

## JOINT SUPPRESSION OF ENEMY AIR DEFENSES (JSEAD)



The Joint Suppression of Enemy Air Defenses (JSEAD) Joint Test and Evaluation (JT&E) was chartered by OSD to characterize the reactive JSEAD targeting process, baseline current capabilities, quantify element contributions to that process, identify deficiencies, and test and evaluate potential improvements. The program issue, as developed through analysis of warfighter concerns, is: *Do end-to-end JSEAD targeting process enhancements improve reactive, localized JSEAD effectiveness?*

JT&E will result in recommendations for improving the end-to-end reactive JSEAD effectiveness of U.S. forces and reducing enemy Integrated Air Defense System (IADS) capabilities.

### **BACKGROUND INFORMATION**

Warfighting commanders require the capability to conduct effective JSEAD operations to sever an enemy's IADS by targeting key command and control and air defense assets. JSEAD operations apply pre-planned (pre-emptive) and opportune (reactive) targeting, whereby commanders employ both destructive (seek out and destroy) and disruptive (temporarily deny, degrade, deceive, delay or neutralize) force application methods. Since the Gulf War, the JSEAD strategy has emphasized pre-emptive targeting and destructive force application methods. However, the surface-to-air missile threat is becoming more technologically sophisticated and mobile, and therefore more difficult to pre-emptively target. With fewer dedicated JSEAD assets to perform reactive JSEAD in this increasingly hostile air defense environment, there is a need to improve the Joint Force Commander's ability to conduct reactive JSEAD more effectively and efficiently using existing Service assets.

The JSEAD JTF performed two field tests in 1998: (1) a live-fly exercise (LIVEX 98) employing multi-Service participants, Red Flag resources, during the conduct of a Green Flag Exercise at Nellis AFB; and (2) a Computer-Assisted Exercise (CAX 98) at the Air Force Battlestaff Training School at Hurlburt Field, FL. Each test included an initial set of trials to establish a baseline for evaluation of the associated test issue and a second set of trials to allow measurement of enhancement impacts. Tests planned for 1999 were cancelled due to priority commitments of key test assets to support combat operations against Iraq and the Former Republic of Yugoslavia. The JTF provided valuable findings from JSEAD's 1998 tests to decision makers responsible for those combat operations.

JSEAD's final test, LIVEX 00, was conducted at Nellis AFB from August 26-September 8, 2000, using Green Flag as its test bed. LIVEX 00 Combat Forces included airborne alert aircraft dedicated to

reactive JSEAD targeting with standoff weapons (USAF F-15Es with AGM-130s and USMC F/A-18Ds with JSOW). Suppression aircraft included EA-6Bs, EC-130s and F-16CJs. JSEAD operations in LIVEX 00 were set in a realistic scenario with other aircraft assigned primary combat missions of Counter-air and Interdiction. A Battlefield Coordination Detachment and a Naval/Amphibious Liaison Element directed notional JSEAD engagements by Army Tactical Missile System and Navy Tomahawk Land Attack Missile respectively. These were the only notional weapons systems in the test.

The test featured over 1,000 aircraft sorties in a realistic air defense environment, a rich ISR collection capability, advanced intelligence processes, and the exercise of command and control over the joint forces. The JTF meticulously instrumented all participants to support rigorous analysis and meet original JT&E charter objectives. The JTF completed reconstruction, analysis and reporting of LIVEX 00 as well as its overall test program in FY01.

### **TEST & EVALUATION ACTIVITY**

Ongoing reconstruction and analysis efforts continued through all of 2001. Support to JCS J8 Force Protection Division on the JSEAD Joint Mission Area Analysis (JMAA) was provided. JSEAD reviewed the JMAA discrepancies, identified those that this JT&E addressed, measured, noted, or observed during the tests and those the JTF recommended fixes or improvements to. The JTF also suggested other discrepancies be worked by a follow-on organization. Significant effort went into developing the 'Nellis Live-Fly Lessons Learned' legacy product. Tactical Intelligence Broadcast System corruption and data fidelity were major concerns for the intelligence, surveillance, and reconnaissance (ISR) reconstruction and analysis team. Analysis subjects for the final reports included: imaging intelligence reports, sensor capability, ISR time plotting, and Command and Control (C2) actions. Operations and Plans members also drafted sections of the final report describing findings, conclusions, and recommendations. In May, the Operations and Plans personnel completed writing the final report and began the peer review process. Subject Matter Experts (SME) reviewed the JSEAD developed CONOPS for publication in the final report as an attachment. The complete JSEAD JT&E Final Report was submitted to the Program Office for review July 17, 2001. The JSEAD Joint Test Director Management Report was submitted in August 2001.

A JSEAD Final Report briefing will be presented to all appropriate agencies once approved by the Joint Program Office.

### **TEST & EVALUATION ASSESSMENT**

The results of this test provide definitive requirements for a reassessment of the JSEAD mission area.

The results have been briefed to the Joint Requirements Oversight Committee and were endorsed as highly beneficial to the Services. The Air Force has been tasked to look into the establishment of a permanent JSEAD testing agency.