INTELLECTUAL PROPERTY

(This section must be signed)

Individuals **outside your company**, including the companies listed above and other third parties, potentially including your competitors and others in your industry, may receive and/or review award submissions. All information submitted should address the program's management, leadership, and processes in a manner that you are comfortable sharing with third parties freely and without restriction, and may not include any classified or proprietary information or materials. Do not include any materials marked Confidential or Proprietary or bearing any similar legend. All responses and other submissions, whether in whole or in part ("Submissions"), shall be deemed not to be confidential, proprietary, and/or nonpublic information of any sort for any purpose.

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Thank you for participating,

Gregory Hamilton
President
Aviation Week Network

Acknowledged, agreed, and submitted by

Gregory C Torres

Nominee's Signature — 14 Apr 2023 Date

Nominee's Name (please print): Gregory C Torres

Title (please print): Program Manager

Company (please print): Raytheon Intelligence & Space (RI&S)

NOMINATION FORM

Name of Program: Warner Robins–Air Logistics Complex (WR–ALC) APG-82(V)1 Radar Depot Activation

Name of Program Leader: Gregory C Torres

Phone Number: 478.508.3788

Email: gregory.torres@rtx.com

Postal Address: 1230 Carl Vinson Pkwy, Warner Robins, GA 31093

☒ Customer Approved

- Date: 19 Apr 2023
- Customer Contact (name/title/organization/phone): Russell Combs, Senior Program Manager, WR-ALC, AFLCMC/WAQ, 478-926-9876, DSN 468-9876, Cell 478-747-0012

☐ Supplier Approved (if named in this nomination form)

- Date: _____
- Supplier Contact (name/title/organization/phone): _____

PLEASE REFER TO PROGRAM EXCELLENCE DIRECTIONS AS YOU COMPLETE THIS FORM.

EXECUTIVE SUMMARY: Make the Case for Excellence *(Value: 10 points)*

What is the vision for this program/project? What unique characteristics and properties qualify this program for consideration?

Since the early 1990s, Raytheon Intelligence & Space (RI&S) has provided onsite engineering services to the United States Air Force (USAF) at Warner Robins–Air Logistics Complex (WR–ALC) in support of the legacy APG-63 and APG-70 Radars used on the F-15 Aircraft. As the Original Equipment Manufacturer (OEM) for these Radar systems, RI&S has provided this support to WR-ALC as a true partnership in support of the F-15 warfighter via recurring Reliability & Maintainability (R&M) Engineering Services contract vehicles.

In Jun 2020, USAF awarded RI&S Contract # FA8505-20-C-0001 to stand up a full capability repair depot at WR-ALC to establish it as a source of organic depot repair for the APG-82(V)1 Radar. The APG-82(V)1 Radar is replacing the legacy APG-70 Radar used in the F-15E Aircraft, and is the radar installed in the new F-15EX Aircraft. The Radar provides the F-15 warfighter with the ability to simultaneously detect, identify, and track multiple air and surface targets at longer ranges than the previous system. The APG-82(V)1 provides the USAF with the most advanced 5th Generation Radar system, which increases system reliability as well as aircraft-aircrew effectiveness and survivability.

Through Dec 2022, RI&S is 30 months into a 54-month period of performance on WR-ALC APG-82(V)1 Depot Activation (herein referred to as WR Depot Standup), which consists of a Base Year (Option AA) and two (2) Option Years (Option BB and Option CC); all Options are exercised, and the contract is fully funded. Upon completion of WR Depot Standup, the USAF will possess organic depot repair capability at WR-ALC for the APG-82(V)1 Radar systems' Line Replaceable Units/Modules (LRUs/LRMs) and Radar subassemblies. WR Depot Standup will deliver all associated Special Test Equipment (STE), Fixtures, Tooling, Technical Manuals, and Training to the USAF. Additionally, the contract will deliver Prime Hardware and 2-Year Lay-In Repair Material in support of a future sustainment contract between USAF and RI&S known as a Public Private Partnership (PPP) for recurring repairs of the systems' components that will commence as each phase on WR Depot Standup completes.

This initiative will result in WR-ALC being the first ALC to possess organic Active Electronically Scanned Array (AESA) depot repair capability and provide the US warfighter with unique flexibility in repair that cannot be achieved by contractor support alone. WR Depot Standup will not only empower the USAF to organically execute repair, but it will also substantially increase total AESA repair capacity by replicating the RI&S factory in Forest, MS with modernized STE, Fixtures, and Tooling.

