

## QUARTERLY MEETING MINUTES



### Executive Summary

The Test and Evaluation Capabilities and Methodologies Integrated Process Team (TECMIPT) Quarterly Meeting was conducted on 5-6 August 2014 at the ANSER Conference Center at Skyline in Falls Church, VA.

The goal of the meeting was to align TECMIPT products, activities, and schedules with the short-, mid-, and long-term goals for the Capability Area Process Action Teams (CAPATs); provide CAPAT updates on the status of T&E standards development; and promote collaborative development of Joint and inter-agency concurrence of T&E Standards. A key objective for this meeting was to address and refine the Capability Area Test and Evaluation Capability Needs (TECN) documents, address key capability gaps in order to inform T&E infrastructure validation planning, and identify data gaps to inform future Program Objective Memorandum (POM) inputs.

Representatives from the following agencies attended:

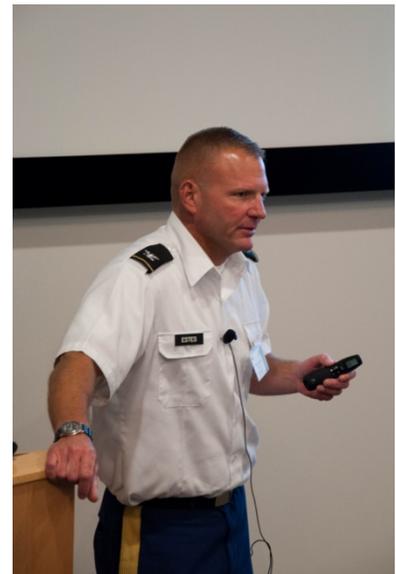
- Defense Reduction Threat Agency (DTRA)/ Joint Science and Technology Office (JSTO)
- Department of Energy (DOE)
- Department of Homeland Security (DHS) Domestic Nuclear Detection Office (DNDO) and Science and Technology (S&T)
- Deputy Under Secretary of the Army Test and Evaluation (DUSA-TE)
- Joint Program Executive Office for Chemical and Biological Defense (JPEO CBD)
- Joint Program Manager Nuclear, Biological, and Chemical Contamination Avoidance (JPM NBC CA)
- Joint Program Manager Guardian (JPM G)
- Joint Program Manager NBC Protection (JPM NBC P)
- Joint Project Manager Medical Countermeasure Systems (JPM MCS)
- Joint Requirements Office (JRO)
- Lawrence Livermore National Laboratory (LLNL)
- National Institute of Standards and Technology (NIST)
- Office of the Secretary of Defense Program Analysis and Integration Office (PAIO) Chemical, Biological, Radiological and Nuclear (CBRN) Defense
- Office of the Secretary of Defense Test Resource Management Center (OSD TRMC)
- Pacific Northwest National Laboratory (PNNL)
- Savannah River National Laboratory (SRNL)
- U.S. Air Force 28th Test Squadron
- U.S. Air Force Civil Engineer Center (AFCEC)
- U.S. Air Force Directorate of Test and Evaluation, Policy and Programs (AF/TEP)
- U.S. Air Force Medical Evaluation Support Activity (AFMESA)
- U.S. Air Force Operational Test and Evaluation Center (AFOTEC)
- U.S. Army Edgewood Chemical Biological Center (ECBC)
- U.S. Army Evaluation Center (AEC)
- U.S. Army Materiel Systems Analysis Activity (AMSAA) (TECMIPT Chair)

- U.S. Army Natick Soldier Research, Development, and Evaluation Center (NSRDEC)
- U.S. Army Nuclear and Combating Weapons of Mass Destruction Agency (USANCA)
- U.S. Army Test & Evaluation Command (ATEC)
- U.S. Army Test, Measurement, and Diagnostic Equipment Activity (USATA)
- U.S. Marine Corps Operational Test and Evaluation Activity (MCOTEA)
- U.S. Naval Research Laboratory (NRL)
- U.S. Naval Surface Warfare Center, Dahlgren Division (NSWC-DD)
- U.S. Navy Commander, Operational T&E Force (COMOPTEVFOR)

Mr. James Cooke (DUSA-TE) began by welcoming everyone to the TECMIPT meeting and spoke of the importance of understanding the science behind contemporary threats and gaining consensus within the community in order to mitigate those threats. Mr. Cooke discussed the importance of encouraging international participation in TECMIPT activities, specifically the use of standards and testing, to strengthen the CBRN community as a whole for the greater good. He also conducted an open forum Q&A with the entire TECMIPT community in attendance. After the Q&A, Mr. Cooke welcomed Dr. Brian Bennett (Dugway Proving Ground (DPG)) as the new Biological CAPAT co-chair and presented a Letter of Commendation to Ms. Robin Gent (AMSAA Support/SURVICE Engineering) for her many contributions to the TECMIPT. Mr. Cooke also presented the Achievement Medal for Civilian Service to Ms. Lynn Coles (AMSAA) for her exceptional support to the TECMIPT since November 2010.

