

Interview: Tracking the Plunging Station

“Under my new joint hat for U.S. Strategic Command I have a growing joint team to help me.... One of those is Army Maj. Jerry Micka. He was our lead for tracking the reentry of the Chinese space station. That was a heroic effort pulling in partners from all over the world.”

**Gen. John Raymond, Air Force Space Command
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Maj. Jerry Micka, chief of current operations at the Joint Space Operations Center (JSpOC), Vandenberg Air Force Base, Calif., was lauded as one of six space professionals for his work in tracking the return of the Chinese space station, Tiangong-1, to Earth. “Purview” seized an opportunity to ask him about this critical and challenging space operations experience.

From Gen. Raymond’s comments, this was, in large part, a matter of operational coordination—bringing many different agencies and sources of information together to keep a vigilant and watchful eye on the space craft. How was it all pulled together for mission success?

At the JSpOC we coordinate space coordination activities, on behalf of the Joint Force Space Component commander, Gen. Raymond, with our coalition, joint, interagency and commercial partners. From the current operations desk we maintain open lines of communication with all our mission partners in order to share time-sensitive information and to provide our leaders and partners enough time to react to dynamic changes in the space domain. We have a team of joint warriors on the operations floor that keep vigilant “24/7” watch. We routinely track everything from space debris, reentries, conjunctions and active launches.

How did this operational need come down the pike or is handling this type of mission “business as usual” for the JSpOC?

Space situational awareness is a core competency of the JSpOC. We track thousands of objects and debris that orbit the Earth on a daily basis. We analyze conjunctions and reentries as a “normal” part of daily operations. The Tiangong-1 reentry was a unique event because it attracted international attention due to its size and potentially harmful debris. Because of these factors we increased coordination with our domestic and foreign mission partners to leverage and share information from all available tracking sensors to provide real-time situational awareness. I wouldn’t say this event was “business as usual,” but it was well within our capabilities on the JSpOC operations floor.

How did your space training and prior space career experiences support your efforts in determining all that needed to be done and how to perform this operational objective?

The space training I’ve completed and prior space experiences greatly prepared me and my team for the Tiangong-1 event. Fundamental knowledge learned in the Space Operations Officer Qualification Course about orbital mechanics and conjunctions were especially useful to focus the team during this event. The commander’s intent was a guiding principal in how we task

organized, collaborated, and shared information with our mission partners. My previous experience as a Special Technical Operations planner at U.S. Africa Command and as the commander of the European Joint Tactical Ground Station detachment helped me understand the value and criticality of timely, accurate data to help paint the joint common operating picture for situational awareness. When seconds matter, Geographic Combatant Commanders require real-time information in order to make informed decisions concerning the Joint Operating Area.

How did you approach managing such a critical task?

Reentry events are a normal part of space activities we monitor from the JSpOC. If an event like the Tiangong-1 meets certain criteria, we will ask for increased surveillance by tasking additional sensors, both terrestrial and space-based assets, in order to keep a close eye on the object. Key to approaching this task was identifying which sensors were critical to maintaining custody of the Tiangong-1 until it reentered the atmosphere.

What were the keys to making this mission a notable success for the security space community?

Key to mission success on the JSpOC operations floor is our ability to rapidly identify issues, assess the impacts to our systems and paint the picture of the operational environment for the commander to make informed decisions. Cooperation and communication with our coalition, joint and interagency partners was another key that cannot be overstated. All who participated took part in rehearsals prior to the event to ensure the mission went smoothly.

What were some lessons learned during this experience?

Some of the lessons I learned relate to the interoperability among the JSpOC, our coalition partner space operations centers and our interagency centers (like NASA) that provided support to this mission. Space-based effects, like space surveillance, are critical to establishing a joint common operating picture that all organizations can use to synch operations. No one organization could have done this alone; it was a combined effort from all our partners. Throughout the reentry event, leadership involvement provided timely guidance and cleared the bureaucratic hurdles normally associated with information sharing.

To sum up, why was this effort important?

Collecting information from multiple sources provided accurate and reliable tracking data to best predict where and when space vehicle re-entry would occur. This critical information was continually provided to the Federal Emergency Management Agency, U.S. Northern Command, U.S. Strategic Command, international partners and the Secretary of Defense to ensure national security and public safety were maintained.