveness and Suitability of the Brigade's Design	8
	Stryker Brigade Demonstrated Both Strengths and Weaknesses during the Operational Evaluation	11
	Army Risk Management Plan Will Mitigate Most Operational Evaluation Issues, but Deferred Issues Have Implications for Future Brigades	32
	Conclusions	34
	Recommendations for Executive Action	35
	Agency Comments	35
Appendix I	**Provisions from Public Law 107-107 Concerning Limitations on Army Transformation Actions**	38
Appendix II	**Scope and Methodology**	40
Appendix III	**Stryker Brigade Organizational Parameters and Operational Capabilities by Critical Tasks**	42
Appendix IV	**Mission Training Plan Tasks Compared to Critical Tasks**	43
Appendix V	**Stryker Brigade Parameters and Capabilities Compared to Essential Mission Training Plan Tasks**	44

Appendix VI **Definitions of Key Organizational Parameters and Key Operational Capabilities** 46

Appendix VII **Comments from the Department of Defense** 49

Related GAO Products 51

Figures

Figure 1: Stryker Vehicle Being Loaded onto a C-130 at the Southern California Logistics Airfield 13
Figure 2: Stryker Exiting a C-130 Aircraft at the National Training Center 14
Figure 3: Stryker Exiting a Fast Sealift Ship at Lake Charles, Louisiana 15
Figure 4: Road March 16
Figure 5: C-17 at Geronimo Forward Landing Strip 17
Figure 6: Stryker Company and Troops Loading a C-130 at Geronimo Forward Landing Strip 18
Figure 7: Stryker Maneuvering in Wooded Terrain at the Joint Readiness Training Center 20
Figure 8: Town of Shugart-Gordon 21
Figure 9: Brigade Support Battalion at the National Training Center 26
Figure 10: Alternate Supply Point at the National Training Center 28

Abbreviations

FBCB2	Force XXI Battle Command Brigade and Below
OSD	Office of the Secretary of Defense

This is a work of the U.S. government and is not subject to copyright protection in the United States. It may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

G A O
Accountability * Integrity * Reliability

United States General Accounting Office
Washington, DC 20548

December 12, 2003

Congressional Committees

During fiscal year 2003, the Army continued to transform its force to one that is lighter, more rapidly deployable, and able to effectively operate in various environments and across the full spectrum of threats from small-scale contingencies to a major theater of war. Two of six planned Stryker Brigade Combat Teams are currently undergoing the Army's initial transformation efforts—one brigade, which has been deployed to Iraq, and another brigade, which is co-located at Fort Lewis, Washington. The brigades are an entirely new organizational design, and questions have arisen regarding their combat effectiveness. In the fiscal year 2002 National Defense Authorization Act,[1] Congress required

- the Secretary of the Army to conduct an operational evaluation of the brigade that includes deployment of the brigade to the evaluation site and brigade execution of combat missions across the full spectrum of potential threats and operational scenarios;
- the Director of Operational Test and Evaluation of the Department of Defense to approve the operational evaluation plan; and
- the Secretary of Defense to submit to Congress a report on the operational evaluation.

The statute further limited deployment of the brigade and procurement of vehicles beyond the third brigade until 30 days after the Secretary of Defense submits the report and certifies that the results of the operational evaluation indicate that the design for the Stryker Brigade Combat Team is operationally effective[2] and operationally suitable.[3] (See appendix I for the

[1] Section 113, National Defense Authorization Act for Fiscal Year 2002, P. L. 107-107 (Dec. 28, 2001).

[2] Operational effectiveness is determined by the brigade's ability to successfully accomplish full spectrum missions as well as, or better than, current forces. This requires the capability to achieve decisive action through close combat, centered primarily on dismounted infantry assault.

[3] Operational suitability is determined if the brigade's design supports the tasking of the brigade to the type of missions and environments that the brigade's concept document indicates is appropriate for it. This requires organizing and equipping the force to provide high strategic, operational, and tactical mobility.

statutory provisions concerning these limitations on Army transformation actions.)

On the basis of the authority of the Comptroller General, we monitored and assessed the Army's efforts to conduct an operational evaluation of the first Stryker Brigade Combat Team — the Third Brigade of the Second Infantry Division — as required by the fiscal year 2002 National Defense Authorization Act. Our objectives were to assess (1) whether the Army and the Office of the Secretary of Defense (OSD) met legislative requirements, (2) how the Army evaluated both the operational effectiveness and the operational suitability of the brigade's design, (3) what the brigade's performance was during the operational evaluation, and (4) how the Army plans to mitigate issues identified during the operational evaluation.

In our assessment of the Army's Stryker brigade operational evaluation, we reviewed the Army's operational evaluation plan and its associated execution plan, and we observed the exercises held at the National Training Center at Fort Irwin, California, and the Joint Readiness Training Center at Fort Polk, Louisiana. We observed the deployment of the Stryker brigade, as well as execution of certain combat missions. Upon completion of the operational evaluation and the Army's compilation of its data sources, we reviewed and analyzed the Army's database that consisted primarily of evaluator comments to assess the brigade's performance. (See appendix II for the full text of the scope and methodology.) We are providing this report, another in a planned series related to Army transformation, to you because of your committees' oversight responsibility. Related GAO products concerning transformation are listed at the end of this report.

Results in Brief

The Army and OSD met the legislative requirements of the fiscal year 2002 National Defense Authorization Act. The Army developed a plan and conducted an operational evaluation of the first Stryker brigade; it obtained the plan's approval from the Department of Defense Director of Operational Test and Evaluation;[4] and OSD submitted a report to Congress and certified the results of the operational evaluation. The Army conducted a deployment to the operational evaluation site from Fort

[4] The Director of Operational Test and Evaluation is the principal advisor to the Secretary of Defense concerning operational testing, including assessments of operational effectiveness, suitability, and survivability of the items tested.

Lewis, Washington, to the National Training Center and onto the Joint Readiness Training Center; these deployments incorporated various methods, including rail, sea, air, and ground movements. The Army's operational evaluation, held from April 1, 2003, through May 28, 2003, included the conduct of combat missions across the full spectrum of potential threats, to include scenarios in a major theater war environment as well as security and stability operations. Finally, on September 17, 2003, the Deputy Secretary of Defense certified that the operational evaluation's results indicated that the initial Stryker brigade's design is operationally effective and operationally suitable.

The Army developed an evaluation plan that assessed key organizational parameters, mission training plans, and key operational capabilities. The organizational parameters and operational characteristics were the essential elements in assessing both the operational effectiveness and the operational suitability of the first Stryker brigade's design. In doing so, the Army established a control cell that developed a data collection plan, analyzed the results, and wrote an operational evaluation report. The Army used independent evaluators trained in Stryker brigade doctrine to monitor and observe the brigade's performance. The evaluators provided subjective commentary as to how the brigade performed in accordance with key organizational parameters and key operational characteristics. The data were compiled and analyzed, and a report was submitted to the I Corps commander. The I Corps commander assessed the report's findings and determined that the brigade's design is operationally both effective and suitable, but noted that the brigade had experienced difficulties in demonstrating some of the key operational capabilities. The difficulties were primarily attributed to an accelerated fielding schedule and a lack of adequate training time. The Commanding General, U.S. Forces Command, endorsed the report's findings.

Based on our observation of events and analysis of the data collected in accordance with the Army's plan, the brigade demonstrated that it could perform as designed, but it did not consistently demonstrate its capabilities, indicating both strengths and weaknesses. The strengths were illustrated by the brigade's ability to deploy using different transportation systems and the individual unit's ability to take advantage of the speed, agility, and maneuverability of the Stryker vehicle. With regard to weaknesses, the brigade had difficulties in (1) mastering staff operations, which reduced the ability of the brigade to use all of its assets as intended; (2) using its digital systems, which resulted in inconsistent and incomplete maintenance of a common operating picture; (3) conducting supply operations, which challenged the brigade to sustain itself; and (4)

executing company-level combat missions, which reduced its overall combat power. Additionally, contractors were used ineffectively because units used them improperly or did not provide the support necessary to ensure their effective use in providing maintenance support to the brigade. Our analysis of the data concluded that insufficient training proficiency was the primary cause of these weaknesses, thus inhibiting the brigade from achieving a full demonstration of its capabilities.

