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DEPARTMENT OF THE AIR FORCE AIR EDUCATION AND TRAINING COMMAND

19 August 2021

MEMORANDUM FOR DISTRIBUTION

FROM: HQ AETC/A9
100 H Street East, Suite 11
JBSA Randolph AFB TX 78150

SUBJECT: Minutes from the Quarterly AETC Innovation Summit (iSummit), 29 Jul 21

1. The quarterly AETC Innovation Summit (iSummit) was conducted virtually from the Lahm Conference Room, Randolph AFB, TX on 29 Jul 21 from 0930-1130. The theme for this event was Innovation Resources. Invitees included HQ AETC Directorates, NAF/NAF-E leadership, and numerous AETC innovators. Participants were a broad representation of AETC innovators ranging from SSgt/GS-12 to O-7/SES.
2. The purpose of the iSummit was to advance collaboration by providing AETC Airmen at all levels a platform to share experiences on innovation activities and replicate successes stories, while identifying potential internal/external business partners to discuss and counter obstacles to innovation.
3. Brig Gen Cartier (AETC/A3/6) provided inspirational remarks, driving home key points on innovation and the Air Force's way forward. She re-emphasized SECAF's philosophy of "one team/one fight," while reiterating CSAF's "accelerate change or lose" action orders, highlighting that tomorrow's Air Force is fully reliant on collaboration and Airman empowerment. She closed by stressing it's crucial that we come together through innovation and resourcing to ensure air and cyber space dominance over our adversaries.
4. Experts from across AETC provided presentations on the following topics (slides at Atch 1).
 - a. Diversity and Inclusion (D&I) in the Innovation Spectrum--CMSgt Jackson (AFRS). CMSgt Jackson introduced AFRS's focus on reaching 16 to 23 year olds from diverse backgrounds and exposing them to opportunities in aviation career fields. He also discussed the "Go Inspire" program that advances the CSAF's vision of "Earn a star--become a recruiter," and how general officers can work with AFRS squadrons to build community and school leadership relationships with traditionally unrepresented groups. Finally, CMSgt Jackson highlighted some key strategic partners who are assisting AFRS's innovative programs.
 - b. Expanding Options to Build Industry Relationships and Institutionalize Innovation Across the Air Force--Maj Armstrong and MSgt Ybarra (Special Warfare Training Wing-SWTW). The presentation provided lessons learned and how to build industry relationships. Lessons learned included cooperation between industry, academia, and DoD institutions. The goal is to leverage past observations for future innovative ideas. The SWTW presenters also stressed the importance of talent management and selecting the right people for the right jobs, while building and institutionalizing an innovation culture through education programs and defense "Werx" internships/fellowships.
 - c. Counterintelligence Issues in Innovation--SA Ahlgrimm (AFOSI). The presentation emphasized that innovation through agility is a must. Yet new concepts and new partners bring new vulnerabilities since the DoD Small Business Innovation Research (SBIR) program lacks the capability to conduct due

diligence on proposals, awardees, or pre-and post-contract awards to assess national security risks or monitor them for compliance. SA Ahlgrimm provided examples and key concerns on partnerships with industry, issues we should be looking for, and questions that should be asked to identify and mitigate risks. If you receive an inquiry or proposal and have concerns, the presenter encouraged innovators to contact OSI to acquire secure capabilities through informed decision making.

d. Contracting 101 and AETC Immersive Learning Basic Ordering Agreement (BOA)--Ms. Haynes (338 ESS) and Lt Col Hale (HQ AETC/A9). The presentation provided information on the alignment with AETC Strategic Action Plan Priorities: Transform the Way We Learn and Advance Force Development. The BOA provides Immersive Learning technologies to support AETC recruiting, training, and education innovation initiatives. The presenters emphasized that this vehicle streamlines the acquisition process for AETC innovation initiatives from 180 days to approximately 45 days. The presentation team further shared the three Immersive Learning categories the BOA supports and which are available to AETC innovators:

- (1) Live Virtual Constructive capabilities integrate real aircraft, vehicles, and weapons with trainees in virtual environments and simulations in complex threat environments.
- (2) Big Data Analytics capabilities support the complex process of uncovering hidden patterns through the use of machine learning and/or artificial intelligence.
- (3) Cloud computing provides access to an on-demand environment “sandbox” to develop, run, enhance, and maintain software applications.