In his address, COL Scott Estes, Deputy Director, JRO, described the intersection between requirements and the test and evaluation community. He stressed that accuracy of requirements depends on early involvement and clear communication between users, materiel developers, and requirements writers. COL Estes stated that it was vital to base requirements on decisions that were “Capability Based, Threat Informed”. He proceeded to discuss an integrated risk assessment employed by the JRO to inform the POM, specifically referencing examples from the Cassandra exercises. COL Estes also discussed JRO’s path forward, which includes greater use of M&S capabilities to support relevant CBRN scenarios.

Mr. Al Goodwyn, Savannah River National Lab (SRNL), provided a historical overview and description of radiological/nuclear test capabilities at SRNL. He described the varied test sites SNRL offers to the test community including assets such as an explosive range, unmanned test area, outdoor test pad, rail/rail yard, maritime environments, terrestrial, aerial, and remote operations. He also described upcoming tests in support of the Defense Nuclear Detection Office (DNDO).



Briefings, presentations, and meeting materials from the 5-6 August TECMIPT Quarterly Meeting are available on the TECMIPT Page on Army Knowledge Online (AKO): <https://www.us.army.mil/suite/page/691622>. For access or sponsorship, please contact AMSAA ([usarmy.apg.amsaa.list.amsaa-tecmipt@mail.mil](mailto:usarmy.apg.amsaa.list.amsaa-tecmipt@mail.mil)).

## Detailed Minutes

### DAY 1: 5 AUGUST 2014

#### Deputy Under Secretary of the Army Test and Evaluation Office Welcome to TECMIPT (Dr. Sean O'Brien, DUSA-TE)

- Dr. O'Brien welcomed the TECMIPT members and presented the agenda for both days. He introduced two new DUSA-TE employees supporting TECMIPT, Mr. Tony Dragon and Ms. Corrie Wells.
- Dr. O'Brien introduced and opened the floor for Mr. James Cooke (DUSA-TE) to provide his keynote address.

#### CBRN Test & Evaluation (T&E) Executive Address (Mr. James Cooke)

- Mr. Cooke began his address to the TECMIPT by stressing the importance of, and need for, T&E standards in the CBRN community. He emphasized the importance of understanding the science behind current threats and gaining community concurrence to support effective mitigation of threats. He underscored the need to identify and address current gaps and requirements in methodology and infrastructure to support the development of sound resource planning. He discussed the importance of inviting international participation in TECMIPT activities and testing to strengthen the CBRN community for the greater good. By providing the standards internationally, we can make further progress toward the overall goal of removing CBRN threats. Additionally, Mr. Cooke expressed the need to leverage our international partners' expertise. He cited the successful use of an exploratory Ebola vaccine as a good example of a collective community effort.
- Following his remarks, Mr. Cooke invited the meeting participants to take part in a question and answer session, where he offered to address the community's questions regarding the state of the CBRN Defense Enterprise. He explained that in spite of a waning budget, the proliferation of the TECMIPT is and will continue to be critical.
- Mr. Cooke thanked members and urged their continued support. He then recognized Dr. Brian Bennett (DPG) as the new Biological CAPAT co-chair and presented a Letter of Commendation to Ms. Robin Gent (AMSAA Support/SURVICE Engineering). Mr. Cooke then presented the Achievement Medal for Civilian Service to Ms. Lynn Coles (AMSAA) for her many contributions since 2010 as the TECMIPT Action Officer.