RI&S and USAF have built a relationship on collaboration, trust, and shared vision while continuing to operate as a true partnership to overcome adversity and work through & mitigate several challenges to include, but not limited to, COVID-19, obsolescence, supplier & material lead time including cost increases, and global supply chain issues all while being geographically dispersed across the country.

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U.S. AIR FORCE

DIRECTIONS

- **Do not exceed 10 pages in responding to the following four descriptions**.
  - Allocate these 10 pages as you deem appropriate, but it is important that you respond to all four sections.
- DO NOT REMOVE THE GUIDANCE PROVIDED FOR EACH SECTION.
- Use 12 pt. Times Roman typeface throughout.
- Include graphics and photos if appropriate; do not change margins.

VALUE CREATION

Value: 15 points

➢ **Clearly define the value of this program/project for the corporation; quantify appropriately**

Standing up the depot at WR-ALC for organic depot repair capability of the APG-82(V)1 Radar is a benefit for RI&S because it establishes a direct contractual relationship with the USAF for the initial effort along with a path to a long-term partnership with WR-ALC via the future PPP for recurring repairs. It also enables RI&S to design and deliver modernized versions of the STE used at the RI&S factory in Forest, MS and employs 120 RI&S personnel across multiple sites at its peak. This securely postures RI&S for APG-82(V)1 sustainment business to perform APG-82(V)1 Radar repairs with the USAF for the life of the system.

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WR Depot Standup enables RI&S to resolve obsolescence for existing APG-82(V)1 STE, Fixtures, and Tooling that are currently in use at the RI&S factory in Forest, MS. The new STE designs will minimize Non-Recurring Engineering (NRE) impacts should the RI&S factory implement future replacement or upgrades due to obsolescence or evolving NISPOM compliance requirements.

RI&S has received favorable customer reviews and feedback recognizing RI&S' superb engineering proficiencies and meticulous program management and oversight. These favorable ratings illustrate dependability and accountability to future customers, conclusively demonstrating that RI&S honors its commitments.

Upon completion of WR Depot Standup, RI&S will once again demonstrate its world class engineering and program capabilities through sound execution and by delivering on its commitments to its customers. This will position RI&S for future business to establish depot standups for other efforts and provide additional workloads to its future depot standup customers.

➢ **Clearly define the value of this program/project to your customer**

The USAF is highly motivated for WR-ALC to be the first ALC to possess AESA organic depot repair capability, which will become a reality as completion of each phase transitions to a sustainment contract via future PPP between USAF and RI&S. Moreover, the depot at WR-ALC will have upgraded, modernized STE, Tooling, and Fixtures compatible with the proven RI&S factory in Forest, MS. The organic depot will substantially increase total AESA repair capacity, reduce Turn Around Time (TAT) for repairs, and improve radar readiness.

WR Depot Standup provides the groundwork for an APG-82(V)1 Radar depot PPP that will support the DoD "core" capability decisions under Title 10 U.S.C. 2464 and the integration of private partner sustainment activities through public-private partnering with the WR-ALC depot. Title 10 U.S.C. 2464 is a DoD law that requires that DoD maintain a "core" capability. A public-private partnership is a cooperative arrangement between the USAF and the private sector to achieve the requirements of Title 10 USC 2464 in the most cost-effective manner to the USAF. Congressional Law asserts at least 50% of repairs shall be organic and the balance by the contractor; at least 75% will be organic through the APG-82(V)1 Radar Depot PPP.

RI&S developed the APG-82(V)1 Depot Factory Operational Flight Program (DFO) as part of the WR Depot Standup, which is a special operational flight program to perform internal depot screening at the System level replacing existing labor-intensive manual processes. The DFO was specifically tailored for the needs and considerations of the USAF at WR-ALC.

- **Clearly define the value of this program/project to members of your team; quantify if possible**

Retirements of senior personnel are often a challenge across the aerospace industry that can result in knowledge gaps. WR Depot Standup provides mentoring opportunities for the next generation of RI&S engineers to close gaps, develop internal critical skills, gain experience, and transfer program knowledge from Subject Matter Experts (SMEs). This is especially beneficial for STE development given this scope primarily takes place at RI&S in El Segundo, CA before the STE ships to WR-ALC for Final Acceptance / Sell-off and Training. This will position RI&S for successful depot standups by developing new talent to ensure RI&S meets its commitments to its customers now and well into the future.

