

# International Test and Evaluation Program (ITEP)



The Director signed 12 new project documents in FY23. These documents facilitated the planning and execution of cooperative T&E projects, transfer of necessary test equipment and materials, exchange of T&E relevant information through working groups, and reciprocal use of test facilities (RUTF). There are currently 24 ongoing tests described in project documents with our partners. There are four bilateral international test and evaluation documents in negotiation or technical discussions.

## PROGRAM OVERVIEW

The United States holds 12 bilateral agreements with international partners. During FY23, discussions continued with additional prospective international partners pursuant to negotiating more bilateral agreements. Additionally, two multilateral agreements are in place. They are the Multinational Test and Evaluation Program (MTEP) Memorandum of Understanding (MOU) with Australia, Canada, New Zealand, and the United Kingdom, and the Transatlantic MTEP MOU with France, Germany, Italy, and the United Kingdom. ITEP was established pursuant to a legislative proposal submitted by DOT&E and enacted into law in 2001. The Secretary of Defense delegated administration of the program to DOT&E in 2003. Prior to ITEP, test

services were generally provided to international partners through Foreign Military Sales.

## MISSION

The ITEP permits establishment of bilateral and multilateral agreements between the U.S. and international partners. Such agreements are enablers for expediting the development and fielding of advanced warfighting technologies and supporting T&E infrastructure and capabilities.

## FY23 KEY ACTIVITIES

Table 1 below lists the current agreements in effect prior to FY23.

**Table 1. IT&E Ongoing Project Agreements in Effect**

No.	IT&E Projects <sup>a</sup>	Partner(s)	Test Activity Locations	Expiration
1	Advanced Distributed Modular Acquisition System (ADMAS) Instrumentation Equipment and Material Transfer Arrangement	Germany	Koblenz, Germany	October 25, 2024
2	Sky Sabre System (SkS) Reciprocal Use of Test Facilities (RUTF) Project Arrangement (PA)	United Kingdom	White Sands Missile Range, New Mexico	November 9, 2025*
3	Flight Test Working Group (WG) Terms of Reference (TOR)	Australia, Canada, New Zealand, United Kingdom	Not Applicable	December 31, 2023
4	Heterogeneous Multiphase Reactive Blast (HMRB) Cooperative T&E (CTE) PA	Canada	Suffield Research Centre, Ralston, Alberta, Canada	December 3, 2023*
5	T&E of the United Kingdom 28 Engineer Regiment (C-CBRN), CBRNE Defense TTPs RUTF Project Arrangement	United Kingdom	Dugway Proving Ground, Utah	January 13, 2031
6	Electronic Warfare Operational Test 2016 RUTF PA	Canada	Naval Research Lab Hawaiian Operating Areas, Marine Corps Air Station, Kaneohe Bay, Hawaii	May 19, 2024
7	CF-18 Software Upgrade T&E RUTF PA	Canada	Naval Air Warfare Center Weapons Division, China Lake, California	June 14, 2024
8	T&E of the German Bundeswehr CBRNE Defense TTPs RUTF PA	Germany	Dugway Proving Ground, Utah	June 15, 2026
9	Aircraft Electronic Warfare CTE PA	Australia, Canada, United Kingdom	Various partner test locations	August 5, 2026