#### Joint Requirements Office Select Topic Update to the TECMIPT (COL Scott Estes)

- COL Estes discussed improvements made to the requirements generation process to better account for testing needs while remaining threat-informed and forward looking. He also discussed a new focus for the JRO on Risk Assessment.
- He noted that open lines of communication between all parties including, but not limited to, the test community, requirement writers, and materiel developers was vital to the process. Without collaboration and feedback, the process may incur wasted time and effort. He noted that acquisition requirements have become increasingly technical and numerous, but it is critical that requirements link directly to Warfighter needs. This is only achievable with open, early feedback from the users and T&E community.
- COL Estes explained that T&E Master Plans (TEMPs) now are required to be written earlier in the acquisition process, which creates a higher associated risk due to changing requirements and the lack of Concepts of Operations (CONOPs) and capability information. TEMPs require revision as programs evolve.
- He discussed the assessment and risk cycle currently utilized by the JRO, characterizing the process as "Capability Based, Threat Informed." The JRO risk assessment process is based on the Chairman Joint Chief of Staff's risk assessment metrics. The most important inputs to the process are the Operational Plans (OPLANS) and Concept of Operation Plans (CONPLANS). The output of this cycle is an integrated risk assessment that supports the POM.

### **Savannah River National Laboratory (Mr. Al Goodwyn)**

- Mr. Goodwyn described the history of Savannah River National Laboratory (SRNL). He then gave an overview of the facilities, which include tritium and plutonium production areas, five reactors, two chemical separation sites, a heavy water extraction site and full fuel-target fabrication facilities. Mr. Goodwyn described the varied areas SNRL offers to the test community, including assets such as an explosive range, unmanned test area, outdoor test pad, rail/rail yard, maritime environments, terrestrial, aerial, and remote operations. He referenced specific examples of test events conducted for DHS including CRAWDAD, Dolphin, GRaDER, and On-Dock Rail. He also highlighted upcoming tests in support of DNDO.

**CAPAT Meetings.** CAPAT Co-chairs held meetings to discuss capability-specific updates, infrastructure efforts, special briefings, and related 2014 T&E documentation development. The following sections provide the summaries of the breakout meetings as highlighted by the CAPAT Co-chairs. Detailed minutes for each meeting will be posted to the TECMIPT AKO site.

### **Advanced Threat (AT) CAPAT**

- West Desert Test Center /ECBC Simulant Working Group (WESWG) briefed a summary of a WESWG program in support of the AT CAPAT. It provided an overview of the WESWG simulant selection process and proposed efforts in coordination with each program, including paths forward. The briefing highlighted key points of action to address general efforts, as well as program-specific support available for Joint Sensitive Equipment Wipe (JSEW), NGCD, Common Analytical Laboratory System (CALs), and General Purpose Decontaminant (GPD). A WESWG simulant selection summary, "A Simulant Selection Process for Conventional and Advanced Chemical Threats," is in review and anticipated for release in the next few months.
- Mr. Joshua Schein (JPM NBC CA) provided an update on the status of Non-Traditional Agent Defense Test System (NTADTS). He stated that some in the community were confused as to what the NTADTS consists of, so he clarified the definition of the distinct test capabilities that comprise the NTADTS, including the system of three separate chambers (the Primary Containment Module (PCM), Test Chamber Module (TCM), and Aerosol Test Facility (ATF)). Further, he informed the CAPAT that the PCM will not be verified and validated until a customer and test need is identified.
- Mr. Adam Rogers (WDTN) provided an update on the WDTN Secondary Containment System (SCS). WDTN is planning an initial operational capability in April 2015.

### **Collective Protection (ColPro) CAPAT**

- The ColPro CAPAT first discussed the status of the TECNs and other ColPro standards documents currently in staffing. The CAPAT then participated in a discussion related to Modeling and Simulation (M&S) permeation curves for swatch testing. The CAPAT members reviewed the gaps within the TECN and decided to add two gaps related to methodology and infrastructure, including battlefield-contaminant dissemination methods and contamination-control-area test methods. The CAPAT identified a need for information regarding seams and closures, specifically relating to seam thickness in Joint Expeditionary Collective Protection (JECP). JRO agreed to provide the CAPAT with an updated toxic industrial chemical (TIC) threat list.

### **Modeling & Simulation (M&S) CAPAT**

- The M&S CAPAT received an update on the Decontamination Downwind Hazard Model from Dr. Brent Mantooth (ECBC), Decontamination CAPAT Co-Chair. The subsequent discussion focused on improving the model requirements beyond the concentration values currently specified in order to define the scope of the

project and to better support T&E and the Decontamination Systems Performance Model in development. Dr. Mantooth was to include the suggestions in discussions during the subsequent Decontamination CAPAT meeting. Mr. Tim Bauer (NSWC) then presented a status update on the Jack Rabbit 2 Program and encouraged M&S CAPAT members to participate in the Working Groups. Mr. Bauer responded to a question regarding international participation, explaining that sponsorship by the Department of Homeland Security (DHS) Chemical Security Analysis Center (CSAC) only requires signing a non-disclosure agreement and that international participation is very welcome. Jack Rabbit 2 is still soliciting both additional sponsorship and organizations that can add additional test elements by contributing their own equipment and personnel. The M&S CAPAT then evaluated the M&S capability data needs for the overarching Biological TECN. Mr. Bauer concluded the meeting by presenting select items from his update presentation for the TECMIPT meeting the following day.