5. A question and answer session followed the formal presentations. Details are included at Atch 2.

6. Col Wegner (HQ AETC/A9 Director) provided closing remarks, thanking participants for attending and for their continued efforts to foster innovative ways to improve the AETC mission. He stressed that the innovation spirit exists in each one of the attendees and that innovation is more than objects and technology; that’s why it’s important to communicate the roadblocks to innovation and to go to your leadership to get those roadblocks removed. To that end, he encouraged all to go back to their leadership and tell them about resources they learned about at this iSummit. He asked participants to mark their calendars for the next iSummit, scheduled for 10 Nov 21. Finally, he encouraged attendees and the recipients of these iSummit Minutes to fill out the iSummit feedback form found at the link below to help make the next iSummit even better:

https://docs.google.com/forms/d/e/1FAIpQLSdfqm54nwkFU5QANd11z4qL-T_oK7y2vCiS_vhqbDALtruz_w/viewform?usp=sf_link.

8. The POC for the iSummit event is Ms. Danielle Koehler (HQ AETC/A9A). If there are additional questions or request for information, please contact her at aetc.a9a.workflow.2@us.af.mil.

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THOMAS F. WEGNER, Colonel, USAF
Director, Analysis and Innovation

2 Attachments:

1. iSummit Slides
2. Question and Answer Session Summary



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AIR EDUCATION & TRAINING COMMAND A9 INNOVATION SUMMIT

**Col Wegner
HQ AETC/A9
29 July 21**



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HQ AETC INNOVATION SUMMIT

Innovation Resources



TIME	ORGANIZATION(S)	SME	TOPIC
0930 - 0935	AETC A3/6	Big Gen Cartier	Opening Remarks
0935 - 1000	AFRS	CMSgt Jackson	Innovation in D&I
1000 - 1025	SWTW	Maj Armstrong MSgt Ybarra	Expanding options to build industry relationships and institutionalize innovation across the Air Force
1025 - 1050	AFOSI	SA Ahlgrimm	OPSEC issues related to innovation
1050 - 1115	AETC/A9CS	Ms. Haynes Lt Col Hale	A9 Contracting Team/Immersive Learning Basic Ordering Agreement (BOA)
1115 - 1130	Facilitated Discussion	Col Wegner Lt Col Hale	Closing Comments



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AFRS



Innovation in D&I

**CMSgt Jackson, Superintendent AFRS
Diversity and Inclusion**



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AIM HIGH Flight Academy



- 72 Student accepted from across the US and US Territories
- 450 Applicants initially applied
- Milton, Florida
- 16-23 Year olds
- Full HS time students, some ROTC/Academy to be mentors/champions to the younger selects for the program



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AIM HIGH Inspiration Flights



- AFI 35-101 and DAFMAN 11-401 revised:
 - Gave the AF the ability to fly unaffiliated youth in USAF aircraft!
- 6th ARW first AIM Flight in April, 2021
 - 5 students selected by local high school to attend inspiration flight
- Continued efforts for future engagements. First one was a success!



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GO Inspire



- CSAF vision of “Earn a star-- become a recruiter”
- Aligned GOs with AFRS squadrons to build community relations and school leadership relations with URGs across America
- 52 engagements completed first 2 quarters FY21
 - 23,411 youth engaged
 - 157 influencers engaged



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Strategic Partnerships



External

- - Women in Aviation International
- - Organization of Black Aerospace Professionals
- - Aircraft Owners Pilots Association
- - American Institute of Aeronautics and Astronautics (AIAA)

Internal

- Air Force ROTC
- Air Force Academy
- Air Force JROTC
- Civil Air Patrol

Expanding options to build industry relationships and institutionalize innovation