Deploying the STE to WR-ALC also provides an opportunity for the RI&S engineering community to develop a direct customer relationship with the USAF including onsite training at the customer's facility. This relationship facilitates direct feedback from the end-users at the depot. Once the STE is deployed at WR-ALC, RI&S will leverage an existing, in-place technical team from personnel on the current R&M contract to transition from APG-70 to APG-82(V)1 via the PPP.

- **Clearly define the contribution of this program/project to the greater good (society, security, etc.)**

Equipping the F-15 warfighter with the most advanced 5th Generation Radar system, the APG-82(V)1, increases aircraft-aircrew effectiveness & survivability and homeland security, and the WR Depot Standup will increase the availability of RI&S' world class radar. Organic depot repair capability at WR-ALC will improve radar availability for the Government and ultimately TAT for repairs and radar readiness. This new, robust and organic repair capability enables depot AESA Transmit/Receive (T/R) module testing which is an extremely high-density circuitry repair. In addition, as the workforce at WR-ALC draws down on legacy APG-63 and APG-70 sustainment and repairs, the APG-82(V)1 workload will maintain a steady-state, healthy base, which positively impacts the economy of Middle Georgia and supporting sites around the nation.

ORGANIZATIONAL BEST PRACTICES AND TEAM LEADERSHIP

Value: 35 points

- ***15 points:*** **Describe the innovative tools and systems used by your team, how they contributed to performance and why**

One of the most effective tools RI&S and USAF implemented is an Action Item (AI) Tracker that captures every action item created on the program via formal and informal reviews/meetings. The AI

Tracker captures date created, scope/description, originator and assignee, due date, and status/resolution through closure. The RI&S Program Manager (PM) manages the AI Tracker and it is updated & distributed to all RI&S and USAF stakeholders on a weekly basis. AIs are closed with joint RI&S and USAF concurrence. This tool has kept RI&S and USAF mutually aligned on all contract requirements, expectations, and accountability for closing AIs in a timely manner to avoid unfavorable performance.

RI&S and USAF also perform collaborative bi-weekly Maintenance Activation Planning Team (MAPT) / Depot Maintenance Activation Plan (DMAP) Integrated Product Team (IPT) meetings, and Quarterly Depot Maintenance Activation Working Group (DMAWG) meetings to communicate status, issues and help needed, and upcoming events. Given the working dynamic of personnel located in all US time zones as well as work-from-home teleconferencing, all internal as well as joint USAF meetings utilize modern teleconference tools such as Microsoft Teams or Zoom to facilitate communication.

Although only six (6) Technical Interchange Meetings (TIMs) are required per the contract Performance-Based Work Statement (PWS), these meetings began early in the program monthly with the USAF to bound requirements definition and design details prior to Preliminary Design Reviews (PDRs) / Critical Design Reviews (CDRs) within each Option. This tempo was created to proactively flush out issues and avoid cost and/or schedule growth. Consistent and open communication has been vital in developing and maintaining a positive-working relationship between RI&S and USAF. Although not required in the contract, RI&S also conducts In-Process Reviews (IPRs) for the Technical Manuals to maximize USAF's satisfaction with the documents and provide USAF with opportunities to submit redlines.

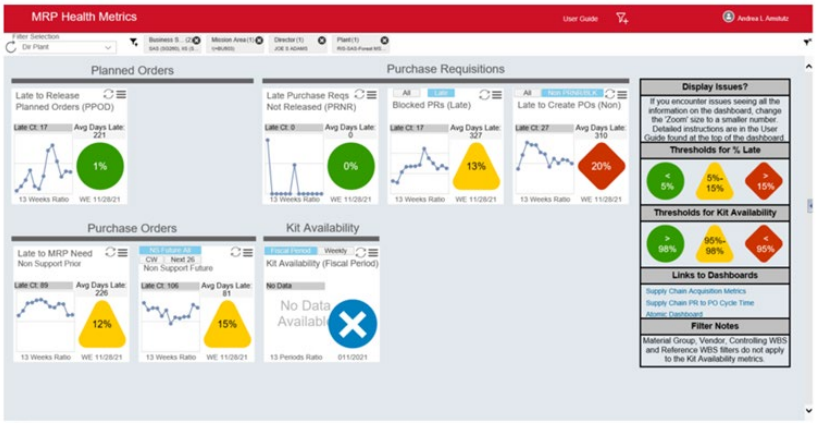
RI&S utilizes internal enterprise tools such as Next Generation Workspace (NGW) and Program Management Excellence (PMX) to track, measure, and manage program execution and proactively mitigate issues. These tools are also used for Earned Value (EV) and to predict future performance. The program documents and distributes lessons learned on a web-based file sharing site called RI&S SharePoint to promote efficiencies. Access to the program's RI&S SharePoint is available to all team members and includes all program artifacts such as contract documents (including CDRLs), AI Tracker, weekly financials, material receipts by Option/CLIN, Baselined Integrated Master Schedule (IMS), EV artifacts, program reviews (internal and external), etc.