#### **Decontamination (Decon) CAPAT**

- Mr. Tom Hughes (ECBC) briefed the Decon CAPAT on the results of the Contamination Indicator Decontamination Assurance System (CIDAS) program for decontamination efficacy. A brief discussion followed on the topic of data needs for evaluation since the CIDAS depends on color changes. The JSEW and GPD T&E leads both gave status updates on their respective programs. Dr. Mantooth gave a status update on the Down Wind Hazard (DWH) Model validation effort. The CAPAT spent the remaining time reviewing the TECN.

#### **Biological (Bio) CAPAT**

- Dr. George Farquar (LLNL) presented on the development and application of deoxyribonucleic acid (DNA) tagged sugar particles for aerosol experiments. Dr. Farquar discussed with the CAPAT possible applications of the DNA tagged particles and how the particles have the potential to assist in biological T&E. Dr. Brian Bennett (DPG) discussed the topic of a standard unit of measure in aerosols and encouraged the group to look at past publications in an effort to address the problem in the future. The group reviewed the recently distributed Bio CAPAT T&E strategy and gap/shortfall list. They have already received some comments and a finished product is expected by the end of August.

#### **Chemical Detection (CD) CAPAT**

- The CAPAT Co-chair briefed members on the status of documents currently in review and in development. Mr. Aaron Young (JPM NBC CA) provided an update on the status of contract awards for the Next Generation Chemical Detector (NGCD) program. Mr. Josh Schein (PD CCAT&TI) provided an update on the status of Dynamic Test Chamber (DTC) V&V. The CAPAT developed a path-forward on developing a V&V plan amendment. Finally, CAPAT members discussed the status of Test Grid and Safari Instrumentation (TGSi) V&V and associated documentation.

## **DAY 2: 6 AUGUST 2014**

#### **Individual Protection (IP) CAPAT**

- The CAPAT viewed the status of the TECN and schedule for approval. The TECN will be sent out for a quick review in August and for signature shortly thereafter.
- Dr. Terrence D'Onofrio (ECBC) presented an update on the Low-Volatility Agent Permeation (LVAP) V&V testing, focused primarily on emerging results. Discussion focused on how the statistical outliers were treated and understanding the comparison to the Aerosol Vapor Liquid Assessment Group (AVLAG) results.

- Mr. Mike Kierzewski (ECBC) presented an update on the IP System Performance Model. The briefing presented the model capabilities and a comparison of the model output to test data. Discussion focused on possible additional capabilities for the model.
- The CAPAT discussed the issues preventing MCOTEA's final concurrence of the LVAP V&V plan. DPG agreed to include the schedule MCOTEA requested.

#### **Radiological/Nuclear (RN) CAPAT**

- Mr. John Franco (DTRA) briefed the CAPAT on DTRA's Radiological/Nuclear capabilities that included West Coast Facilities (Radiation Simulators) and Nuclear Forensics. The CAPAT also discussed the initial RN TECN and the need to address capability gaps to support programs, specifically the Radiological Detection System (RDS) program. The CAPAT assigned responsibilities and identified a path forward on the Internal Dosimetry TTOP and Instrumentation TTOP revision. Lastly, the RN and Decon CAPAT representatives strategized on how both CAPATs could work together to determine the T&E needs for RN Decontamination testing.

#### **Deputy Under Secretary of the Army Test and Evaluation Office Update (Dr. Sean O'Brien, DUSA-TE)**

- Dr. O'Brien addressed the results from the survey distributed to the TECMIPT during the last Quarterly Meeting. The survey identified areas in need of improvement including:
  - Training for new CAPAT co-chairs and new TECMIPT members
  - Enforcement of existing policies and procedures, specifically deadlines for reviewing documents, adjudicating comments, and obtaining signed concurrences
  - Establishing a common understanding of the Verification, Validation, and Accreditation (VV&A) process
  - The need for more rigor in technical editing of documents
  - A better system for assigning, tracking, and approving documents
  - The need for CAPATs to meet more often to work on their standards
- To address these concerns, DUSA-TE will publish an updated TECMIPT Implementation Plan and conduct an annual three-day CAPAT working session. DUSA-TE will assign AMSAA the task of developing TECMIPT training programs. In addition, AMSAA personnel demonstrated a web portal they created to automate the TECMIPT document review and approval system and to monitor and report on outstanding tasks.