Major Joshua Armstrong and MSgt Arturo Ybarra -
SWTW

Multi-Domain Adversaries

- Russia
- China
- North Korea
- Iran
- GWOT



Lessons Learned

Failure to exploit known innovation opportunities degraded US readiness for the Second World War

→ **US already held the key to turning the air/naval war**

Radar

→ **Cooperation between industry/academia/DoD**

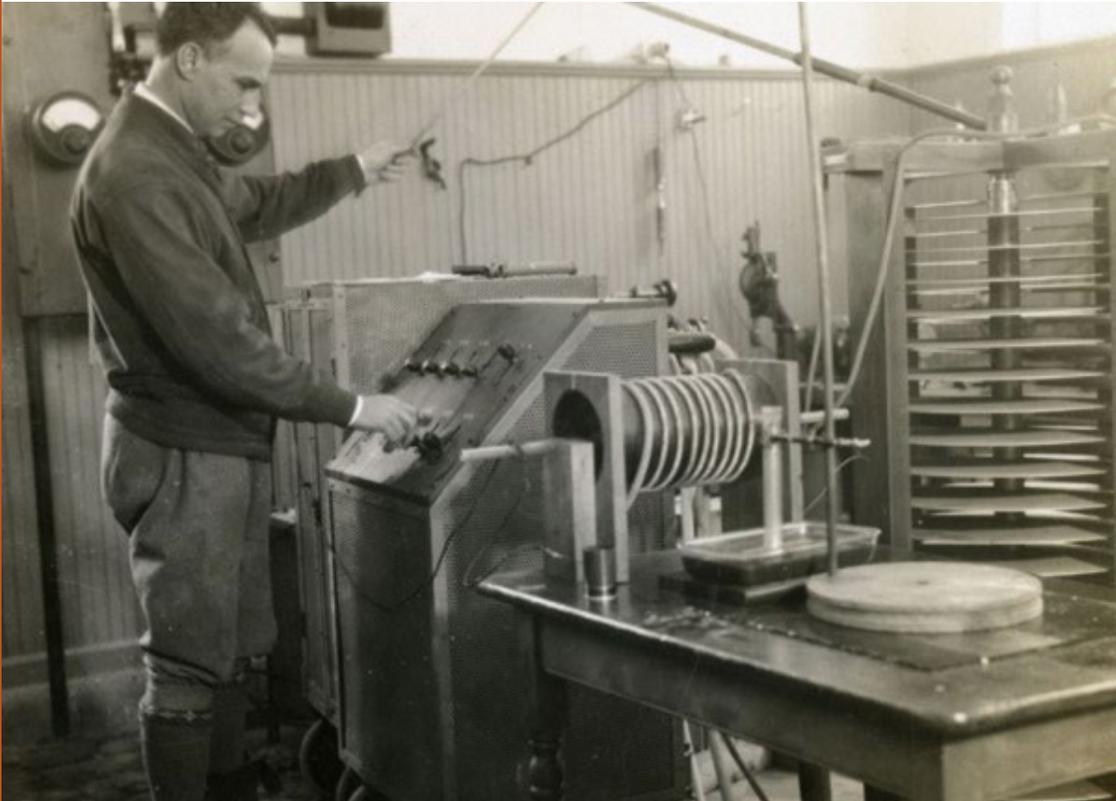
OSRD: 19 Industrial labs, 32 academic institutions

→ **Microwave**

Paratroopers, Anti-aircraft/Anti-ship/Anti-missile

→ **Bush-Vail Rules**

4 Rules



Why

Establishing an unmatched twenty-first century National Security Innovation Base that effectively supports Department operations and sustains security and solvency - National Defense Strategy, 2018

“The Department will innovate at a speed and scale that matches a dynamic threat landscape. This will require advances in our joint warfighting concepts and a commitment to rapid experimentation and fielding of capabilities.” - SecDef Lloyd Austin

- Innovation is a key part of organizational success. Yet, human beings and organizations are not universally “innovative” (by temperament or structure).
- Thus, successful innovation requires effective selection (talent management) and nurturing (addressing structural obstacles).
- Moreover, after the right people are selected and the right obstacles removed, those people must pursue the *right* problem.