**Table 1. IT&E Ongoing Project Agreements in Effect, continued**

No.	IT&E Projects <sup>a</sup>	Partner(s)	Test Activity Locations	Expiration
10	T&E of Protective Ensembles Using the Porton Man Test Fixture CTE PA	United Kingdom	Porton Down, United Kingdom	May 11, 2025
11	SIMULATION DISPLAY (SIMDIS™) Sustainment for Sensors, Weapons, Analysis and Tactical Display Developments RUTF PA	Canada	Naval Research Laboratory, Washington, D.C.	October 29, 2025
12	Project RAIDER Data Evaluation RUTF PA	Canada	Naval Research Laboratory, Washington, D.C.	March 10, 2025
13	Tactical Armored Personnel Vehicle Testing RUTF PA	Canada	Aberdeen Test Center, Aberdeen Proving Ground, Maryland	December 31, 2023*
14	Land Platforms Autonomy and Robotics WG Terms of Reference (TOR)	Italy	Not Applicable	January 21, 2030
15	Joint-Improvised-Threat Defeat Organization Electronic Counter Measures RUTF PA	Australia	China Lake, California	December 5, 2023*
16	Partnership for Autonomous Robotic Test Instrumentation WG TOR	Germany	Not Applicable	April 11, 2028
17	Combat Archer II Omnibus RUTF PAs	Canada	Tyndall Air Force Base, Florida	December 21, 2025
21	Combat Hammer Omnibus RUTF PA	Canada	Various U.S. Air Force Bases	November 23, 2026
19	TOR for Live Fire WG	United Kingdom	Not Applicable	December 20, 2025
20	Amendment Seven to the Integrated Air and Missile Defense (IAMD) Testing Reciprocal Use of Test Facilities (RUTF) Project Arrangement (PA)	United Kingdom	Hebrides Test Range, Scotland, United Kingdom	May 12, 2027
21	Test and Evaluation of the Australian Special Operations Engineer Regiment (SOER) Chemical, Biological, Radiological, and Nuclear (CBRN) Defense and Explosive Ordnance Disposal (EOD) Tactics, Techniques, and Procedures (TTPs) RUTF PA	Australia	Dugway Proving Ground, Utah	September 20, 2031
22	HMCS Windsor Testing RUTF PA	Canada	Andros Island, Commonwealth of the Bahamas	April 28, 2025

**Notes:**

\* Test completed.

<sup>a</sup> The IT&E Projects column represents the legal names of each Project Arrangement.

**Acronyms:**

C-CBRN – Counter Chemical, Biological, Radiological, and Nuclear; CBRNE – Chemical, Biological, Radiological, Nuclear, and Explosive; CTE – Cooperative Test & Evaluation; TTPs – Tactics, Techniques, and Procedures.

### **1. Advanced Distributed Modular Acquisition System (ADMAS) Instrumentation Equipment and Material Transfer Arrangement**

This agreement between the U.S. and Germany enables the Army's T&E Command to transfer the ADMAS instrumentation and software tools to the Bundeswehr Head of Robotics Research and Development at Koblenz. The transfer is valid for three years, and allows Germany to standardize test procedures, data analysis techniques, and T&E methodology for the testing of autonomous robotic vehicles and associated technology.

### **2. Sky Sabre System RUTF Project Arrangement**

This testing was completed in 2021 but the Project Arrangement is still active under the U.S. Army Test and Evaluation Command. The objectives were the testing, evaluation, and analysis of an accepted and integrated Ground Based Air Defence system prior to initial operational capability, including threat detection, threat prioritization, weapon allocation, and threat engagement, as well as post-launch analysis of system data.

### **3. Flight Test Working Group (WG) Terms of Reference (TOR)**

This WG was established to identify and study future collaborative efforts to improve the effectiveness of joint weapons systems T&E through the harmonization of T&E requirements, investment strategies, and evaluation of test matters of mutual interest. Specifically, the Flight Test WG focuses on adoption and establishment of interoperable flight test instrumentation architecture to allow contributing participants to collaborate on flight test programs.

### **4. Heterogeneous Multiphase Reactive Blast (HMRB) Cooperative T&E (CTE) Project Arrangement**

This agreement evaluated the effectiveness and accuracy of novel diagnostics from a series of explosive charges in a test environment. Testing completed in 2023.

### **5. T&E of the United Kingdom 28 Engineer Regiment (C-CBRN), CBRNE Defense TTPs RUTF Project Arrangement**

This agreement with the United Kingdom has enabled the development and testing of partner defense TTPs against CBRNE threats. The U.S. Army Test and Evaluation Command's Dugway Proving Ground in Utah hosts the tests, providing threat-representative scenarios to support evaluation of the operational effectiveness of new detectors, personal protective equipment (PPE), and decontamination equipment in an operationally representative environment. Tests also included the firing of various weapons by soldiers in protective clothing to evaluate potential effects on mission effectiveness.