#### **Joint Program Manager for NBC Contamination Avoidance Update (Mr. Joshua Schein, JPM NBC CA)**

- Mr. Schein provided schedules and updates on the following: Whole System Live Agent Test (WSLAT) chamber, Dynamic Test Chamber (DTC), Test Grid (TG), and NTADTS systems.
- JPM NBC CA recently provided an update on the Chemical Biological Agent Resistance Test (CBART) fixture for ATEC. The Operational Test Agencies (OTAs) requested JPM NBC CA provide a similar update to them.

#### **Joint Science and Technology Office Status Update (Mr. Eric Lowenstein, JSTO)**

- Mr. Lowenstein provided a brief overview of CB-1, which began as a CBRN data backbone effort that looked at potential solutions for all data gaps. It is intended to be an authoritative tool for chemical and biological defense analysis. Mr. Lowenstein indicated that CB-1 will feed the entire community for analytical purposes but the intended user is a DOD analyst. The tool is still in development but once mature, it will include data, methods, tools, and information regarding CB agents, weaponization, operational use, release, and analysis. This tool will be delivered as an online accessible tool/portal, book, and CD. Mr. Lowenstein assured many future updates will be provided to the TECMIPT regarding CB-1.

### **J8 Joint Requirements Office – CBRN Defense Update (Mr. Chris McLane, JRO)**

- Mr. McLane provided the latest schedule for current Sense, Shape, Shield, Sustain, and Radiological/Nuclear programs and assessment of impacts to the FY16-20 POM. Mr. McLane referred interested parties to the PMs for more detailed schedules.
- He reinforced COL Estes' message that early involvement of all parties in the acquisition process is critical. Mr. McLane discussed the potential benefits of including modeling capabilities on the front end of the process to help dial in parameters and shape potential Key Performance Parameters (KPPs) needed for early development documents such as Capability Development Documents (CDDs), which are currently written before Milestone (MS) A. He highlighted the Uniform Integration Protection Ensemble (UIPE) Increment 2 and RDS, explaining that the T&E community has the ability to influence these programs with early participation.
- Mr. McLane offered to provide JRO's JECPTIC list, described in the ColPro CAPAT's summary above, to TECMIPT members for their consideration to utilize as a starting point for addressing TIC threats (unless otherwise specified by a Program of Record (POR)).

### **WDTC/ECBC Simulant Working Group (WESWG) (Mr. Brian Maciver, WDTC/ECBC)**

- Mr. Maciver introduced the Working Group participants and explained their goal was to provide expertise from both ECBC and DPG to develop a decision support tool for choosing Developmental Test and Operational Test (DT/OT) simulants.
- He explained that the focus is currently on Advanced Threat (AT) simulants but has potential for migrating to traditional agents and TICs. This tool is integrated into the Joint Sensitive Equipment Wipe (JSEW) program as a trial run.
- This tool encapsulates an integral process that would be dependent on the POR it is to support. The process begins with a series of questions to assess need based on physiochemical characteristics, and this information is fed into a model in which characteristics are scored/stacked and then matched to simulants from chemical databases to best fit the needs of the program. The Team conducted full-scale lab testing to verify and validate the model results and to identify which simulants fell out compared to agent testing.
- Mr. Maciver assured that the cost benefit will be assessed for every program and this model will yield a common simulant choice. All data and justifications were captured for each process choice for auditable purposes to increase confidence; this data will be available to the community.