The Army has developed a plan that when fully implemented will mitigate most issues identified in the operational evaluation, and the plan addresses the weaknesses we identified from our analysis of the evaluation results. However, the plan does not fully address design and equipment issues that have implications for future brigades. The Army's immediate focus in implementing the plan was to resolve issues relating to training and equipment that affected the brigade's ability to deploy to Iraq and defer the remaining issues for future consideration, some of which have implications for the future brigades. To mitigate the training issues and to prepare for deployment to Iraq, I Corps developed and implemented training events, including a command post exercise to train the staff and a brigade field training exercise that emphasized platoon and company unit operations. Observer-controllers from the Joint Readiness Training Center observed the brigade's performance during these events, provided feedback, and conducted informal after-action reviews focusing on lessons learned from Operation Iraqi Freedom. After the training, the brigade commander and senior Army officials responsible for Stryker brigade transformation told us that they had no reservations regarding the brigade's proficiency or ability to deploy and conduct combat operations in Iraq. However, one design issue that has not been completely addressed that has implications for the current and future brigades involves the current vehicle of the reconnaissance squadron operations officer— it is not as mobile or as survivable as the Stryker vehicle used by the reconnaissance squadron commander. The mitigation plan includes a short-term solution for the initial brigade of shifting a Stryker from elsewhere for the operations officer but no long-term solution. Regarding equipment, one equipment issue involved the fact that not all Stryker vehicles have the digital system called Force XXI Battle Command Brigade and Below (FBCB2). This system increases a commander's ability to position troops and conduct combat operations. The issue is that only one-half of the Stryker vehicles in each infantry platoon currently have the FBCB2 system. The mitigation plan calls for procuring a sufficient number of FBCB2 systems for the initial Stryker brigade, but the plan does not address if FBCB2s will be procured to equip all Stryker vehicles in the future brigades. All identified issues — training, design, and equipment —

and the related mitigation efforts provide valuable lessons learned for future brigades.

We are recommending that, to assist the Stryker brigade's transformation efforts, the Secretary of Defense direct the Secretary of the Army to develop a plan that completes the mitigation efforts on those issues not addressed prior to deploying the brigade and apply, as applicable, adjustments made to the training, equipment, and design of the brigade to future Stryker brigades.

In commenting on a draft of this report, the department concurred with our recommendations.

Background

The Army continues to transform its forces toward its goal to be more strategically responsive and to dominate across the full spectrum of military operations — from small-scale contingencies to a major theater war. The transformation efforts, which began in 1999, attempted to balance lethality, mobility, and survivability with the capabilities required for responsiveness, deployability, sustainability, and a reduced in-theater footprint. The Army chose an armored wheeled vehicle, designated as the Stryker, as its primary combat platform and began to transform six existing brigades to Stryker Brigade Combat Teams. The Third Brigade of the Second Infantry Division was selected as the initial Stryker Brigade Combat Team.

According to the Army, the core qualities of the new brigade design are high mobility at the strategic, operational, and tactical levels; an ability to achieve decisive action through the use of dismounted infantry that is supported by organic direct and indirect fire platforms; and an enhanced situational understanding of the battlefield. As an early-entry force, the brigade is expected to have sufficient built-in combat power to conduct immediate combat operations upon arrival in theater if required. Also, the brigade was designed to accept additional forces that can expand the core tasks and functions that already reside within the brigade or that execute tasks that do not reside within the brigade (e.g., adding armor, field artillery, air defense, additional engineers, or aviation). The brigade was also designed to adopt a new training regimen that allows a faster deployment to any type of contingency; in contrast, current Army units receive an alert for a mission, train for the mission-specific requirements, and then deploy.

Congress has supported the Army's transformation efforts, but since the Stryker brigade is an entirely new design, members of the Senate and House Committees on Armed Services agreed that the Army must conduct an evaluation that indicated that the brigade's design is operationally effective and operationally suitable. The requirement for an operational evaluation was formalized in the fiscal year 2002 National Defense Authorization Act. For the evaluation, the Army modified an existing training exercise at the Joint Readiness Training Center at Fort Polk, Louisiana, and added a data collection apparatus, a deployment schedule, and an additional training event at the National Training Center at Fort Irwin, California. The Army uses training exercises at the Joint Readiness Training Center and the National Training Center to increase the combat proficiency of its units and to identify training deficiencies that need to be addressed. The training exercises are conducted under stressful conditions against an opposing force emulating combat scenarios anticipated in war. By Army regulation, training deficiencies identified during the rotations and subsequent retraining are not indicators of unit failure. The Army conducted the evaluation from April through May 2003.

The Army and OSD Met the Requirements of the Act to Assess the Stryker Brigade

The Army and OSD met the requirements of the fiscal year 2002 National Defense Authorization Act to, respectively, plan and conduct an operational evaluation of the Stryker brigade and certify the evaluation results. The Army met the requirements by (1) obtaining approval of the evaluation plan by the Department of Defense Director of Operational Test and Evaluation, (2) deploying the brigade to the evaluation site, and (3) conducting combat missions across the full spectrum of potential threats. The act also made additional vehicle procurement and brigade deployment contingent upon a certification that the brigade's design is operationally effective and operationally suitable. OSD has provided the certification to Congress.

The Department of Defense Director of Operational Test and Evaluation approved the Army's operational evaluation plan on March 28, 2003. The Army's primary objective was to comply with the legislation by assessing the initial Stryker brigade's design for operational effectiveness and operational suitability according to the unit's organizational and operational concept and its current modified table of organization and

equipment. A secondary objective was to conduct a readiness assessment[5] of the unit's ability to conduct combat operations according to Army doctrine.

The Army deployed to the operational evaluation site when it conducted a multimodal movement from Fort Lewis to the National Training Center, Fort Irwin, and onto the Joint Readiness Center at Fort Polk, Louisiana. The operational evaluation was held from April 1, 2003, through May 28, 2003. To accomplish these strategic and operational moves, the Army used various methods, including rail, sea, air, and ground movements. Due to current world military operations and the limited number of available aircraft, the Army was restricted from moving the entire brigade combat team by air.

During the operational evaluation, the brigade conducted combat missions across the full spectrum of potential threats. The evaluation's scope included the brigade field training exercise at the National Training Center and a certification exercise during a Joint Readiness Training Center rotation. The evaluation was constructed so that the brigade conducted a series of combat missions against an opposing force in both major theater of war and small-scale contingency environments. For example, the scenario at the National Training Center was optimized for the higher end of combat where the brigade conducted operations against mechanized forces. At the Joint Readiness Training Center, the brigade's mission was optimized for small-scale contingencies where the brigade conducted operations in noncontiguous areas and in complex urban terrain. Throughout the operational evaluation's events, the brigade was augmented with aviation, military police, and armor.

On August 19, 2003, the Acting Secretary of the Army forwarded a memorandum requesting that the Secretary of Defense submit to Congress the operational evaluation report prepared by the Army following the evaluation and certify that the results of the evaluation indicate that the Third Brigade, Second Infantry Division's design is operationally effective and operationally suitable. The Deputy Secretary of Defense, on September 17, 2003, certified to Congress that the results of the operational evaluation indicated the design for the initial Stryker brigade

[5] The readiness assessment was based on the evaluation of the mission training plan and the associated critical tasks. These tasks were evaluated as Go/No Go based on defined standards.

is operationally effective and operationally suitable. The Army has deployed the first Stryker brigade to Iraq.

Army Evaluated Key Operational Aspects and Used Subject Matter Experts to Assess Effectiveness and Suitability of the Brigade's Design

The Army developed an evaluation plan that assessed key organizational parameters, mission training plans, and key operational capabilities. The Army also established an Operational Evaluation Control Cell (Control Cell) to coordinate the assessment activities and used subject matter experts and observers as independent evaluators to assess the operational effectiveness and suitability of the brigade.

According to the Army, the key organizational parameters and operational capabilities were the essential elements in assessing the brigade's design for operational effectiveness and operational suitability. The mission training plans provided the tasks, conditions, and standards to assess operational readiness as defined by the key operational capabilities. The eight key organizational parameters are

- achieve balance between capabilities for strategic responsiveness and requirements for battle-space dominance,
- balanced full spectrum utility,[6]
- reduced sustainment requirements,
- minimize the brigade's personnel and logistical footprint,
- commonality of vehicular platforms,
- reach-back,
- embedded unit-based capabilities, and
- internetted combined arms to company-team level.

The nine key operational capabilities are

- mobility,
- dismounted assault and the close fight,
- enhanced situational understanding and information superiority,
- holistic force protection and survivability,
- lethality,
- force effectiveness,
- reach/reach-back,
- joint/multinational/interagency interoperability, and
- full spectrum flexibility and augmentation.

[6] This refers to the brigade's capability in the full spectrum of combat. See appendix III.

The key organizational parameters and operational capabilities are defined by the brigade's organizational and operational concept document of June 2000.[7]

The evaluation linked these key characteristics to the brigade's six critical training requirements and then to the brigade's mission training plans. Army planners had determined that for an effective operational evaluation, the events must focus on 10 specific brigade level tasks extracted from the brigade mission training plans. Appendixes III, IV, and V illustrate the evaluation's integration of key organizational parameters and operational capabilities, mission training plans, and critical training requirements. (See appendix VI for the definition of key organizational parameters and operational capabilities.)

The Army established a Control Cell to manage the activities needed to conduct the evaluation. Participants included individuals from the I Corps staff, the U.S. Training and Doctrine Command's Brigade Coordination Cell, the Army Test and Evaluation Command,[8] and a team of contractors. The Control Cell developed an execution plan and provided it to the Department of Defense Director of Operational Test and Evaluation for review.