Dillema: How to discriminate between an endless possibility of innovative efforts and pursue the *right* problem?

Existing Opportunities:

Build Industry Relationships

- **Education With Industry**
Work-experience program and placed in a validated utilization assignment
- **Shift**
identifies emerging innovators from across the US Military and places them into short-term work environments within technology and venture capital firms
- **Defense “Werx” spaces**
DIU, AFWERX, SOFWERX

How

Missing links:

Institutionalized Innovation

- **SEI**
Specific towards innovation
- **Innovation NCO/Officer**
Create connective tissue among innovation networks, CC intent/end-user feedback, full-time
- **Defense Innovation Talent Mgmt**
Prioritize and keep most talented innovators, provide top cover
- **Reservist/Guard Network**
Match needs with military personnel seeking short-term, project-based duties



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AFOSI



Counterintelligence Issues in Innovation

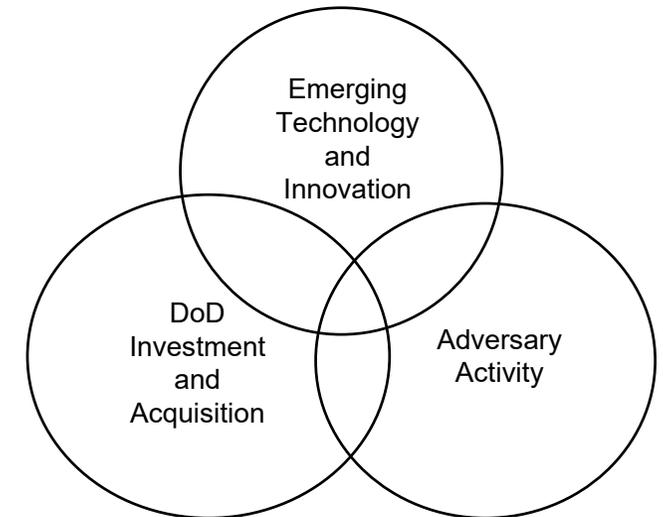
**Special Agent Ahlgrimm
patrick.ahlgrimm.1@us.af.mil**



AFOSI



- Innovation and agility a must for the Air Force, but new concepts and new partners bring new vulnerabilities
 - Businesses receiving DoD SBIR \$ usually not part of defense industrial base AND lack CI, security, or regulatory oversight = SBIR programs vulnerable to unauthorized technology transfers
 - DoD's SBIR program lacks capabilities to conduct due diligence on proposers or awardees pre-and post-award to assess national security risks or monitor for compliance
- CI Support to Technology Protection is an OSI Mission
 - CI Support to Research, Development and Acquisition (CI-RDA)
 - CI Support to Supply Chain Risk Management (CI-SCRM)
 - CI Support to Mission Assurance (CI-MA)





Example

- MKP Design Associates: structural engineering firm founded 2001 by scientist at Univ. of Michigan. Received \$6M in SBIR Phase I, II from AF and Army; examples:
- Composite Concepts for Future Military Air Vehicles (2002)
- Lightweight Metal Structures for Future Fuel-Efficient Army Ground Vehicles (2003)
- Lightweight Composite Armor for Ballistic Protection of Tactical Vehicles (2006)
- Reactive Deflector Technology for Vehicle and Crew Protection from Landmines, IEDs (2007)
- Ultra Lightweight Runflat Tire Technology (2011)

■ Key Concerns

- Company founder recruited into several PRC talent programs; started PRC company based on US firm R&D, affiliates with defense research entities:
- Professor at New Energy Vehicles & Applications Innovation and Knowledge Recruitment Base at Beijing Institute of Technology ('7 sons' school - conducts ordnance and classified weapons R&D)
- Chair researcher at Chinese Academy of Sciences Shenzhen Institutes of Advanced Technology
- Also founded Tianqu (Ningbo) Non-Pneumatic Tire Co. Ltd. (2013)
- Commercialized tire technology developed at MKP
- Partners with PRC defense conglomerate NORINCO on wheeled combat vehicles



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AFOSI



THE PROCESS



You receive an inquiry/proposal and have concerns

Reach out to OSI



OSI engages the community



Securing capabilities through informed decision making



The First Command... The Air Force Starts Here!