### **6. Electronic Warfare Operational Test 2016 RUTF Project Arrangement**

This agreement enables the United States and Canada to continue the at-sea T&E of the electronic warfare suites fitted in Canadian Navy ships. This testing was postponed due to COVID-19. It is expected to be conducted in Hawaii, where the U.S. will simulate anti-ship missile attacks to validate the Canadian Softkill System.

### **7. CF-18 Software Upgrade T&E RUTF Project Arrangement**

This agreement enabled Canada to test upgrades for the CF-18 Hornet at the U.S. Naval Air Warfare Center Weapons Division, China Lake, California. This test validated and verified the upgraded software of the CF-18 and the aircraft's ability to intercept radar signals, identify signal sources, prioritize emitters, and take defensive action against threat weapon systems. Initial tests were conducted July – August 2021. Additional tests are under consideration.

### **8. T&E of the German Bundeswehr CBRNE Defense TTPs RUTF Project Arrangement**

This agreement enables the German Bundeswehr to develop and test its defense TTPs against CBRNE threats. The U.S. Army Test and Evaluation Command's Dugway Proving Ground in Utah hosts the tests, providing threat representative scenarios to support the evaluation of the operational effectiveness of new detectors, to include mass spectrometers, multi-gas measuring devices, radiation detection devices, PPE, and decontamination equipment in an operationally



representative environment. Tests also include the firing of weapons by soldiers in protective clothing to evaluate impacts on mission effectiveness. Additionally, tests assess post attack reconnaissance after an IED attack. Initial testing was conducted October – November 2019. Figure 1 shows a group of German soldiers in PPE assaulting a target. .

### **9. Aircraft Electronic Warfare Cooperative T&E Project Arrangement**

This agreement was established under the MTEP MOU in 2016 and is an important ongoing multinational effort. It is expected to continue through at least 2026. Activities and plans for the coming years under this agreement are described in detail in the Center of Countermeasures section of this annual report.

### **10. T&E of Protective Ensembles Using the Porton Man Test Fixture CTE Project Arrangement**

This agreement with the United Kingdom has enabled extensive use of a mannequin named Porton Man to test chemical protective clothing for military personnel. Currently, the Porton Man tests are continuing to develop test methods and conduct performance testing of chemical protective ensembles (suits) against actual chemical warfare agents. Porton Man is an articulated, life-size, moving mannequin with a combination of cumulative and real-time sensors that can quantify the permeation and penetration of various threat agents through Chemical Biological PPE. The Porton Man CTE Project Arrangement supports U.S. DoD requirements to protect personnel from CBRN threats.



*Figure 1. Germans Assaulting the Target as part of a test against CBRNE threats*

### **11. SIMULATION DISPLAY (SIMDIS™) Sustainment for Sensors, Weapons, Analysis and Tactical Display Developments RUTF Project Arrangement**

This agreement provides T&E support to the Canadian Department of National Defence's SIMDIS™ Integration Laboratory and technical staff for the sustainment, testing and validation of the SIMDIS™ display software development. SIMDIS™

data from various sensors, weapons, and simulations will be evaluated for use in operational analyses for tactical development and platform procurement programs.

### **12. Project RAIDER Data Evaluation RUTF Project Arrangement**

This agreement supports testing and validating Canadian ships' ability to generate Maritime Domain Awareness data for the Project Radar and Automatic Identification System Information Dominance Enhanced Reporting – Marine (RAIDER-M) and the Sealink Advanced Analysis (S2A) or similar system. This project assesses the ship's ability to detect, precision track, and report low altitude

aerial vehicles and surface targets. Test results will be collected and validated using Naval Research Laboratory, Washington, D.C. equipment and facilities.