During development of the operational evaluation execution plan, the Department of the Army provided additional guidance to Forces Command and directed that the evaluation also assess the ability of the Stryker brigade to receive logistical support from echelon above brigade support elements. Initially, the Army had planned to informally assess this capability. However, after we recommended to the Secretary of Defense[9] that external logistics support be an element of the evaluation, the Army included this in its execution plan. To address these concerns, the Control Cell's execution plan included an evaluation of the echelon above brigade

[7] The organizational and operational concept document provides a detailed framework for the definition of fundamental operational precepts, capabilities, and organizational constructs. The concept document is the basis for the development of mission training plans, training strategies and support packages, evaluation plans, and field manuals.

[8] The Army Test and Evaluation Command is the Army's independent operational test activity and is responsible for overall management of the Army test and evaluation programs.

[9] U.S. General Accounting Office, *Army Stryker Brigades: Assessment of External Logistics Support Should Be Documented for the Congressionally Mandated Review of the Army's Operational Evaluation Plan*, GAO-03-484R (Washington, D.C.: Mar. 28, 2003).

support elements, including the logistics concepts such as contractor support, reach-back, and configured loads. Real-world events limited the number of assets available to allow for continuous aerial resupply, so the Control Cell compensated by using limited aerial resupply and, when aircraft were not available, used notional aerial resupply that included the use of time delays to replicate transport time. For both types of resupply, the echelon above brigade elements would distribute supplies in configured loads to the Stryker brigade for disbursement.

Prior to the conduct of the operational evaluation, the Control Cell instructed and certified subject matter experts[10] from proponent schools and observer-controllers from the training centers as primary data collectors. The instruction familiarized the data collectors on the Stryker brigade organization, capabilities and doctrine, and the combat training centers' rules of engagement and safety guidelines. Officials from the Army's Test and Evaluation Command provided instruction on data collection procedures and use of data collection tools such as personal digital assistants. Additionally, the Control Cell formed a team composed of members of the Training and Doctrine Command's Brigade Coordination Cell that also collected data throughout the operational evaluation.

Data collected for the operational evaluation included observations and comments from subject matter experts, observer-controllers, and team members from the Brigade Coordination Cell. These observations and comments occurred while the data collectors observed the brigade's performance during the various combat missions. Additional data sources included after-action reviews, surveys, and key personnel interviews. The Army's Operational Test Command also retrieved digital instrumentation data. All of these data sources were retrieved every 24 hours and validated by officials of the Army's Operational Test Command and the Control Cell. The Control Cell established a review group to authenticate the data and develop initial insights based on observations that emerged as the events progressed.

Upon completion of the operational evaluation, the Control Cell analyzed all the data sources and submitted a report of its findings to the I Corps

[10] Subject matter experts are usually commissioned officers and noncommissioned officers who have extensive experience with the studied equipment, recent unit experience, and a background as a trainer or in training development.

commander. The I Corps commander concluded that the brigade had met or adequately met each of the requirements associated with the key organizational parameters and key operational capabilities. The Army defined "adequately met" as the brigade's design was operationally effective and operationally suitable but had some deficiencies, or issues. The report was submitted to the Commanding General, U.S. Forces Command, who endorsed the report's findings. Although the I Corps commander assessed the brigade's design as operationally both effective and suitable, the operational evaluation report noted that the Stryker brigade experienced difficulties in demonstrating some of the key operational capabilities, which were primarily attributed to an accelerated fielding schedule and a lack of adequate training time.

Stryker Brigade Demonstrated Both Strengths and Weaknesses during the Operational Evaluation

Based on our observations of the brigade's performance at the two combat training centers and our analysis of data collected during the evaluation, the brigade performed as designed but did not consistently demonstrate its capabilities, indicating both strengths and weaknesses. In certain areas, the Stryker brigade demonstrated its strengths, including both the ability to conduct strategic and operational deployments and to maneuver about the battlefield using the Stryker vehicle. The operational evaluation also demonstrated weaknesses in the areas of staff planning, usage of digital systems, sustainment of the brigade, and established company-level combat procedures. Civilian contractors were also used ineffectively to support the units. Our analysis indicated that the Stryker brigade's training proficiency was the primary cause of these weaknesses.

Stryker Brigade Demonstrated That It Is Deployable

Our observations and analysis of the data indicated that the Stryker brigade demonstrated the ability to conduct strategic and tactical deployments using different transportation systems such as rail, ground, and various sea vessels and aircraft. Upon arrival at each destination, the brigade showed the ability to reassemble into a combat configuration in a timely manner. Once reconfigured, units of the Stryker brigade also demonstrated the ability to conduct immediate combat operations. It should be noted, however, that while the tactical deployment of the Stryker vehicle by C-130 aircraft was demonstrated, the Army has yet to demonstrate under various environmental conditions, such as air temperature and airfield altitude, just how far Stryker vehicles can be tactically deployed by C-130 aircraft.

The brigade used commercial air, rail, and ground transportation to move personnel and equipment from Fort Lewis to Fort Irwin. While at the National Training Center, we observed the brigade conduct a tactical movement by moving a Stryker infantry company with its personnel, supplies, and 21 Stryker vehicles via C-130 aircraft from Southern California Logistics Airfield to an austere desert airfield on Fort Irwin about 70 miles away. (Figure 1 shows a Stryker vehicle being loaded at the Southern California Logistics Airfield, and figure 2 shows the Stryker exiting from a C-130 aircraft at the National Training Center.) Upon landing, the infantry company unloaded the vehicles from the aircraft, reconfigured them for combat missions, and moved onward to a staging area. All Stryker variants could reconfigure into combat capable modes within their designated time standard, except the medical variant. Based on our observation of the event, we agree with the Army that the insufficient crew size was the reason why the medical variant, with its extra external boxes, could not be reconfigured within the time standard. However, if the brigade had trained to reconfigure the Stryker variants, this situation would have been apparent and should not have occurred.

Figure 1: Stryker Vehicle Being Loaded onto a C-130 at the Southern California Logistics Airfield

Source: GAO.

Figure 2: Stryker Exiting a C-130 Aircraft at the National Training Center

Source: U.S. Army.

The Stryker brigade demonstrated strategic movement when it deployed brigade elements by rail, sealift, and C-17 aircraft from the National Training Center to a staging area located at Chennault Industrial Airpark, located in Lake Charles, Louisiana. Two battalion equipment sets moved by Fast Sealift Ship from San Diego, California, to Lake Charles Seaport, while a third battalion's equipment, including all current Stryker variants, moved by C-17 aircraft from Fort Sill, Oklahoma, to a staging area at the England Air Park in Alexandria, Louisiana. (Figure 3 shows a Stryker being unloaded from a Fast Sealift Ship.) Elements of the Stryker brigade that unloaded at the Lake Charles Seaport moved to the Chennault Industrial Airpark and then conducted a road march to the Joint Readiness Training Center to begin combat operations. We observed the staging area as the

brigade assembled and prepared for its road movement to the training center. Figure 4 shows the road march to the training center.

Figure 3: Stryker Exiting a Fast Sealift Ship at Lake Charles, Louisiana

Source: U.S. Army.

Figure 4: Road March

Source: U.S. Army.

Tactical deployment was demonstrated when C-17 aircraft transported an infantry company from Lake Charles to Geronimo forward landing strip, an austere dirt airfield at the Joint Readiness Training Center. The C-17 aircraft landed at the forward landing strip, and the infantry company demonstrated the ability to quickly unload its vehicles and personnel by moving to the tactical assembly area in about 10 minutes. (Figure 5 shows a C-17 aircraft at Geronimo forward landing strip.) A Stryker infantry company also demonstrated the ability to travel into combat operations in

a C-130 aircraft. (Figure 6 shows the loading of an infantry company and its vehicles onto C-130 aircraft at Geronimo forward landing strip.) The Stryker infantry company—consisting of 21 Strykers and 5 other trucks and trailers; 188 soldiers; and 3 days of food, water, ammunition, and fuel to support the company—traveled from Geronimo to Essler airfield using 7 C-130s flying 25 sorties over a distance of about 100 miles. Upon landing at the Essler airfield, the company moved to a tactical assembly area and onward to conduct a combat operation.

Figure 5: C-17 at Geronimo Forward Landing Strip

Source: U.S. Army.

Figure 6: Stryker Company and Troops Loading a C-130 at Geronimo Forward Landing Strip

Source: GAO.

Stryker Brigade Demonstrated Its Ability to Quickly Maneuver about the Battlefield

The Stryker vehicle demonstrated speed, agility, and extensive maneuverability during the execution of the brigade's combat missions during the operational evaluation. Because of its maneuverability, the Stryker vehicle allowed individual units to react and move around the battlefield much more quickly than light and mechanized infantry units, allowing individual units to accomplish tasks in minutes compared to

hours. When used properly, the Stryker vehicle enabled the brigade to outmaneuver and overpower opposing forces. The performance of the Stryker brigade at both training centers indicated that with its vehicles, it could move faster as compared to both conventional and/or nonmotorized infantry as well as infantry units equipped with the Bradley fighting vehicle.