RI&S applied core systems engineering practices to decompose requirements in the PWS to processes and assembly instructions on the factory floor. All requirements are loaded into an IBM Dynamic Object Orientated Requirements System (DOORS) database to ensure full traceability between all levels of testing. The Depot Process requirements are verified by Mission Assurance (MA) prior to completion of each phase for WR Depot Standup. In addition, RI&S created Radar software called the DFO that provides a GO/NO GO status to the repair operator to simplify screening incoming field hardware. Several manual loading steps using multiple Graphical User Interfaces (GUIs) were combined into a single System Flash Tool that provides the user download and upload capability to the radar hardware.

- ***10 points:*** **Define the unique practices and process you used to develop, lead and manage people?**

The WR Depot Standup program has a unique combination of depot STE development and Prime Hardware production, and thus required several tools tailored for the program. STE development relied on a robust EV program including bi-weekly updates and reporting using the RI&S PMX Tool Suite. Bi-weekly EV reporting enables the program to identify issues early and implement mitigation and corrective action plans in a timely manner.

The production aspect of the program's Prime Hardware relied on Material Resource Planning (MRP) health metrics for supplier delivers, and Line of Balance (LOB) reports for the manufacturing of the intermediate and end items as noted in the chart below.



Trust
We act with integrity and do the right thing.

Collaboration
We share insights, learn together and perform as a team.

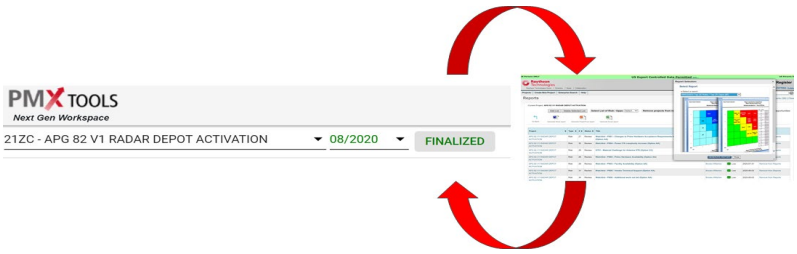
Respect
We embrace diverse perspectives and treat others the way they want to be treated.

Innovation
We experiment, design, build and transform with speed and agility.

Accountability
We honor our commitments, expect excellence and take pride in our work.

Program Performance Reviews (PPRs) are held on a weekly basis for functions and team members to communicate and report status, cost, schedule, upcoming events, issues and help needed with recommended corrective action plans. The program encourages team members to communicate issues early and to live the five (5) pillars of the RI&S values shown at the left with its colleagues and customers. WR Depot Standup has built trust within the USAF community living by these standards, which allows RI&S and USAF to work as a true partnership to resolve issues and drive challenges to closure.

WR Depot Standup utilizes a monthly Risk & Opportunity Review Board (RORB) using a PMX enterprise tool called Risk Register. R&Os are documented with mitigation plans for risks and capture plans for opportunities in support of program execution. R&Os are incorporated into the Quarterly Estimate at Complete (EAC), which the program performs a bottoms-up assessment of financial performance based on execution of the contract.



Bi-weekly MAPT / DMAP IPT meetings were instituted to ensure early and consistent communication with the depot end user community. These meetings have proven to be beneficial to the program in resolving issues early and often.

RI&S also tracks and manages a monthly metric called Release Late to Need Date (RL2ND). This metric identifies drawings that are late to release in RI&S' engineering data repository against the Baselined IMS, which unfavorably impacts RI&S Acquisitions' ability procure manufactured items. WR Depot Standup continues to have on time completion for all engineering drawings due to collaboratively working with the required functions and approvers during Table Top Reviews (TTRs).