### **13. Tactical Armored Personnel Vehicle Testing RUTF Project Arrangement**

This agreement permitted the U.S. Army Test and Evaluation Command to provide T&E support to a Canadian Department of National Defence acquisition program. The testing and validation of a tactical armored personnel vehicle consisted of, but not be limited to, Tilt Table Test (one and two

axes), Circular Test in both dry/wet conditions to determine understeer and oversteer conditions, double-lane change test, J-turn test, Sine and Dwell Test, On-Center Steer Test and a Step Steering test, suspension vibration, and tire characterization.

#### **14. Land Platforms Autonomy and Robotics Working Group TOR**

This WG, led by the U.S. Army, exchanges data on Test Operating Procedures and Standard Operating Procedures relevant to testing unmanned vehicle maneuverability and weaponized autonomous platforms with Italy. The group is also sharing technology development updates on data acquisition, precision tracking and system surveillance, and other measurement techniques concerning T&E of autonomous vehicle systems. This WG effort will facilitate demonstration of test capabilities at key facilities responsible for testing mobility and weapon systems performance for autonomous systems.

#### **15. Joint Improvised-Threat Defeat Organization Electronic Counter Measures RUTF Project Arrangement**

This agreement covered testing of the Australian Department of Defence's electronic countermeasures (ECM) systems. The U.S. DoD, through the Naval Air Warfare Center Weapons Division (NAWCWD) China Lake Facility in California, provided T&E support to the Australian Department of Defence (test facilities, simulators, and technical staff) for testing and validation of ECM equipment. Such testing included electromagnetic interference/electromagnetic compatibility issues as well as system reaction and processing limitations in the electromagnetic environment.

#### **16. Partnership for Autonomous Robotic Test Instrumentation Working Group TOR**

This WG, led by the U.S. Army Test and Evaluation Command, was established to harmonize T&E instrumentation and autonomous/robotic requirements, study feasibility of future cooperative TEP activities, and exchange data reports on specific T&E issues of mutual interest with Germany.

#### **17. Combat Archer II Omnibus RUTF Project Arrangement**

This agreement addresses operational effectiveness and suitability testing of the Canadian Air Force's CF-18 air-to-air weapon systems using a total system approach which includes personnel, munitions, and machines.

#### **18. Combat Hammer Omnibus RUTF Project Arrangement**

This agreement addresses operational effectiveness and suitability testing of all aspects of the CF-18 air-to-ground weapons system.

#### **19. TOR for Live Fire Working Group**

This WG, led by DOT&E, was established to identify potential collaborative efforts in the LFT&E area, to include ground combat vehicles and PPE with the United Kingdom.

#### **20. Amendment Seven to the Integrated Air and Missile Defense (IAMD) Testing RUTF Project Arrangement (Formidable Shield)**

This agreement with the United Kingdom has permitted large scale missile defense tests every two years, including the latest in the series, exercise Formidable Shield 2023 (FS23). In May 2023, the Maritime Theater Missile Defense Forum (MTMD-F) participated in the Naval Striking and Support Forces NATO exercise FS23. The purpose of FS23 was to improve Allied interoperability in a live-fire joint IAMD environment, using NATO command and control reporting structures. Twelve NATO Allied and partner nations, 24 ships, more than 35 aircraft, 8 ground units consisting of radars, National Advanced Surface-to-Air Missile System, and High Mobility Artillery Rocket System, and nearly 4,000 personnel from across the Alliance participated in the event. Building on the achievements of previous forum events, FS23 increased coalition interoperability and joint capabilities through complex scenarios designed to meet tomorrow's Air Defense and Ballistic Missile Defense challenges.

#### **21. Test and Evaluation of the Australian Special Operations Engineer Regiment (SOER) Chemical,**

**Biological, Radiological, and Nuclear (CBRN) Defense and Explosive Ordnance Disposal (EOD) Tactics, Techniques, and Procedures (TTPs) RUTF Project Arrangement**

This agreement allows the Australian SOER to continue Counter CBRN (C-CBRN) testing in increasingly realistic environments against updated threat representative scenarios in an operationally realistic environment. The goal is to enhance and improve current TTPs and to develop additional

TTPs for operational gaps identified during this test event. See further detail below in Table 2, Item 11.