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HQ AETC A9/CS



Contracting 101 and AETC Immersive Learning Basic Ordering Agreement

**Ms. Haynes, 338 ESS
Lt Col Hale, HQ AETC/A9A**



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Immersive Learning Basic Ordering Agreement (BOA)



- **Immersive Learning is a highly interactive student-centered training employed through an artificial or simulated environment**

- **Aligned with AETC Strategic Action Plan Priorities**
 - **Transform the Way We Learn**
 - **Aggressively & Cost Effectively Modernize our Education & Training**
 - **Advance Force Development**
 - **Refining Systems by creating pathway to immersive learning technology in order to Develop the Airmen We Need**



BOA Categories



- **Live Virtual Constructive** integrates real aircraft, vehicles, weapons (live) with trainee in virtual environment (virtual) and simulations/computer generated (constructive); enables training in complex threat environments
 - Extended Reality (XR), Mixed Reality (MR), Virtual Reality (VR), Augmented Reality (AR)
- **Big Data Analytics** is complex process of uncovering hidden patterns, correlations, trends through the use of **Machine Learning** and/or **Artificial Intelligence**
- **Cloud computing** provides access to an on-demand environment “sandbox” to develop, run, enhance, and maintain software applications



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Immersive Learning BOA



- **Basic Ordering Agreement (BOA) provides Immersive Learning technologies or services to support AETC recruiting, training, and education innovation initiatives**
- **Small Business Set Aside**
- **Pool of technically capable vendors**
- **Commercial Non-Developmental - 3400 funds**
- **Research & Development (R&D) - 3600 funds**
- **Pricing negotiated at the order level**
- **5 year Ordering Period: Jul 2021 - Jul 2026**
- **Centralized Acquisition through 338 ESS**

Bottom Line: Streamline acquisition process for AETC innovation initiatives...on contract in 45 days vs months



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Acquisition Process



- **Begins after CONS receives a clean & complete requirements package**
- **Timeline depends on type of requirement (services vs commodities) and dollar amount**
- **Most requirements (over \$250K) involve internal CONS reviews (e.g. Section/Flight Chiefs, Policy, QAPC, etc), as well as legal and competition advocate**
- **Funded requirements accepted before unfunded**
- **If unsure, contact HQ AETC/A9A Workflow to determine if innovation is aligned with HQ or local support**



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Acquisition Requirements



■ Requirements Package

- Statement of Need or Objective
- Funding – Planning Purchase Request (PR) from local Resource Advisor
- Market Research (minimum of 3 sources)
- Required for Services >\$250K
 - Performance Work Statement (PWS)
 - Requirements Approval Document (RAD)
 - Independent Government Cost Estimate (IGCE)
 - Multifunctional Team (MFT) Letter
 - Quality Assurance Surveillance Plan (QASP)



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Options for Rapid Acquisition



- **3 Ways to Contract**
 - **BOA**
 - Vendors technically capable
 - Ordering procedures established
 - Blanket acquisition documents & templates
 - **Small Business Innovation Research (SBIR) Phase 3**
 - Sole Source
 - Some acquisition documents exempt
 - Any color of money
 - **Task Orders**
 - Vendors technically capable
 - Limited sources
 - Able to negotiate data rights



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HQ AETC iSummit Discussion



AETC's All Partners Access Network (APAN):

<https://community.apan.org/wg/aetc/>

Air Force Ideascale:

<https://usaf.ideascale.gov.com>

HQ AETC Innovation Dashboard:

sites.google.com/view/hqaetcinnovationdashboard/home

A9 Contact:

aetc.A9A.workflow.2@us.af.mil



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iSummit Feedback



Please take a few minutes to use the link below (or in the chat box) to provide us feedback on this iSummit. This will help us make future events even better!