At the Joint Readiness Training Center, the Stryker vehicle performed well in urban areas and in wooded terrain. (Figure 7 shows the Stryker maneuvering in wooded terrain.) The speed of the vehicle enabled the infantry companies to quickly arrive in urban areas, giving them the ability to surprise the enemy and overcome urban objectives. The attack on the "town" of Shugart-Gordon illustrated that the Stryker was able to move quickly using a route that included very restrictive terrain. (Figure 8 shows the town of Shugart-Gordon.) The Stryker easily moved through the rough terrain and made it to the objective, giving the company commander the ability to rapidly transport soldiers during the assault. The speed of the Stryker allowed one particular company to arrive at the objective early and surprise the enemy. In another instance, the capabilities of the vehicle allowed Stryker units to rapidly pursue and decisively engage unconventional forces that were more mobile than U.S. Army light infantry units. The Stryker vehicles' speed allowed the infantry units to fix and destroy the enemy, despite the enemy's efforts to leave the battlefield.

Figure 7: Stryker Maneuvering in Wooded Terrain at the Joint Readiness Training Center

Source: U.S. Army.

Figure 8: Town of Shugart-Gordon

Source: GAO.

At the National Training Center, the Stryker vehicle demonstrated its ability to accelerate quickly and maneuver over the desert terrain to deliver infantry personnel to their objective. Our analysis shows that the Stryker vehicle moved more quickly and much quieter than the opposing forces' vehicles, giving the brigade a substantial tactical advantage over the enemy. When operating in extremely rugged and steep terrain, the Stryker did lose some of its mobility advantage and had difficulty in maneuvering as quickly as the opposing forces' vehicles. Despite the loss

of this advantage, the Stryker vehicle was nonetheless mobile enough to allow a company to quickly reposition and destroy a platoon of guerrilla forces running through rough terrain. The Stryker's speed enabled the infantry unit to quickly move into its attack position after changes in the battlefield. Because of this speed, the vehicle potentially provides a commander more time to react since less time is spent moving from one location to another.

Brigade's Staff Performance Was Inconsistent

On the basis of our analysis of the data, as a collective organization, the brigade staff[11] was unable to consistently perform in accordance with Army doctrine, hindering the ability of the Stryker brigade to first fully see and then understand the battle space. Staff processes, both the integration of the entire staff and those internal to specific sections, affected the ability of the brigade to produce and execute synchronized plans. The Stryker brigade did display the ability to integrate and collect information, but not consistently. The observer-controllers generally identified training time as the primary cause for the weaknesses.

Army doctrine prescribes a manner in which staffs should develop battle plans. This military decision-making process requires incorporation of all staff elements in a collective effort to synchronize all of the brigade's assets. Although the brigade staff gained experience and improved by going through the process over the course of the evaluation, they did not consistently integrate all of the staff sections and key subsections, including information operations, fire support, and intelligence. Because all of these assets were not incorporated into the planning process, the brigade had difficulty in using its capabilities according to doctrine.

The Stryker brigade displayed the ability to integrate information from multiple sources. However, managing the flow of the information and disseminating it throughout the brigade was difficult. For example, the brigade Reconnaissance, Surveillance and Target Acquisition squadron provided more information than the brigade staff could process. Because the staff's proficiency level to manage the information was low, the ability to analyze and present a common operational picture was reduced.

[11] Brigade and battalion staffs are generally organized into sections. These sections are numbered S-1 through S-6 and represent functions such as personnel, intelligence, operations, logistics, civil affairs, and signal operations.

The staff's performance affected all units within the brigade. Commanders were not given well-developed planning products, including an accurate initial picture of the enemy and the enemy's anticipated actions, as well as tools that enabled the application of all of the brigade's organic combat capability. Although they were still able to conduct combat missions, the brigade did not perform to the best of its capabilities.

Synchronization of the brigade's intelligence collection effort was inconsistent. Unlike traditional Army units, the Stryker brigade has a very robust intelligence collection capability that includes unique tools such as unmanned aerial vehicles; nonlethal effects capabilities such as civil affairs, psychological operations, and legal personnel; and a Reconnaissance, Surveillance and Target Acquisition squadron. Because the efforts were not synchronized, intelligence collection assets were not consistently used in an efficient manner, resulting in areas not being observed or other areas receiving redundant coverage. Also, the reconnaissance squadron sometimes operated independently of the brigade's guidance, resulting in a failure to obtain needed information.

Using the Digital Systems Proved Difficult for the Brigade

The operational evaluation demonstrated that the brigade had not mastered the use of its digital systems. The proper use and employment of the various digital systems increase the commanders' ability to position troops and conduct combat operations. However, our analysis shows that a combination of either not using established procedures or not having established procedures, as well as a lack of familiarity with the systems, prevented full exploitation of the systems' capabilities.

During the evaluation, a lack of familiarity with the systems and a lack of standardized procedures contributed to the brigade's inability to fully maximize the capabilities of its digital systems. Brigade leaders and staff struggled with acquiring data and interpreting it in a timely manner. If the staff had properly used the various digital systems, the commanders' ability to position troops and conduct combat operations would have been increased.

Digital systems were not available for all elements of the brigade, including augmenting units. Not all staff sections and subsections

possessed the FBCB2 system,[12] hindering staff planning operations. At the platoon level, only the platoon leader and platoon sergeant Stryker vehicles are equipped with the FBCB2 system. Further, when infantry personnel dismount, they have no direct digital connectivity to the FBCB2 system. As a result, the non-FBCB2-equipped Stryker vehicles and dismounted infantry did not possess the same level of situational awareness that Stryker vehicles equipped with the FBCB2 system did. Additionally, augmenting units such as armor and aviation did not arrive with the FBCB2 system, so the brigade attached a liaison element equipped with the system. Because the augmenting units did not have the system, the Stryker brigade had to provide analog control measures so that the augmenting unit would know the brigade's plan.

The FBCB2 system was not consistently updated to provide a current view of the battle space. Although the FBCB2 system automatically tracks the location of vehicles equipped with the system, enemy positions and the location of friendly dismounted infantry must be entered manually. While this capability exists, updating this information was not consistently done.

The brigade did not consistently use predesignated formats in the FBCB2 system, affecting the information flow into other systems. To communicate with the Army Battle Command System, the FBCB2 system has a predesignated message format. Units found these formats cumbersome and opted instead to use either analog means or the free-text feature in the system. Not using the predesignated format made updating the other systems inefficient, because operators had to transfer information from the free text into the Army Battle Command System. Additionally, because free text did not automatically update the information in the other systems, the view of the battle space was inaccurate.

Not using the information available in the FBCB2 system was also an issue. For example, there were several instances where individual Stryker vehicles and an entire Stryker unit conducted movement through a minefield that had been entered into the system. These movements either delayed combat operations or resulted in casualties. Another example was movement of unit vehicles down a route that was congested. The system

[12] FBCB2 is a digitized system that uses sophisticated information technology that allows Stryker brigade personnel to achieve superior battlefield information enabling them to engage the enemy long before coming into contact.

provided the unit information that the route was congested; yet the driver ignored the information and moved down the route.

Sustaining the Brigade Was Challenging

During the evaluation, the brigade experienced difficulties in conducting supply operations because components within the brigade did not or were unable to follow the established procedures. Support to the Stryker brigade is distribution based, meaning that instead of keeping supplies on hand, the brigade is designed to receive a near-continuous flow of anticipated supplies through the supply chain. The areas of the supply chain assessed were the organic sustainment provided by the brigade support battalion and the external logistics support provided by the echelon above brigade. Because these two support areas are linked, supply requests from the brigade impact the ability of the echelon above brigade elements to provide the necessary anticipatory logistics. Conversely, incorrect supplies sent from the echelon above brigade elements to the brigade affected the ability of the brigade to distribute supplies to its units. When units made proper requests, the process worked correctly. However, the inability to make proper requests affected the ability of the entire supply chain to provide support to the brigade.

Difficulties in maintaining a flow of supplies began at the individual unit level and affected the entire logistics flow. We determined through our analysis of the observer-controller comments that units had difficulty adapting to the just-in-time system. Commanders were uncomfortable maintaining supplies below 50 percent of their full operational requirement and, during those situations, often placed emergency resupply requests to the brigade support battalion. Units also had difficulty using the digital systems to request resupply because they lacked familiarity with the systems, connectivity issues impeded performance, or reporting formats did not adequately address their logistics needs. While the units were able, at times, to adopt work-around solutions, the effect was a disruption of the intended flow of supplies.