### **CAPAT Chair/Co-Chair Updates to the General TECMIPT**

- During this general session, CAPATs presented updates to DUSA-TE for each capability area. Each CAPAT presented an updated quad chart that contained the CAPAT Mission, Objectives, Key Activities/Significance, and Products. Updates also included a slide on identified gaps pertaining to each respective area, and additional information related to status/issues with T&E Standards Packages where necessary. CAPAT briefs were provided by the following individuals:
  - Modeling & Simulation (M&S) CAPAT Overview (Mr. Tim Bauer, NSWC)
  - Advanced Threat (AT) CAPAT Overview (Mr. Phil Rankin, JPM NBC CA, and Dr. Candace Coyle, JRAD)
  - Radiological/Nuclear CAPAT Overview (Mr. Randy Brady, WSMR, and Dr. Leticia Pibida, NIST)
  - Individual Protection (IP) CAPAT Overview (Mr. Charlie Walker, WDTC, and Mr. Steve Tackett, AEC)
  - Collective Protection (ColPro) CAPAT Overview (Mr. Darren Jolley, DPG, and Tim Thomasson, Navy)
  - Decontamination CAPAT Overview (Mr. Bill Davis, DPG, and Dr. Brent Mantooth, ECBC)
  - Chemical Detection CAPAT Overview (Dr. Petr Serguievski, DPG)
  - Biological CAPAT Overview (Mr. Jeffery Hogan, DPG, and Dr. Brian Bennett, DPG)
- CAPAT briefs are posted on AKO, <https://ako.us.army.mil/suite/files/42659412>.

**TECMIPT Public Web Page and SharePoint Portal Presentation (Mr. David Gillis, AMSAA)**

- Mr. Gillis presented the current state of the TECMIPT Public Web Page to the TECMIPT members. DUSA-TE asked AMSAA to create a public web page to share publicly available information with TECMIPT members, CBRN community stakeholders, and inter-agency and international partners. All documents that are to be shared on the web page will be reviewed by the author’s security authority and be designated as publicly releasable. Mr. Gillis will share the web address for the web page with the TECMIPT when it is available.
- AMSAA has created a SharePoint Portal on the Intelink site to facilitate internal-TECMIPT communication and document generation. The portal will utilize workflows to simplify and track the progress of document development for each of the CAPATs. The Portal also has calendar, blogging, membership information management, discussion board, and document storage capabilities. The portal will be “rolled out” incrementally, starting with the CAPAT Co-chairs.
- Mr. Gillis also gave a sneak preview of a document-tracking dashboard. The Dashboard is an Excel-based tracker that is updated using the information collected from the document workflows of the SharePoint Portal.

**Closing Remarks and Action Items (Ms. Deb Shuping, DUSA-TE; Mr. David Gillis, TECMIPT Action Officer)**

- Ms. Shuping provided closing remarks, re-emphasizing one of COL Estes’ points that the T&E community plays an important role in monitoring the operational relevance of requirements and she encouraged all to do so to facilitate acquisition program success. Mr. David Gillis provided a consolidated list of action items, below.

Item #	Action Item	POC	Suspense	Status
201408-01	WDTC and DUSA-T&E will work together to determine the best working definitions for V&V of infrastructure and methodology. (Extension to original suspense: 15 AUG 14)	Darren Jolley, DPG Sean O’Brien, DUSA-TE	15 SEP 14	Open
201408-02	DUSA-TE will distribute a draft Standard Framework for V&V plans and reports.	Sean O’Brien, DUSA-TE	29 AUG 14	Closed
201408-03	DUSA-TE will schedule a TTOP workshop for the CAPAT Co-Chairs	Sean O’Brien, DUSA-TE	30 SEP 14	Open
201408-04	CAPATs will review their area of focus to determine what TTOPs should be authored and present the findings to DUSA-TE	CAPATs	05 SEP 14	Open
201408-05	PD CCAT&TI will provide a broken-out schedule of the NTADTS sub-systems to AMSAA for TECMIPT distribution	Joshua Schein, JPM NBC CA	30 SEP 14	Open
201408-06	PD CCAT&TI and ATEC will schedule/provide a CBART status brief to the other OTAs	Joshua Schein, JPM NBC CA Steven Tackett, ATEC	29 AUG 14	Open
201408-07	CAPATs will review and complete distributed data gaps analysis charts and send to AMSAA	CAPATs	29 AUG 14	Open
201408-08	JPM NBC CA will provide the Test and Evaluation Capabilities Analysis (TECA) intermediate reports to DUSA-TE	Candace Coyle, JPM NBC CA	12 SEP 14	Open
201408-09	JRO will provide a list of target TICs to AMSAA for distribution to the TECMIPT	Chris McLane, JRO	15 AUG 14	Closed
201408-10	AMSAA will prepare/schedule a teaching brief for the CAPAT Co-chairs on the use of the TECMIPT Portal	David Gillis, AMSAA	30 SEP 14	Open