- ***10 points:*** **How did you leverage skills and technologies of your suppliers?**

WR Depot Standup has a mixture of Prime Hardware and Test Equipment requirements manufactured by over 300 suppliers spanning 30 states. Although RI&S designs or specifies the STE, the manufacturing is performed by multiple outside suppliers using competitive sourcing strategies. RI&S has developed a Radar depot capability that is equivalent to or better than current RI&S in-house capability, and RI&S Supply Chain Management (SCM) executed extensive upfront proposal work to establish a firm baseline. WR Depot Standup leveraged proven, qualified suppliers to better align different demand streams into a consolidated procurement, and to price out a detailed bill of material to support all STE efforts. The program acquired a detailed understanding and flow-through of customer requirements, sourcing strategy, negotiation strategy, and supplier performance/relationship management. This enhanced the program's supply management capability by increasing internal collaboration across businesses as well as externally with supply base by utilizing the combined resources and expertise of RI&S to achieve cost savings and create efficiencies. WR Depot Standup also down-selected a target list of suppliers for RFQs based on commodity/category strategy and supplier capabilities. Suppliers supplemented their inputs with technical/management volumes to better evaluate proposed solutions along with their business portfolios. RI&S considered existing USAF suppliers given their proven history at WR-ALC of select equipment on other activations.

DEALING WITH PROGRAM COMPLEXITY
(VOLATILITY, UNCERTAINTY, COMPLEXITY, AMBIGUITY, or VUCA)
Value: 25 points

- ***10 points:*** **Describe UNIQUE areas of VUCA faced by your program and why. (Please avoid the issues surrounding Covid-19 pandemic, which was faced by all programs.)**

WR Depot Standup was proposed in Aug 2019, and awarded in Jun 2020. The Base Year (Option AA) started in Jun 2020, Option Year 1 (Option BB) started in Jun 2021, and Option Year Two (Option CC) started in Feb 2022. Because Option CC commenced nearly three (3) years after it was bid, the program faced significant challenges with obsolescence due to the volatility of supply chain and material availability. Option CC contains the delivery of the High Power Near Field (HPNF) Antenna and Low Power (LP) Antenna repair and test capability, which is the most complex program scope. Four (4) major assemblies/panels were identified as obsolete. However, RI&S worked through redesign activities and is coordinating with its suppliers for resolution. The USAF is constructing a new 3-story, 5,000 ft^2 building at WR-ALC to house the HPNF RF anechoic chamber. Due to the size of the HPNF equipment, integration and checkout in El Segundo, CA is not possible and must take place in the new HPNF facility. The USAF award of the building contract to an outside contractor was delayed due to funding constraints. Additionally, due to weather delays impacting construction, RI&S is developing integration workarounds and simulation strategies to mitigate cost and schedule impact.

In addition, the USAF provided Government Furnished Equipment (GFE) late-to-need as well as facilities availability at WR-ALC for the STE and Tooling Equipment for the other Options. As a result, RI&S and USAF have worked collaboratively to avoid unfavorable impacts at the program level. Supplier lead times are getting longer due to material shortages and increasing costs. Suppliers have cited global supply chain issues driven by inflation, rising cost of raw materials and sub-tier supplier increases, transportation costs, etc. Given the contract was bid in 2019 and awarded in 2020, this remains an ongoing challenge the program continues to address. Lastly, internal staffing is a challenge due to key SMEs retiring and/or personnel leaving the company. This remains an ongoing challenge throughout the aerospace industry, including RI&S.*

- ***15 points:*** **Explain how your team responded to these challenges. What changes did you make, what were the results?**

RI&S is proactive in supply chain strategies associated with procuring materials and scheduling resources to meet depot activation timelines. RI&S assisted the USAF in identifying mitigation plans to resolve issues with availability of GFE and identified the most effective and efficient path for procuring the materials necessary to meet contractual timelines. WR Depot Standup collaborated with other Raytheon business units to realign demand to yield Prime Hardware for the STE in Option AA and Option BB and secured Rent Free Non-Interference Use (RFNIU) approvals across several prime contracts covering thousands of line items. Due to unavailable select GFE, RI&S collaborated with the test station supplier in Option AA to identify and implement a workaround calibration solution without imposing cost or schedule growth issues.

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RI&S traveled to supplier sites for checkout of equipment to resolve identified issues with the vendors prior to shipment. This reduced and/or avoided issues during integration and streamlined verification and validation activities. In fact, RI&S allocated engineering resources to be available for overseas travel during the COVID-19 pandemic. RI&S personnel traveled to Ireland in Apr 2021 for four (4) weeks on very short notice to comply with Ireland's Department of Health's evolving restrictions at the time. After completing the mandatory quarantine period in a designated quarantine hotel, RI&S vetted the two (2) Radar Power Supply (RPS) test stations at the supplier's site. RI&S worked closely with the supplier to verify both test stations' functionality and performance were as specified and expected for system integration. RI&S identified issues ranging from specification misalignment to functional nonconformance and worked collaboratively with the supplier to resolve the issues prior to shipment. This test station checkout, with its early detection and resolution of issues, reaped benefits downstream during system integration.

