

AFCEC Det. 1 holds Expeditionary Collective Protection tabletop exercise

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Ten experts representing AFCEC's Emergency Management Division, Expeditionary Engineering Division, Civil Engineer Capability Requirements Branch and headquarters Air Force Emergency Management met in late August at Tyndall AFB, Florida to discuss the Air Force's ability to protect our warfighters in the event of a chemical or biological attack.

Led by AFCEC's requirements subject matter expert Jim Hurley, the team was evaluating and documenting what it takes to implement the Tent Kit Single Skin Expeditionary Collective Protection System, from storage through setup and employment, to strike and return to storage.

The concept of operations for the TKSS system is twofold – provide "rest and relief" for mission-critical personnel working in a contaminated environment, and support command and control operations in a contaminated operating location.

The complete TKSS system consists of three shelters, a 60kW generator, an Environmental Control Unit, a filter-fan assembly for recirculation and a multiple-personnel entrance with complexing adapters. This study will inform an upcoming Air Force-wide acquisition of the Joint Program Executive Office's TKSS System in early 2022, along with future acquisition, sustainment and employment issues.

Why a Tabletop Exercise?

Hurley selected the TTX format in order to evaluate the geospatial relationships between the E-COLPRO system and the typical operating location infrastructure and facilities supporting critical mission operations, in a virtual environment. Using a nominal overseas Air Force base and a generic chemical/biological attack scenario based on intelligence community input, the TTX format allowed for rapid and real-time changes to the exercise as needed to answer critical system employment questions.

Acknowledging that this approach will likely be a bit "messy," the initial exercise was limited to AFCEC experts, augmented by headquarters Air Force emergency management, with the expectation to broaden participation to theater users in the next round. On a practical note, limiting the number of participants also mitigated several concerns and issues associated with our current COVID-19 environment.

TTX Objectives

The primary objective of the E-COLPRO TTX was to conduct a time-action-motion exercise to reveal and document the tasks, conditions and standards, including time and timing, on utilizing E-COLPRO in a theater of operations. More specifically, assess the TKSS system for operational effectiveness and suitability against peer and near-peer adversary chemical or biological attacks. Several sub-objectives included:

- Identify the mission equipment and supplies needed to support R&R and C2 mission modes.
- Identify the manpower (quantity and skills), equipment, vehicles and supplies needed throughout all phases of employment.
- Identify the essential system or infrastructure interfaces requiring coordination and planning prior to employment (e.g., generator refueling, filter resupply, waste disposal, etc.).
- Identify the doctrine, organization, training, materiel, leadership, personnel, facilities and policy issues that need to be established, clarified, resolved or changed to implement E-COLPRO.

TTX Preparation

To prepare for the exercise and ensure objectives could be met within a reasonable amount of time, Hurley accomplished several actions:

- He made a field trip to the 28th Test and Evaluation Squadron at Eglin AFB, Florida, where the prototype TKSS was undergoing a long-term use study (20-days of continuous occupancy) along with reconciling all drawings, parts and equipment – a tedious but important provisioning process. AFCEC’s Rich Peck was overseeing the assessment in order to develop the Unit Type Code for a complete turnkey system, ready for field employment. Hurley reported the TKSS seems well engineered and relatively straight-forward to set up and strike after seeing the actual capability in the field greatly informed the planning for the TTX.
- Using his recent experience supporting the modeling and analysis of logistics in contested environments, he developed a detailed playbook outlining the objectives, roles and responsibilities, questions to be answered, assumptions, technical information on the TKSS system, sequence of events, glossary and references. The playbook, along with the data sheets, ensured all team participants clearly understood their role in the exercise and what to expect. As a bonus, the playbook will make writing the final report a relative breeze! Good planning has its rewards!
- He developed detailed exercise worksheets (Microsoft Excel spreadsheets) for collecting and organizing employment tasks and associated data. These worksheets captured:
 - Tasks: Deploy, transport, erect, stock/restock, operate, repair, strike.
 - Conditions: Uncontested/Uncontaminated versus Contested/Contaminated.
 - Sequence and time required for each subtask.
 - Office of primary responsibility/office of co-responsibility
 - Expeditionary: Main base versus collocated or forward operating base.
 - Personnel: Untrained/Trained; CE/owner-user; number required.
 - Proficiency: Primary war skill versus additional duty.
 - Training: Type/Frequency; computer-based training versus In-person.
 - Tools and equipment needed: Program provided versus service/unit provided.
 - Vehicles needed: Number and type; source.

So How Did It Go?

By all accounts, the TTX was very successful with excellent subject matter expert participation and discussions with respect to both the technical capabilities of the TKSS as well as the employment of an E-COLPRO capability in the field. Much was learned – both good things and issues needing additional work – about our ability to field an effective E-COLPRO capability. The TTX format proved very effective and efficient in logically and completely walking subject matter experts through the life cycle of employment, and eliciting relevant information.

“This is exactly what (retired Air Force Col. Ed Oshiba) had in mind when he and (retired Air Force Maj. Gen. Tim Byers) stood up the branch during CE Transformation several years ago. AFCEC (previously the Air Force Civil Engineer Support Agency) hasn’t had this kind of rigorous study and analysis capability for many decades and this TTX as well as other efforts make the Civil Engineer Capability Requirements Branch invaluable to the CE enterprise,” said Craig Mellerski, CE Capability Requirements, Research and Development, and Acquisition Division chief

Next steps are to capture participant comments and notes, and prepare a report on the exercise. Following that, a broader exercise – considering Tabletop C2 and using actual equipment and locations – is envisioned to include participants from the user communities. This broader exercise will reveal theater-specific issues as well as inform the users on specific capability requirements associated with E-COLPRO. The result will be an improved capability to protect our warfighters in a CB environment – and that’s what it’s all about!