**22. HMCS Windsor Testing RUTF Project Arrangement**

This agreement covers testing of the MK 48 Mod 7 Advanced Technology Torpedo as well as the combat systems of the HMCS Windsor.

In addition to current and ongoing agreements, the following agreements listed in Table 2 were signed with partners in FY23.

**Table 2. IT&E Documents Signed into Effect in FY23**

No.	IT&E Projects <sup>a</sup>	Entry into Effect Date	Partner	Test Activity Locations
1	Crash Truck Foam Test (CTFT) Project Equipment Transfer (PET)	October 6, 2022	Canada	Tyndall Air Force Base, Florida
2	Annex C to the RUTF PA Concerning the German CBRNE TTPs	November 15, 2022	Germany	Dugway Proving Ground, Utah
3	The Canadian Forces Electronic Warfare Support Test and Evaluation (CFEWS) RUTF PA	February 28, 2023	Canada	Shirley's Bay, Ottawa, Canada
4	Amendment One to the RUTF PA Concerning Project RAIDER Data Evaluation	March 6, 2023	Canada	Navy Research Laboratory, Washington, D.C.
5	Counter-Laser Directed Energy Weapons (CLDEW) RUTF	April 11, 2023	United Kingdom	Army Research Laboratory, Adelphi, Maryland
6	Amendment One to the AU SOER CBRN TTP RUTF PA and Annex C	May 16, 2023	Australia	Dugway Proving Ground, Utah
7	Annex B to the Laboratory and Field T&E of the Australian DSTG CB Defensive Material RUTF PA	May 26, 2023	Australia	Dugway Proving Ground, Utah
8	Technology Experimentation and Characterization Field Trials (TECFT) RUTF PA	May 30, 2023	Canada	Dugway Proving Ground, Utah
9	Annex D to the RUTF PA Concerning the German CBRNE TTPs	August 18, 2023	Germany	Dugway Proving Ground, Utah
10	Tactics Validation and Operational Readiness Assessment RUTF PA	August 24, 2023	Canada, Australia, United Kingdom	Naval Warfare Center, China Lake, California
11	Annex D to the AU SOER CBRN TTP	September 13, 2023	Australia	Dugway Proving Ground, Utah
12	Cybersecurity Assessment Working Group Terms of Reference	December 14, 2022	Australia, Canada, New Zealand, United Kingdom	Not Applicable

**Notes:**

<sup>a</sup> The IT&E Projects column represents the legal names of each Project Arrangement.

**Acronyms:**

AU – Australia; SOER – Special Operations Engineer Regiment; DSTG – Defence Science and Technology Group.



### **1. Crash Truck Foam Test (CTFT) Project Equipment Transfer (PET)**

The purpose of the CTFT PET is to test cleanout procedures to transition aircraft rescue firefighting vehicles from aqueous film-forming foam to fluorine-free firefighting foam.

### **2. Annex C to the RUTF PA Concerning the German CBRNE TTPs**

Refer to Table 1, entry 8 and its accompanying narrative for information on this agreement.

### **3. The Canadian Forces Electronic Warfare Support Test and Evaluation (CFEWS) RUTF PA**

The electronic warfare software and the Scenario Simulation Controller are part of a U.S. DoD-owned electronic warfare and reprogramming software suite managed by the U.S. Navy's Next Electronic Warfare Generation Program Office. Canadian Forces Electronic Warfare Centre at Shirley's Bay has a unique configuration that can benefit from the testing of its electronic warfare capabilities by the scenarios contained in the EW toolset. The testing of CFEWS capabilities utilizes the U.S. DoD's electronic warfare toolset and components of its electronic warfare programming toolset (Scenario Simulation Controller) and Monitoring and Analysis.

### **4. Amendment One to the Project RAIDER Data Evaluation RUTF Project Arrangement**

Refer to Table 1, entry 12 and its accompanying narrative for information on this agreement.