In addition, USAF and RI&S again demonstrated true partnership when the USAF requested expedited approval from Defense Center Security Agency (DCSA) on the Risk Management Framework (RMF) packages for the STE Authority-To-Operate (ATO) in Option AA to preserve depot activation timelines.

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RI&S also leveraged its favorable working relationship with suppliers by requesting ship-in-place options for select equipment at no additional cost to the Government due to unavailable storage facilities at WR-ALC. For other items, USAF was able to secure temporary climate-controlled storage space at WR-ALC when ship-in-place options were not available.

RI&S Acquisitions and SCM implemented Best Value Source Selection (BVSS) for competitive bidding to mitigate increasing supplier costs. This resulted in material savings on select items offsetting material growth on other items. RI&S SCM also required key suppliers to produce detailed plans identifying risks with corrective actions to address issues at progress review meetings. In addition, RI&S and USAF

worked collaboratively to issue contract modifications to realign funding to mitigate unavoidable supplier cost increases and obsolescence issues.

RI&S also performed a capital investment project to upgrade infrastructure in the RI&S labs in El Segundo, CA to enable STE integration at contractor site for checkout prior to delivery to USAF at WR-ALC for Option AA and Option BB. RI&S and USAF visited each other's facilities to understand layout and required facility hookups prior to STE and Tooling equipment being shipped to WR-ALC for integration and sell-off.

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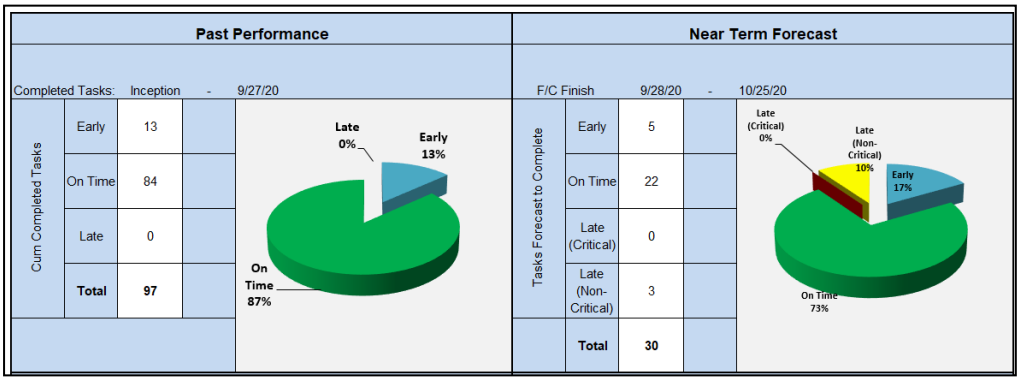
The WR Depot Standup program was proactive in knowledge transfer and mentoring opportunities to minimize knowledge gaps resulting from retirements of SMEs and key personnel. In particular, System Engineers, Engineering Fellows, and Test Equipment SMEs were allocated to the program in critical areas to ensure all internal reviews such as Requirements Architecture, PDRs, CDRs, Test Readiness Reviews (TRRs), Exit Reviews, etc. were conducted in accordance with all PWS requirements and were technically accurate. Several trips were made to the RI&S factory in Forest, MS to analyze and assess the existing APG-82(V)1 Radar STE & Tooling including information and knowledge sharing to ensure the STE delivered to the USAF at WR-ALC meet all functionality and performance requirements.

METRICS (Value: 15 points)

Please respond to the following prompts, where predictive metrics indicate items that provide a view of how yesterday's actions and today's actions will affect the future timeline, cost or other requirement.