The brigade support battalion struggled to perform its dual function of acting as a conduit for its requests and the distribution point for supplies between the echelon above brigade support structure and the brigade. One difficulty faced by the support battalion was the need to reconfigure supplies received from the echelon above brigade support structure. Unit supply requests did not adequately reflect its needs; therefore, the anticipatory loads sent from the echelon above brigade support structure did not contain the correct supplies in the correct amounts and configurations. As a result, the brigade support battalion had to

reconfigure the supplies it had available as well as those that it had received. Supply distribution occurred as available, as opposed to a set schedule, resulting in the support battalion having insufficient transportation assets to deliver all needed supplies in a timely manner. Figure 9 shows the brigade support battalion at the National Training Center.

Figure 9: Brigade Support Battalion at the National Training Center

Source: GAO.

The brigade also had difficulty providing supplies to units when the support battalion was moving to a new location. The evaluation showed that when stationary, the support battalion successfully established alternate supply points for brigade units. (Figure 10 shows an example of an alternate supply point at the National Training Center.) However, when the support battalion moved, the brigade did not adequately provide for alternate distribution points. Had this issue been addressed, the brigade would have had the ability to adequately supply its units during the support battalion's relocation.

Figure 10: Alternate Supply Point at the National Training Center

Source: GAO.

Stryker Companies Had Problems Executing Combat Missions

Although Stryker companies were able to exercise and achieve some degree of success conducting combat operations at both training centers, many of their capabilities were not consistently used. Areas of concern included tracking dismounted infantry, performance of antitank systems, and challenges linking fire support elements to the artillery battalion. Our analysis of the data showed that limited training time and a lack of standard operating procedures contributed to the companies' inability to

consistently use their combat capabilities. Placing more emphasis on the planning and rehearsal of operations, as well as developing and practicing internal tactics, techniques, and procedures, could mitigate these deficiencies.

Tracking dismounted infantry was an area of concern. Dismounted infantry squads do not carry digital systems, so units can only maintain awareness of dismounted infantry locations by entering reports from analog systems into digital systems. Uncertainty about the location of dismounts hindered the ability of companies to use their mortars, reducing the overall application of their combat power. Despite the inability to track dismounts noted in observer-controller comments, one unit at the National Training Center was able to rapidly update the location of dismounts into the digital systems by using a process it had developed, indicating that this issue can be corrected.

Performance of antitank systems had mixed results. At the National Training Center, observer-controller comments were overwhelmingly supportive of the Javelin system, noting how it provided the dismounted infantry the capability to destroy armored forces. However, at the same time, observer-controllers at both training centers expressed concerns that the brigade antitank company and the organic mobile gun system platoon, consisting of a substitute Stryker antitank system, were not positioned properly to optimize their capability. The cause for this was attributed to a lack of situational understanding.

Fire support elements, the link between infantry units and the field artillery battalion, also faced challenges in requesting and delivering brigade-level indirect fires. At both training centers, brigade units were not using their digital capabilities. Instead of using the digitized artillery command, control, and communication system, fire supporters were using radios and plain text messages on the FBCB2 system to call for fires, which required soldiers at the receiving end of the request to enter the information manually and increased the time to deliver fires. Observer-controllers at both training centers identified contributing factors such as a lack of a detailed digital standard operating procedure for fire supporters and the lack of familiarity and experience with the digitized artillery command and control system.

Contractors Were Not Always Used Effectively

Although in most instances contractor contributions were positive, our analysis identified instances where the contractors were used ineffectively because units used them improperly or did not provide the support necessary to ensure their effective use.

Unit personnel perform regularly scheduled routine maintenance on their vehicles and equipment systems according to Army standardized maintenance manuals and unit operating procedures. However, the Stryker brigade requires a significant use of contractors to maintain and repair the unit's newest systems, such as the Stryker vehicles and their remote weapon systems, and the digitized FBCB2 system. Use of contractors to maintain and repair the Army's newest systems is not unique to the Stryker brigade. For example, we previously reported that the 4th Infantry Division deployed to Iraq with around 60 contractors to support the division's digitized equipment.[13] Within the Stryker brigade, contractors are placed in combat repair teams and generally co-located with the individual battalions and in sections within the brigade support battalion with the primary mission of maintaining specific systems according to the support contract awarded. The brigade is to provide the contractors with necessary support, including rations, water, and equipment items such as night vision goggles and protective clothing.

During the evaluation, contractors assigned to the battalion combat repair teams responded quickly to maintenance issues. These personnel were commended for their ability to quickly fix damaged Stryker vehicles and for reducing the amount of time a vehicle was unavailable to the unit for combat operations. As a result of the contractors' responsiveness, some units relaxed their emphasis on unit-level maintenance and became overly dependent on the contractors. In analyzing the data, we found instances where contractors were used ineffectively. For example, we found that some units bypassed standard Army maintenance procedures and requested contractor support to conduct maintenance that should have been conducted by the unit's organic maintenance personnel.

We also noted that transporting the contractors to support the reconnaissance squadron proved difficult because the squadron was spread across the battlefield and was responsible for the largest

[13] U.S. General Accounting Office, *Military Operations: Contractors Provide Vital Services to Deployed Forces but Are Not Adequately Addressed in DOD Plans*, GAO-03-695 (Washington, D.C.: June 24, 2003).

operational area. The brigade placed contractors in combat repair teams that were, in turn, attached to the individual battalions. The battalions are responsible for the contractors' security, logistics, and transportation. The location of the combat repair teams on the battlefield determines the ability of the contractors to get quickly to where they are needed.

Also, contractors could not be used in some instances because the brigade did not provide the contractors with night vision goggles, impeding their ability to move to units during periods of limited visibility. Additionally, protective clothing and equipment for the contractors were not provided, which precluded the contractors from performing their responsibilities after chemical attacks. The mitigation plan addresses those issues relating to not using contractors effectively.

Insufficient Training Proficiency Primary Reason for Operational Evaluation Weaknesses

Our analysis of the data collected during the operational evaluation indicated that the brigade's training proficiency was insufficient to fully demonstrate the brigade's entire capabilities across the full spectrum of combat missions. The comments from the observer-controllers and subject matter experts confirmed this conclusion because their comments generally identified training as a major contributor to the identified weaknesses. Moreover, the Army's final operational evaluation report identified training as a limitation of the operational evaluation. The brigade had never trained as a brigade-sized unit until it reached the National Training Center and only three of six battalions had undergone an external evaluation prior to the rotation. According to the Army, the Stryker brigade needed 15 weeks of unit training after receiving its last vehicles and this did not occur. In fact, the brigade was still receiving Stryker variants at the end of the National Training Center exercise.

In May 2002,[14] we reported that Fort Lewis training officials would have preferred a full 6 months to train after receiving most of the new Stryker vehicles. This also did not occur. Most brigades in the Army begin training for their deployment to a combat training center, such as the National Training Center, 4 to 6 months ahead of time. We also reported that the need to train Stryker brigade soldiers in digital systems was posing a challenge because the brigade's design requires digitization to maintain the

[14] U. S. General Accounting Office, *Military Transformation: Army Actions Needed to Enhance Formation of Future Interim Brigade Combat Teams*, GAO-02-442 (Washington, D.C.: May 17, 2002).

critical situational awareness capability. These systems use sophisticated technology that allows the soldiers to achieve superior battlefield information enabling them to engage the enemy long before coming into contact. Our analysis of the operational evaluation concludes that 1 year later, the brigade still had not mastered the use of its digital systems.

Army Risk Management Plan Will Mitigate Most Operational Evaluation Issues, but Deferred Issues Have Implications for Future Brigades

The Army is implementing a risk management plan to mitigate most issues identified in the operational evaluation, which generally correspond with the weaknesses we identified. The Army concluded that the issues were largely training related, but it also identified a few as design or equipment related. Although the Army developed, and is implementing, a plan that will mitigate most of the identified issues, the Army's immediate focus was to resolve those training and equipment issues that affected the brigade's ability to deploy to Iraq. It deferred for future consideration the remaining issues and decisions that have implications for the future brigades.

Based on its analysis of the operational evaluation report, the Army first developed a matrix that assigned a risk level to issues and determined whether issues would preclude the Stryker brigade from a scheduled deployment or could be addressed in the future. It then developed a mitigation plan to address all issues identified.

To mitigate the identified training issues and to prepare for the brigade's deployment to Iraq, I Corps developed and implemented an 8-week modular predeployment training event that included a command post exercise to train the staff and a brigade field training exercise that emphasized platoon and company operations. The training addressed four general issues identified from the operational evaluation:

- Army Battle Command System interoperability and connectivity,
- staff operations and synchronization,
- application of doctrine in unit operations, and
- subordinate unit specific training.

Furthermore, the command post and field training post exercises were to ensure that the brigade

- was proficient in stability and support operation tasks as specified by the combatant commander,
- validated the interoperability of newly fielded systems and equipment,
- validated the integration of newly assigned soldiers and leaders and attached units such as the assigned aviation task force,

- exercised the staff planning and battle command process using the digital and communications systems to refine the staff planning process,
- exercised distributed logistics in a complex environment, and
- exercised force protection and accountability of contractors on the battlefield.