[https://docs.google.com/forms/d/e/1FAIpQLSdfqm54nwkFU5QANd11z4qL-T_oK7y2vCiS_vhqbDAItruz_w/viewform?usp=sf link](https://docs.google.com/forms/d/e/1FAIpQLSdfqm54nwkFU5QANd11z4qL-T_oK7y2vCiS_vhqbDAItruz_w/viewform?usp=sf_link)



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HQ AETC Innovation Summit



Closing Remarks

**HQ AETC/A9
Col Wegner**

**Next iSummit: Tentatively Scheduled for
28 October 21
0900-1030**

Attachment 2

Question and Answer Session Summary

D&I in the Innovation Spectrum:

Question: Col Thomas Wegner – HQ AETC/A9. For AFRS programs recruiting our youth, have you seen any of those students in the recruiting office? Is there excitement leading them into joining the Air Force?

Answer: AFRS is finalizing the third session using this program, so we have not seen a return on investment yet. For the 16-23 year olds AFRS retains their contact info and will keep in contact with them, ensuring they keep interested in aviation career fields.

Question: Mr. Edward Moore – Vance AFB Spark Cell. Can AFRS share the details of the Inspiration Flights to be used at other locations?

Answer: AFRS agreed to supply these.

Question: Mr. Chris Adams – HQ AETC/A9A. How are you measuring outcomes and/or ROI?

Answer: AFRS leadership is discussing how to measure outcomes and ROI. This includes how many students they are engaging with, and how to measure the recruitment of the underprivileged groups, as well as getting them interested in the program.

Question: Mr. Chris Adams – HQ AETC/A9. How does AFRS know where the diverse areas are for their targeted recruiting?

Answer: The AFRS Analysis branch uses a population diversity heat-map that captures historically lower-to-join and more-difficult-to-join locations and focus our efforts on those areas.

Expanding options to build industry relationships and institutionalize innovation:

Question: Lt Col C.J. Hale – HQ AETC/A9A. I'm familiar with the DoD Werx spaces; how did you find out about the Shift program?

Answer: A previous co-worker who found it while surfing Linked-in. SWTW later went into the program and asked a lot of questions to learn a bit more about emerging technologies and talent management.

Question: Mr. Wiley Hill – HQ AETC/A2D. I learned in the corporate world the importance of having that innovation spirit. I think it would be beneficial for all GS-13s and up the work in the corporate world to bring that perspective into the DoD/Military world.

Answer: I agree with you, sir.

Counterintelligence Issues in Innovation

Question: Mr. Wiley Hill – HQ AETC/A2D. OSI has an ever increasing workload when it comes to reviewing innovations. With the increases in OSI workload, will OSI be able to evaluate to all the new innovations coming in?

Answer: Innovation is here for a reason and OSI can't put bureaucratic processes in the way. OSI has been successful at seeing this coming and is establishing detachments at the speed of need. Yet OSI doesn't need to be involved in every innovation; in those areas OSI deems critical OSI will have the resources to combat those.

Contracting 101 and AETC Immersive Learning Basic Order Agreement

Question: Mr. Edward Moore – Vance AFB Spark Tank. What kind of fees are there when using the BOA?

Answer: There are no fees associated with using the BOA. This agreement is available for AETC innovators to have a pathway to partner with industry and supports both commercial procurements using O&M 3400 funds, and Research and Development (R&D) 3600 funds.

Conversely, GSA charges a 3% a percentage to use their contracting vehicles to cover GSA acquisition team costs.

Question: Mr. Chris Adams – HQ AETC/A9A. Is there a limit to how many BOAs you can take on?

Answer: There is no limit, however, our contracting team is comprised of three members. Work load will be prioritized and aligned with AETC strategic priorities.