

# Tactical Space Support Elements (SSE)

By LTC Richard Dow

**F**or more than four decades our Army's use of and dependence on Space has been continuously growing, as have the corresponding vulnerabilities. At the beginning, our limited military Space capabilities resided exclusively at the national and strategic levels with Space-based communications and imagery capabilities. Today our Army has embedded the world's most sophisticated Space capabilities throughout all echelons to include individual weapons platforms and foot Soldiers. This decades old effort to enable our Army with Space capabilities has "normalized Space" capabilities in that Space equipment has been fielded, trained, integrated and sustained throughout the force.

The Army's next phase is to tactically "operationalize Space" by successfully integrating all Space capabilities and operations into planning, exercises, training and all phases of combat operations. The tactical operationalization of Space begins with the introduction of Space Support Elements (SSE) into each of the Army's reorganizing "modular" divisions (Unit of Employment x (UEX)). Each tactical SSE will serve as the focal point for fully integrating Space operations (planning, integration and coordination) and capabilities into division and brigade level plans and operations.

Over the past few years SMDC has supported both the Combined Arms Center and Training and Doctrine Command with the development of concepts for UEXs and tactical Space support. As a result of these doctrinal and conceptual efforts, TRADOC approved TRADOC Pamphlet (TP) 525-3-14, The

United States Army Concept for Space Operations in Support of the Objective Force in April 2003. In part, this TP states;

"Army Space Support Element (SSE), composed of qualified Space operations officers (FA40s) will be located throughout the Objective Force and will be the primary focal point for leveraging Space capabilities.

The SSE integrates and synchronizes Space assets in support of operations; coordinates the enhanced access to joint, national, civil and commercial Space systems; provides Space input and recommendations to UE planning activities; and coordinates the protection of friendly Space capabilities and the negation of enemy Space capabilities. As a special staff element, the SSE maintains active communications and data links with several Space-related organizations within the theater or Joint Operational Area."

## The SSE

An SSE at a division/UEX level consists of four FA40 Space Operations Officers and two MOS 31S NCOs. These six Soldiers will serve in the Force Applications Cell at each of the two Tactical Command Posts and the Plans Cell of the MAIN Command Post.

## SSE Mission

The SSE ensures the planning, integration and coordination of the Space mission areas into UEX plans, orders and operations. The SSE;

- Provides the commander and staff expertise, experience, and professional knowledge to ensure the

Left: Jamie Dunlap (left) and Robert O'Connell unpack the 1.8-meter dish, part of the equipment set of the vehicle-mounted-shelter for the Space Support Element. Right: Jamie Dunlap of Battle Lab Experiments Division, grinds a part to fit that will hold an important piece of equipment in the vehicle-mounted-shelter that will provide coordination of friendly Space capabilities and deny the enemy Space operations capabilities.



Space portion of the battlespace is fully understood.

- Provides assured access to all available Space-based products and services to support current and future operations.

- Ensures full use of Space-based capabilities for intelligence, focused surveillance, area reconnaissance, communications, early warning/battlespace characterization, position, velocity, navigation, time, Blue Force Tracking (BFT), combat identification and precision engagement), integrated tactical warning and attack assessment, environmental monitoring, and dynamic tasking and retasking of Space platforms with direct downlinks to enhance the warfighting effectiveness of combatant commanders.

- Facilitates augmentation by specialized Space forces when required and ensures reachback to all supporting Space forces and organizations.

- Supports UEx operations in conjunction with joint, interagency and multinational organizations and Non-Governmental Organizations (NGO) across the full spectrum of operations.

### ***SSE Unique Tasks***

The SSE is the focal point to maximize the use of Space related capabilities across all battlefield functional areas. In this capacity, the SSE provides the staff with certain unique skill sets, training, experience and enabling technologies to perform a number of tasks. Some of these unique tasks include, but are not limited to:

#### ***Space Intelligence Preparation of the Battlefield***

- Friendly, commercial, enemy Space systems and capabilities.
- Friendly force Space units, organizations, forces, assets,

tasking, processing, posting, updating, command and control relationships, “Where,” “How,” “Why” and “When” friendly Space supports tactical commanders.

- Analysis regarding how Space systems will impact the commander’s battlespace, (i.e. enemy overflight activity).

#### ***Space Weather Analysis***

- Impact on satellite and terrestrial communications, intelligence, surveillance and recognition, navigation, missile warning and battlespace characterization.
- Assist in fault isolating satellite system problems.