Provide charts/graphs that illustrate performance to these metrics:

- **What are your predictive metrics?**



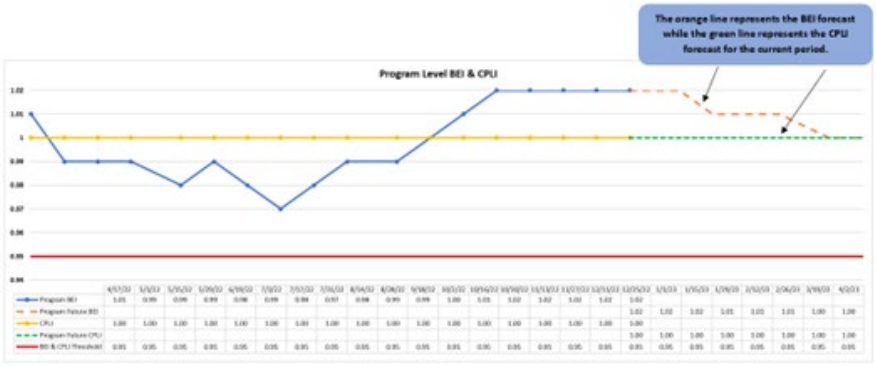
Early in the program, RI&S employed bi-weekly full status EV reporting for increased cost and schedule control to minimize and/or avoid unfavorable performance by the performers' Control Accounts. Bi-weekly EV reporting enables the program to identify issues early and implement mitigation & corrective action plans. The program also instituted bi-weekly Delinquent Starts & Finishes and Lookahead Starts & Finishes to avoid unfavorable performance. Corrective action plans are required for task delinquencies, and review of Lookahead Starts & Finishes are critical for planning purposes to ensure sufficient and critical resources are in place to execute baselined tasks on time & within budget.

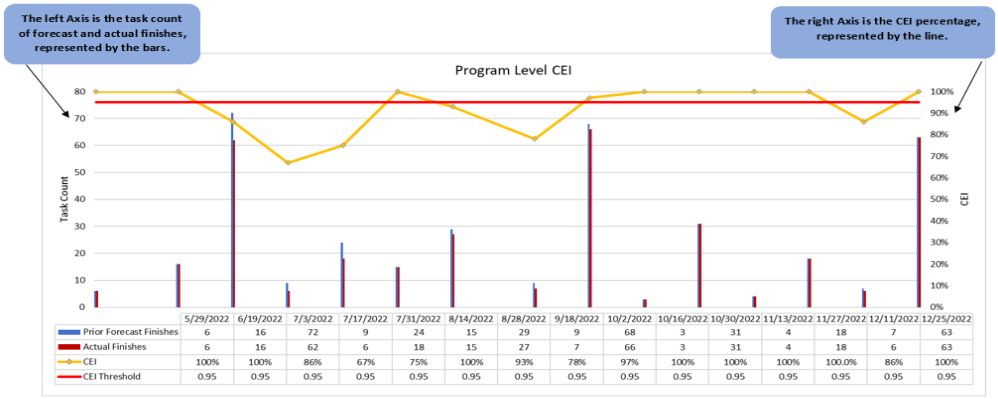
The program also utilizes standard EV metrics such as To Complete Performance Index (TCPI) as a calculated projection of cost performance to realize on the amount of remaining work to achieve

favorable performance at the end of the contract. In addition to reviewing the Inception-To-Date (ITD) Cost Performance Index (CPI) and Schedule Performance Index (SPI) to validate where the program is on cost and schedule, respectively, WR Depot Standup also reviews the 3-Month SPI and CPI for trends to manage all Control Accounts accordingly.

The IMS is also used for managing Critical Path tasks and tracking performance down to individual Work Packages within a Control Account. On a bi-weekly basis, the program schedule is loaded into a RI&S tool called Key Execution Metrics (KEM) that analyzes the data within the IMS. KEM calculates program indicators such as Critical Path Length Index (CPLI), Baseline Execution Index (BEI), and Current Execution Index (CEI).

The CPLI is used to measure the relative efficiency required to complete a milestone on-time, which the trend chart displays results over time. The BEI is used to calculate the program's ratio as of 'time now', of completed tasks to the planned baseline number of completions. The tool displays the BEI calculation over time and includes a future trend based on the schedule forecast dates in a trend chart as well as a CPLI future trend.





CEI is used to measure how well the performers are forecasting completions from one period to the next. CEI is reported as a percentage and is the ratio of number of tasks that finished in the period that were previously forecasted to finish divided by total # of tasks previously forecasted to finish. Unlike BEI, the CEI is not cumulative; rather, it assesses individual tasks rather than total actual vs. baseline completions in aggregate. The bar portion of the chart are the task counts while the line represents the ratio displayed as a percentage.