### **5. Counter-Laser Directed Energy Weapons (CLDEW) RUTF Project Arrangement**

The purpose of this RUTF is to test the laser damage and vulnerability of the UK cameras, imaging systems, and optical materials to femtosecond, picosecond, and continuous-wave lasers.



*Figure 2. German Soldier Performing Chemical Testing in Tunnel under the T&E of the German Bundeswehr CBRNE Defense TTP RUTF PA*

### **6. Amendment One to the AU SOER CBRN TTP RUTF Project Arrangement and Annex C**

Refer to Table 1, entry 21 and its accompanying narrative for information on this agreement. The purpose of Amendment One to the CBRN/EOD TTPs RUTF PA is to expand the scope of the Australian Defence Forces participants beyond the Special Operations Engineer Regiment. Annex C allowed the testing of chemical and biological production and dissemination signature recognition and evaluated existing data collection and analysis techniques.

### **7. Annex B to the Laboratory and Field T&E of the Australian DSTG CB Defensive Material RUTF Project Arrangement**

The purpose of this Annex is to utilize chemical and biological simulant releases provided during the Technology Experimentation and Characterization Field Trials (TECFT) to characterize the performance of multiple technologies. Field trials will be conducted in accordance with the U.S. Army Test and Evaluation Command's standard operations procedures.



8. Technology Experimentation and Characterization Field Trials (TECFT) RUTF Project Arrangement

The purpose of the TECFT RUTF PA is to provide an assessment of Chemical-Biological-Radiological Situational Awareness based on co-deployment of point/standoff CB sensors in an environment representative of realistic CB threats.

9. Annex D to the RUTF PA Concerning the German CBRNE TTP

Refer to Table 1, entry 8 and its accompanying narrative for information on this agreement. Figure 2 shows a German soldier performing chemical testing in a tunnel.

10. Tactics Validation and Operational Readiness Assessment RUTF Project Arrangement

This Project Arrangement will let the testers evaluate the effectiveness of the defensive tactics of Royal Canadian Air Force aircraft and to assess the capability of Canadian Tactical Aviation personnel to conduct realistic mission sets in an EW threat environment.

11. Annex D to the AU SOER CBRN TTPs

This Annex supports the latest series of tests to enhance and improve the tactics, techniques,



Figure 3. Australian Unit at CBRN Test Site at Dugway Proving Ground, Utah

and procedures and identify any operational gaps of the Australian Defence Forces. Figure 3 shows an Australian unit at a CBRN test site.

12. Cybersecurity Assessment Working Group Terms of Reference

The TOR established the WG and provides authority for technical discussions and exchange of information during WG discussions. The Cybersecurity WG will be focused on identifying and developing collaborative efforts to increase the cybersecurity of coalition missions and joint weapons systems.

Table 3 below lists potential future test agreements.

Table 3. Future Test Agreements

No.	IT&E Projects	Objective
1	U.S.-Japan Test and Evaluation Program (TEP) Memorandum of Understanding (MOU)	Sign a TEP MOU
2	Amendment Two to the U.S.-Netherlands TEP MOU	Sign an updated TEP MOU
3	U.S.-India TEP Memorandum of Agreement (MOA)	Develop a TEP MOA
4	U.S.-Republic of Korea TEP MOU	Develop a TEP MOU

### **1. U.S.-Japan TEP MOU**

The U.S. will sign a TEP MOU with Japan. Significant test opportunities have been identified.

### **2. Amendment Two to the U.S.-Netherlands TEP MOU**

The U.S. will sign the Amendment Two to the Netherlands TEP MOU to extend the current TEP MOU by 10 years.

### **3. U.S.-India TEP MOA**

The U.S. opened technical discussions with India pursuant to developing a TEP MOA. Test opportunities have been identified.

### **4. U.S.-Republic of Korea TEP MOU**

Upon completion of an umbrella agreement with the Republic of Korea, the U.S. will negotiate a TEP agreement.