#### ***GPS Analysis — Support to Blue Force Tracking and Precision Engagement***

- Impacts on BFT, status of forces, history, troubleshooting.
- Impacts on employment of GPS aided munitions and target acquisition devices.
- Predictions on navigational accuracy.
- Analysis of BFT device vulnerabilities, reliability and capabilities.

#### ***Theater & Global Reach to Space Forces, Products, Analysis***

- Access to worldwide Space forces, organizations, databases, broadcasts, analysis, “Who,” “Where” and “What” is available to support tactical commanders.
- Assures access to and optimizes all available Space-based products and services.
- Facilitates augmentation by specialized Space forces when required.

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### *Development of Space-Related Targets*

• Space control-negation (satellites, ground stations, links).

### **The SSET**

The SSETv2 is a "proven prototype," non-type classified commercial off-the-shelf/government off-the-shelf-based system, which has been under development, testing and experimentation since 1997, and which has also been combat tested in Operation Iraqi Freedom and Operation Enduring Freedom. Each SSET consists of an M1113 High Mobility Multipurpose Wheeled Vehicle mounted Rigid Walled Shelter v5 and is configured with one Second-Generation Anti-Jam Tactical UHF Radio for NATO (SATURN) communications suite (includes IRIDIUM, International Maritime Satellite, and a commercial Internet Protocol-based SATCOM terminal), four Space Operations System workstations and a tactical server. Each SSE will receive this new system.

### **The Road Ahead**

#### *Army Campaign Plan*

From FY2004 to FY2007 the Army Campaign Plan calls for each of the Army's 10 Active Component divisions to reorganize. These 10 SSEs, will be comprised of 40 Space Operations Officers (27 percent of the current FA40 population) and 20 Non-Commissioned Officers.

Given the current environment of the Global War on Terror and the CSA decision to accelerate the pace of transformation, this effort will involve a significant impact in terms of Army Space personnel and equipment. Future plans involve assigning one FA40 Space Operations Officer at each Brigade/Unit of Action, and a Space Support Element at the Corps/Unit of Employment y level. SMDC is working to address the emerging challenges of personnel and equipment resourcing, technical and procedural integration, doctrine development and the related assessment requirements implicit in this effort.

### *U.S. 3rd Infantry Division*

The 3rd ID, will deploy to Iraq beginning in FY05. 3rd ID SSE will support the Space needs of their division and subordinate Units of Action (UA) and Brigade Combat Teams. Analytical efforts, led by SMDC, with a focus on the 3rd ID's SSE, will serve to provide our Army the full doctrine, organization, training, materiel, leadership, personnel and facilities, insights, lessons and requirements needed to further the operationalization of Space at the tactical level.

### *Space and Missile Defense Command*

The U.S. Army SMDC will continue to "institutionalize Space" by making Space a part of the way the Army doctrinally thinks and fights. This effort also includes building organizations to deal with Space, providing Space education and developing Space literacy throughout the Army, growing a cadre of Space professionals, publishing Space doctrine and maintaining a vision and roadmap of how the Army can best exploit Space now and in the future. Some near-term (FY04-05) SMDC efforts include:

- Developing requirements for a Program Manager and TRADOC Systems Manager "Tactical Space."
- Refinement of SSET design and capabilities.
- Establishment of an SSE Qualification Course.
- Updating FM 3-14, refinement of tasks, reachback, staff support.
- Updating the UE(x) SSE TTP.
- Conducting a comprehensive SSE assessment.

The activation of numerous tactical SSEs is occurring during the Global War on Terrorism (GWOT), a war that will involve years of continuous operations in a Phase IV (Stability and Support Operations) environment. Essential to the successful operationalization of Army Space by the SSEs in a Phase IV/GWOT environment will be the abil-

ity to refine the doctrinal requirements of how Space supports the various threats against U.S. forces in this current environment, such as, small arms attack on dismounted patrols, improvised explosive devices/vehicle borne improvised explosive devices/grenade/rapid propelled grenade attacks against convoys, mounted patrols, U.S. compounds, NGOs, VIPs, mortar attack against U.S. compounds, sabotage of pipeline and trains, Man-Portable Air Defense attacks against U.S. aircraft, ambushes, weapons smuggling through checkpoints, surveillance of U.S. installations, troop movements along country borders and infiltration of foreign fighters over borders.

The experiences of 3rd ID's SSE in OIF will set the conditions for follow-on SSE's integration and operationalization, and will provide the necessary insights to fully develop the doctrine and techniques, tactics and procedures to ensure that SSEs will provide useful, relevant and focused Space capability to tactical Forces.

In the end, Army SSEs will operationalize Space and empower tactical commanders and warfighters with America's Space power to more effectively and efficiently conduct military operations, now and into the future.

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