To help the brigade achieve the training objectives, U.S. Forces Command provided observer-controllers from the Joint Readiness Training Center to provide feedback and conduct informal after-action reviews focused on lessons learned from Operation Iraqi Freedom. A senior training center official stated that 40 to 50 percent of the observer-controllers had participated in the operational evaluation segment held at the Joint Readiness Training Center. During the command post exercise, the observer-controllers viewed the planning and execution of the brigade and battalion staffs, and during the field training exercise, they viewed the conduct of assigned company-level combat missions.

After completing the training, the brigade commander assessed the brigade as fully trained to perform its combat tasks. The brigade commander concluded the brigade was

- completely retrained on those issues identified from the operational evaluation with a focus on applicability to planned missions in Iraq and
- fully prepared to deploy.

After the training events were completed, we discussed the brigade's level of training and readiness with the brigade commander and senior Army officials responsible for Stryker brigade transformation. All reported no reservations regarding the proficiency of the brigade and its ability to deploy and conduct combat operations in Iraq. One senior training official opined that the Stryker brigade is as well trained as any unit he has observed and that the unit can operate in any threat environment. Moreover, the issues the Army identified in its risk management matrix and exercised during its predeployment training addressed the weaknesses we identified in our observations and analysis of the operational evaluation. The brigade's performance indicates that the issues and weaknesses are being mitigated.

However, the Army is not fully addressing the potential brigade design and the brigade equipment issues identified from the operational evaluation, which were not included in the predeployment training, although the issues have implications for future brigades. According to the Army staff,

the issues that were nondeployment related are still under consideration. One identified design issue that has both deployment and long-term implications was associated with the mobility and survivability of the reconnaissance squadron operations officer. Currently, this staff officer's mobile command post is a High Mobility Multi-Wheeled Vehicle. The operational evaluation concluded that the operations officer could not sustain the mobility pace of the reconnaissance commander and the commander's Stryker vehicle. The evaluation also concluded that the threat requires armored protection for this key individual. The short-term solution is to consider providing a Stryker vehicle to the operations officer from brigade maintenance spares or other sources, such as another unit in the brigade. The mitigation plan includes no long-term solution, including purchasing additional Strykers. This issue is being considered through normal Army processes to determine a long-term solution that may affect requirements for future brigades.

An equipment issue that is not addressed in the mitigation plan, but has implications for future brigades, is that not all Stryker vehicles are equipped with the FBCB2 system and other digitized equipment. Only two of the four Stryker vehicles in each platoon are currently equipped with the FBCB2 system and other digitized equipment. The operational evaluation concluded that all infantry platoon Stryker vehicles need to be equipped with the FBCB2 system and other digitized equipment. The Army had previously recognized the need because the brigade's modified table of organization and equipment currently authorizes the equipment. However, the Army's mitigation plan calls for procuring sufficient sets for only the initial Stryker brigade; it does not address plans for the follow-on brigades.

Conclusions

The operational evaluation provided the Army its first opportunity to exercise and evaluate the capabilities of the Stryker brigade as a whole. By completing the evaluation and certifying the design, the Army and OSD met the requirements of the National Defense Authorization Act for fiscal year 2002. However, as the results of the operational evaluation illustrated, issues with the brigade's training, design, and equipment exist. The training issues arose because operating with a new unit design requires time to develop skills, which the accelerated fielding schedule did not allow. In preparation for deployment to Iraq, the Army mitigated most of these training issues, but it deferred resolution of some design and equipment issues and their respective decisions for future consideration. It is important that all issues be resolved, including those that affect future brigades, such as provision of Stryker vehicles for reconnaissance

squadron operations officers and procurement of FBCB2 systems and other digitized equipment for the infantry platoons' Stryker vehicles. Passing on lessons learned from the operational evaluation provides the Army the opportunity to ease the transformation process for future Stryker brigades by ensuring that the units have the proper training and all necessary equipment. As we have stated previously, taking action now to address such issues and passing on the remedies learned could enhance the chances that future brigade formations will be accomplished smoothly.

Recommendations for Executive Action

To assist the Stryker Brigade Combat Teams' transformation efforts, we recommend that the Secretary of Defense direct the Secretary of the Army to

- develop a plan that completes the mitigation efforts on those issues not addressed prior to deploying the brigade and
- apply, as applicable, adjustments made to the training, design, and equipment of the brigade to future Stryker brigades.

Agency Comments

In commenting on a draft of this report, the Department of Defense concurred with our recommendations and outlined actions the Army is taking in implementing them.

In responding to our recommendation that the Army develop a plan to complete mitigation efforts on those issues not addressed prior to deploying the brigade, the department stated that the Army has developed and is executing plans for the various issues identified in the operational evaluation and that once the armor installation is completed in November-December 2003 in Kuwait, the Army will have completed all of the mitigation efforts identified in our report.

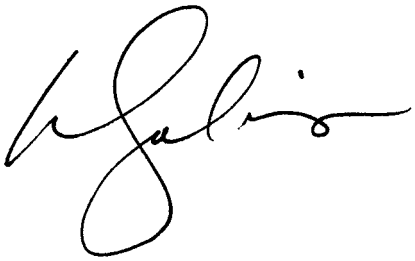
With regard to our recommendation that adjustments made to the training, design, and equipment of the first brigade are applied, as applicable, to future brigades, the department concurred that adjustments were necessary and would be applied to future Stryker brigades. The department stated the Army had created a Third Brigade, Second Infantry Division deployment team, comprised of representatives from across the Army, and that its scope included material requirements for the First Brigade, Twenty-Fifth Infantry Division (the Army's next Stryker brigade) and future Stryker brigades. Regarding proposed changes to the Stryker brigade's structure, the Army is reviewing possible design changes through its Documentation Assistance and Review Team to determine the

appropriate solution. The department states that the Army will use this same process regarding issues identified from Operation Iraqi Freedom. The department also commented that the Army designated Fort Lewis, Washington, as the Army's Center of Excellence responsible for concept development, lessons learned, and the source for technical and tactical expertise for future Stryker brigades and to assist the Army in distributing lessons learned from the Stryker brigades.

Appendix VII contains the full text of the department's comments.

We are sending copies of this report to the Secretary of Defense, the Acting Secretary of the Army, and the Director, Office of Management and Budget. We will also make copies available to others upon request. In addition, this report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you have any questions about this report, please call me at (202) 512-8365. Major contributors to this report were Reginald L. Furr, Leo B. Sullivan, Robert Ackley, Timothy A. Burke, M. Jane Hunt, and Jim Melton.



William M. Solis
Director
Defense Capabilities
and Management

List of Congressional Committees

The Honorable John W. Warner
Chairman
The Honorable Carl Levin
Ranking Minority Member
Committee on Armed Services
United States Senate

The Honorable Ted Stevens
Chairman
The Honorable Daniel K. Inouye
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Duncan Hunter
Chairman
The Honorable Ike Skelton
Ranking Minority Member
Committee on Armed Services
House of Representatives

The Honorable Jerry Lewis
Chairman
The Honorable John P. Murtha
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Provisions from Public Law 107-107 Concerning Limitations on Army Transformation Actions

Public Law 107-107-Dec. 28, 2001

SEC. 113. LIMITATIONS ON ACQUISITION OF INTERIM ARMORED VEHICLES AND DEPLOYMENT OF INTERIM BRIGADE COMBAT TEAMS.

(h) OPERATIONAL EVALUATION – (1) The Secretary of the Army shall conduct an operational evaluation of the initial interim brigade combat team. The evaluation shall include deployment of the team to the evaluation site and team execution of combat missions across the full spectrum of potential threats and operational scenarios.

(2) The operational evaluation under paragraph (1) may not be conducted until the plan for such evaluation is approved by the Director of Operational Test and Evaluation of the Department of Defense.

(i) LIMITATION ON PROCUREMENT OF INTERIM ARMORED VEHICLES AND DEPLOYMENT OF IBCTs. – (1) The actions described in paragraph (2) may not be taken until the date that is 30 days after the date on which the Secretary of Defense –

(A) submits to Congress a report on the operational evaluation carried out under subsection (h); and

(B) certifies to Congress that the results of that operational evaluation indicate that the design for the interim brigade combat team is operationally effective and operationally suitable.

(2) The limitation in paragraph (1) applies to the following actions:

(A) Procurement of interim armored vehicles in addition to those necessary for equipping the first three interim brigade combat teams.

(B) Deployment of any interim brigade combat team outside the United States.

(3) The Secretary of Defense may waive the applicability of paragraph (1) to a deployment described in paragraph (2)(B) if the Secretary –

(A) determines that the deployment is in the national security interests of the United States; and

(B) submits to Congress, in writing, a notification of the waiver together with a discussion of the reasons for the waiver.

Appendix II: Scope and Methodology

To determine whether the Army's conduct of the Stryker brigade's operational evaluation met the legislative requirements, we focused our efforts on understanding the operational evaluation plan and its implementation. We obtained and analyzed the Army's operational evaluation plan and its associated execution plan. We interviewed officials and analysts involved in both the design and evaluation of the plan from the Office of the Secretary of Defense; Office of the Secretary of the Army; Headquarters, Department of the Army; Army Forces Command; Army Training and Doctrine Command; Army Test and Evaluation Command; and I Corps, Fort Lewis. We held discussions with the Commanders of the Operations Groups at the National Training Center and the Joint Readiness Training Center to discuss their perspective regarding the operational evaluation.

To determine how the Army conducted the operational evaluation, we used information from the Army's operational evaluation plan and execution plan and monitored the conduct of the operational evaluation. We reviewed the training procedures and attended the training sessions for the data collectors and subject matter experts administering the training events at the National Training Center and the Joint Readiness Training Center. We also reviewed the data collection, transfer, and validation processes. We attended nightly briefings that were provided to the I Corps leadership from officials of each of the two training centers. We observed various training activities such as an attack at the National Training Center and the tactical movements by ground and air deployments at the Joint Readiness Training Center, as well as other events such as the commander's combined arms rehearsal prior to the brigade moving to the training site at the Joint Readiness Training Center.

To assess the brigade's performance during the operational evaluation, we evaluated information from the Army's data collectors and from our visits to the two training centers to observe training events. For the deployment portion of the evaluation, we observed various deployment events including the loading and unloading of Stryker vehicles from C-130 aircraft at the National Training Center; the brigade staging area at Lake Charles, Louisiana; and the unloading of Stryker vehicles from C-17 aircraft at the Joint Readiness Training Center. We also observed the loading of a Stryker company's personnel, vehicles, and supplies into C-130 aircraft as the personnel conducted intratheater movement to a different training area at the Joint Readiness Training Center. Because of their doctrinal expertise and the fact that they provide feedback to all Army units that go through the training centers, we monitored transmissions and attended meetings held by observer-controllers and operations officials at both training

centers. During these meetings, discussions were held regarding the performance of the brigade and any difficulties the brigade was experiencing. To gain perspective on the Army's analytical process, we attended and participated in scheduled insight meetings that discussed the training events and observations that occurred over the previous 24 hours. We also discussed the evaluation events with officials from the Army's Test and Evaluation Command, as well as representatives from the Department of Defense Director of Operational Test and Evaluation and the Institute for Defense Analysis.

We obtained and analyzed the database that the Army used to draw its conclusions. Using the database, we determined that the most direct commentary on the Stryker brigade's performance of its individual key operating capabilities came from observer-controller comments. We reviewed the comments as grouped by the individual operational capabilities and, after identifying the most salient issues, developed seven themes that incorporated all nine of the key operating capabilities. These themes are ability of the Stryker brigade to deploy, mobility of the Stryker vehicle, brigade and battalion staff performance, use of digital systems, employment of the new sustainment concept, execution of combat missions, and contractor support.

Regarding the Army's actions to mitigate the identified operational evaluation training deficiencies, we reviewed the training methodology developed to overcome the deficiencies and held a discussion with senior Army officials regarding the brigade's operational readiness. We did not observe the activities conducted during the command post exercise or the field training exercise. However, we discussed the results of the exercises with senior Army officials.

Our review was performed from October 2002 to October 2003 in accordance with generally accepted government audit standards.

Appendix III: Stryker Brigade Organizational Parameters and Operational Capabilities by Critical Tasks

	Deploy/ Redeploy by Air	Conduct Battle Command	Conduct Simultaneous Distributed Offense & Defensive Operations	Area Presence	Sustain the Brigade	Protect the Force
Key Organizational Parameters						
Balance between Strategic Responsiveness and Battle Space Dominance	X	X	X	X	X	X
Balanced Full Spectrum Utility	X	X	X	X	X	X
Reduced Sustainment Requirements	X		X	X	X	X
Minimize Personnel and Logistical Footprint	X		X	X	X	X
Commonality of Vehicular Capabilities	X		X	X	X	X
Reach-back	X	X	X	X	X	X
Embedded Unit-based Capabilities	X	X	X	X	X	X
Internetted Combined Arms to Company Team Level		X	X	X	X	X
Key Operational Capabilities						
Mobility	X	X	X	X	X	X
Dismounted Assault and the Close Fight		X	X	X	X	X
Enhanced Situational Understanding and Information Superiority	X	X	X	X	X	X
Holistic Force Protection and Survivability	X	X	X	X		X
Lethality		X	X	X	X	X
Force Effectiveness		X	X	X	X	X
Reach-back	X	X	X	X	X	X
Joint/Multinational/Interagency/Inter-operability	X	X	X	X	X	X
Full Spectrum Flexibility and Augmentation	X	X	X	X		X

Source: U.S. Army.

X = annotates Parameter and Capability represented by Critical Training Task List (CTTL).

Appendix IV: Mission Training Plan Tasks Compared to Critical Tasks

Mission Training Plan Tasks	Deploy/ Redeploy by Air	Conduct Battle Command	Conduct Simultaneous Distributed Offense & Defensive Operations	Area Presence	Sustain the Brigade	Protect the Force
Establish a Digital Command Post	X	X	X	X	X	X
Conduct Urban Operations		X	X	X	X	X
Conduct a Tactical Road March		X	X	X	X	X
Conduct an Attack		X	X	X	X	X
Conduct a Defense		X	X	X	X	X
Conduct Area Security Operations		X	X	X	X	X
Plan Intelligence, Surveillance, and Reconnaissance Operations		X	X	X	X	X
Conduct Command and Control of Operations	X	X	X	X	X	X
Sustain the Force	X	X	X	X	X	X
Conduct Strategic Deployment	X	X			X	X

Source: U.S. Army.

X = annotates central tasks represented by the 10 essential mission training plan tasks.

Appendix V: Stryker Brigade Parameters and Capabilities Compared to Essential Mission Training Plan Tasks

	1	2	3	4
Key Organizational Parameters	**Establish a Digital Command Post**	**Conduct Urban Operations**	**Conduct a Tactical Road March**	**Conduct an Attack**
Balance Between Strategic Responsiveness and Battlespace Dominance	X			
Balanced Full Spectrum Utility	X	X		X
Reduced Sustainment Requirements			X	X
Minimize Personnel and Logistical Footprint				
Commonality of Vehicular Platforms				
Reach-back	X	X		
Embedded Unit-Based Capabilities	X	X	X	X
Internetted Combined Arms to Company-Team Level	X	X		X
Key Operational Capabilities				
Mobility		X	X	X
Dismounted Assault and the Close Fight		X		X
Enhanced Situational Understanding and Information Superiority	X	X	X	X
Holistic Force Protection and Survivability		X	X	X
Lethality		X		X
Force Effectiveness	X	X		X
Reach-back	X	X		X
Joint/Multinational/Interagency Interoperability	X	X		
Full Spectrum Flexibility and Augmentation	X	X		X

Source: U.S. Army.

X= annotates Parameter and Capability represented by Mission Training Plan Essential task.

5	6	7	8	9	10
Conduct a Defense	Conduct Area Security Operations	Plan Intelligence, Survey, and Reconnaissance Operations	Conduct Command and Control Operations	Sustain the Force	Conduct Strategic Deployment
			X		
X	X	X	X		
		X		X	
			X		
				X	
		X	X		
X	X		X		
X			X		
X	X		X		X
			X		
X	X	X	X		
X	X	X	X		
X	X		X		
X	X	X	X	X	
X	X		X	X	
			X		
X	X	X	X		X

Appendix VI: Definitions of Key Organizational Parameters and Key Operational Capabilities

The Stryker brigade's organizational and operational concept document defines the unit's essential organizational characteristics, or parameters, that the brigade was evaluated against. The document also defines the unit's essential operational characteristics, or capabilities, that the brigade was evaluated against.

The eight key organizational parameters are defined below.

- *Achieve Balance Between Capabilities for Strategic Responsiveness and Requirements for Battle-Space Dominance*: The organization must balance deployability, sustainability, and its in-theater personnel footprint against its combat requirement for lethality, mobility, and survivability. The Stryker Brigade Combat Team must approach the deployability standards of a light brigade while arriving with the punch and staying power approaching that of a mechanized formation.

- *Balanced Full Spectrum Utility*: The Stryker brigade is deliberately optimized for early entry small-scale contingencies, but it also is required to be prepared to participate as a "guarantor combat force" in stability and support operations to permit peacekeeping and stability forces to carry out their missions in a secure environment. Similarly, the Stryker brigade must be prepared to fight as a component within a division or corps structure in a major theater of war.

- *Reduced Sustainment Requirements*: The Stryker brigade must have sustainment requirements well below that of a heavy force.

- *Minimize Brigade's Personnel and Logistical Footprint*: There is an imperative for expanding the combat elements and reducing the support capabilities. Strategic deployability and demand reduction must be enhanced, while maintaining a robust combat capability.

- *Commonality of Vehicular Platforms*: A common platform for combat, combat support, and combat service support echelons enables deployability, demand reduction, and sustainment efficiency. Common platforms must also be highly mobile and capable of intratheater deployment by C-130 aircraft.

- *Reach-back*: To enable the Stryker brigade to maintain a deployable structure with a minimized logistics footprint, it must be able to reach-back and access those functions that can be accomplished by higher-echelon or out-of-theater organizations. It is both an organizational and operational principle.

- *Embedded Unit-Based Capabilities*: Military intelligence, signal, engineer, antitank, artillery, and combat service support elements have been tailored specifically to the unique requirements of the unit's mission set. For the Stryker brigade, analysis demonstrates that mission capabilities are best enhanced if they are embedded within the unit's organic organization. Attaching divisional elements to a Stryker brigade unnecessarily enlarges the brigade's deployment requirements and theater footprint and introduces different vehicle types and equipment sets into the structure, violating the principle of commonality and increasing sustainment and infrastructure requirements.

- *Internetted Combined Arms to Company-Team Level*: An operational analysis for the Stryker brigade indicates that, within the environment of complex/urban terrain, force effectiveness is best enhanced and the requirement for responsive mutual support is best satisfied through internetted combined arms to company-team level, i.e., to a degree beyond traditional practice.

The nine key operational capabilities are defined below.

- *Mobility*:
  - Strategic – Organized, equipped, and configured to support a goal of deploying the brigade in 96 hours from first wheels up. (Ninety-six hours was originally a requirement.)
  - Operational – Capable of intratheater lift by ground/sea or by U.S. Air Force family of tactical aircraft. (Concept document specifies C-130 aircraft.)

- *Dismounted Assault and the Close Fight*: Achieves tactical decision by means of combined arms at the company/team level focused on dismounted assault, supported by direct fires, and on the integration of mortars, artillery, mobility support, and joint fires/effects.

- *Enhanced Situational Understanding and Information Superiority*: This is the fundamental force enabler across all Stryker brigade battlefield operating systems and the foundation of risk mitigation with respect to brigade vulnerabilities, particularly the lack of armor protection.

- *Holistic Force Protection and Survivability*: Overall, the Stryker brigade must meet force protection challenges through the holistic application of a variety of capabilities, including early warning; situational understanding; avoidance of surprise; deception; rapid

mobility; signature control; nontemplateable operations; avoidances of enemy fires; mutual support; use of cover and concealment; and implementation of innovative tactic, techniques, and procedures.

- *Lethality*: The Stryker brigade possesses a robust array of direct and indirect fire systems to shape the battle space and achieve decision in the close fight inherent within complex and urban terrain, greater than current light brigades.

- *Force Effectiveness*: Although the Stryker brigade must have the capability to achieve/maintain information superiority, it will not always enjoy combat platform superiority. The Stryker brigade will offset the platform limitations of its medium-weight platforms through the holistic integration of all other capabilities, particularly the internetted actions of the combined arms company teams.

- *Reach/Reach-back*: The capability of the Stryker brigade to exploit a multitude of nonorganic resources to accomplish its assigned missions. The Stryker brigade executes reach-back on a routine, deliberate basis as a combat power and sustainment multiplier in five primary areas: fires and effects, intelligence and information, planning and analysis, force protection, and sustainment.

- *Joint/Multinational/Interagency Interoperability*: The Stryker brigade will benefit from exploiting the knowledge and capabilities residing within multinational forces; U.S. interagency organizations operating in the theater; and other international, local, nongovernmental, and private organizations involved in the crisis, conflict, or instability.

- *Full Spectrum Flexibility and Augmentation*: The Stryker brigade will have the requisite capabilities to achieve decision in conjunction with the joint fight in low-end contingencies such as current operations in the Balkans. If conditions escalate, requiring additional capabilities that do not reside within the Stryker brigade, it will receive augmentation. The Stryker brigade may participate in major theater of war operations as a subordinate element within a division. Again, adjustments to the task organization, including augmentation, will be required in a major theater of war environment.

Appendix VII: Comments from the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND READINESS

NOV 1 8 2003

Mr. William M. Solis
Director, Defense Capabilities and Management
U. S. General Accounting Office
Washington, D. C. 20548-0001

Dear Mr. Solis:

This is the Department of Defense (DoD) response to the General Accounting Office draft report GAO-04-188, "MILITARY TRANSFORMATION: The Army and OSD Met Legislative Requirements for First Stryker Brigade Design Evaluation But Issues Remain for Future Brigades," dated October 23, 2003 (GAO Code 350347).

We appreciate the opportunity to review this draft report and concur with its recommendations.

Sincerely,

Joseph J. Angello, Jr.
Director
Readiness Programming & Assessment

Attachment

GAO DRAFT REPORT – DATED October 23, 2003
GAO CODE 350347 / GAO-04-188

"MILITARY TRANSFORMATION: The Army and OSD Met Legislative Requirements for First Stryker Future Brigades Design Evaluation But Issues Remain for Future Brigades"

DEPARTMENT OF DEFENSE COMMENTS TO THE RECOMMENDATIONS

RECOMMENDATION 1: To assist the Stryker brigade combat teams' transformation efforts, the GAO recommended that the Secretary of Defense direct the Secretary of the Army to develop a plan that completes the mitigation efforts on those issues not addressed prior to deploying the brigade. (p. 22/GAO Draft Report)

DoD RESPONSE: DoD concurs with this recommendation. The Army has developed and is in the process of executing mitigation plans for the various issues identified in the final Operational Evaluation Report. Several of the issues as stated in the GAO Report were training related and were addressed and corrected with the completion of the Stryker Brigade's training plan in October 2003. Once the armor installation is completed in November-December 2003 in Kuwait, the Army will have completed all of the mitigation efforts identified in the GAO report.

RECOMMENDATION 2: The GAO recommended that the Secretary of Defense direct the Secretary of Army to apply, as applicable, adjustments made to the training, design, and equipment of the brigade to future Stryker brigades (p. 22/GAO Draft Report.)

DoD RESPONSE: DoD concurs that adjustments needed to be made to the training, design, and equipment of the future Stryker brigades. To that end, the 3rd Brigade 2nd Infantry Division Stryker Brigade Combat Team (SBCT) Deployment Tiger Team, a team comprised of representatives from across the Army, has expanded its scope to include the materiel requirements for 1/25 SBCT deployment, as well as all future SBCTs. In addition, many of the proposed changes to the SBCT structure are currently being reviewed through the Documentation Assistance and Review Team (DART) process. For example, the issue associated with the STRYKER vehicles for the Reconnaissance, Surveillance, and Target Acquisition (RSTA) Operations Officer and Troop was introduced in the DART process in September 2003. The Army is reviewing this possible shortcoming in design to determine the appropriate solution. The Army also plans to use the DART process to review future issues identified through the OIF deployment. In June 2002, Ft Lewis, Washington was designated as the Army's Center of Excellence for concept development, lessons learned and source for technical and tactical expertise for future interim (Stryker) force units. This function will assist the Army in distributing the training lessons learned based on the experiences of 3/2 and 1/25 SBCT.

Related GAO Products

Military Transformation: Realistic Deployment Timelines Needed for Army Stryker Brigades. GAO-03-801. Washington, D.C.: June 30, 2003.

Military Transformation: Army's Evaluation of Stryker and M-113A3 Infantry Carrier Vehicles Provided Sufficient Data for Statutorily Mandated Comparison. GAO-03-671. Washington, D.C.: May 30, 2003.

Army Stryker Brigades: Assessment of External Logistic Support Should Be Documented for the Congressionally Mandated Review of the Army's Operational Evaluation Plan. GAO-03-484R. Washington, D.C.: March 28, 2003.

Military Transformation: Army Actions Needed to Enhance Formation of Future Interim Brigade Combat Teams. GAO-02-442. Washington, D.C.: May 17, 2002.

Military Transformation: Army Has a Comprehensive Plan for Managing Its Transformation but Faces Major Challenges. GAO-02-96. Washington, D.C.: November 16, 2001.

Defense Acquisition: Army Transformation Faces Weapons Systems Challenges. GAO-01-311. Washington, D.C.: May 21, 2001.

GAO's Mission

The General Accounting Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through the Internet. GAO's Web site (www.gao.gov) contains abstracts and full-text files of current reports and testimony and an expanding archive of older products. The Web site features a search engine to help you locate documents using key words and phrases. You can print these documents in their entirety, including charts and other graphics.

Each day, GAO issues a list of newly released reports, testimony, and correspondence. GAO posts this list, known as "Today's Reports," on its Web site daily. The list contains links to the full-text document files. To have GAO e-mail this list to you every afternoon, go to www.gao.gov and select "Subscribe to e-mail alerts" under the "Order GAO Products" heading.

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are $2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. General Accounting Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone:	Voice:	(202) 512-6000
	TDD:	(202) 512-2537
	Fax:	(202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm
E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Public Affairs

Jeff Nelligan, Managing Director, NelliganJ@gao.gov (202) 512-4800
U.S. General Accounting Office, 441 G Street NW, Room 7149
Washington, D.C. 20548

PRINTED ON RECYCLED PAPER