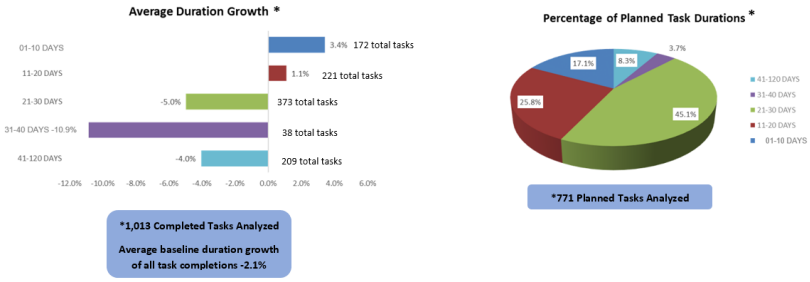
Delinquent Starts and Finishes tables from the KEM tool provides tasks that have baselined dates in the past but have not started or are not yet 100% complete. The program reviews these tasks on a bi-weekly basis to allow the performers to provide drivers of why a given task is late along with recovery plans to include completion date. The export also highlights delinquent tasks with zero slack/float, which

UID	CAM	WBS	Name	B/L Start	Act Start	B/L Fin	Finish	Fin Var	Total Slack	% Comp
1781	Russell	Z7TGAAAQJR	P22T - 6 Scaling: Initial Testing on Target Hardware (Backe	6/16/17	11/22/17	6/16/17	12/7/17	119	0	10%
1412	Russell	Z7TGAAAQJR	P22T - 9 Rotation: Autocal Loop update	6/16/17	NA	7/14/17	12/15/17	107	0	0%
1413	Russell	Z7TGAAAQJR	P22T - 10 Rotation: Augment Back End Processing and Te	6/16/17	NA	7/14/17	12/15/17	107	0	0%
1782	Russell	Z7TGAAAQJR	P22T - 4 MDR Radar Demo	7/10/17	NA	7/12/17	12/11/17	105	0	0%
1420	Russell	Z7TGAAAQJR	P22T - 17 Pulse Comp : Incorporate RP	8/7/17	11/13/17	9/12/17	12/15/17	66	0	35%
1783	Russell	Z7TGAAAQJR	P22T - 18 Radar SW Demo (SDL)	9/13/17	NA	9/19/17	12/14/17	60	0	0%
1464	Russell	Z7TGAAAQJR	P233 - 9 ROA: SWIT Testing	8/7/17	10/6/17	8/31/17	12/15/17	73	0	69%
1465	Russell	Z7TGAAAQJR	P233 - 10 BMC2: SWIT Testing	7/18/17	10/16/17	9/1/17	12/13/17	70	0	68%
1960	Harris	Z7TGAAAQJT	Checkout SDL for SW operations/development	10/19/17	10/3/17	10/26/17	11/29/17	22	0	93%

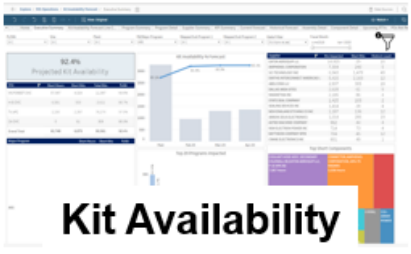
impact the program's Critical Path and is high priority to complete. The tool also exports a Lookahead Starts and Finishes table as well. A tutorial example from the tool is provided above.

On a monthly basis, the program's month-end schedule is analyzed for schedule risk assessment using a RI&S tool, PREDIX, which provides a high-level illustration of IMS performance, predictability, and actionable data. PREDIX helps to forecast and predict future performance by measuring how accurately the program is forecasting and executing to that forecast from one period to the next. It also captures tasks that were the most critical drivers in the simulation. PREDIX enables the program to identify drivers, trends, and impacts to predecessors and successors so the program can implement proactive and/or corrective actions to mitigate unfavorable future performance. Specifically, PREDIX helps analyze performance by:

- Comparing actual duration of a completed task to a task's original planned baseline duration
- Reviewing performance at the program level by task baseline duration groups
- Drilling down to capture in-progress tasks experiencing baseline duration growth



Quarterly EACs are also performed during which the program performs a bottoms-up assessment of all financial performance to capture all ITD costs as well as predicting the final cost at the end of the program. All Control Accounts are reported and thoroughly reviewed to assess performance, proactively mitigate deficits, or realize efficiencies of each performer's scope and execution on the contract including predictive metrics such as Variance at Complete (VAC). Weekly Supply Chain Material Requirements Planning (MRP) Health Metrics are analyzed to provide end-to-end ownership of material availability. This drives resolution and accountability to supplier management and validating Purchase Order (PO) integrity. LOBs are utilized by SCM and Acquisitions to focus on alignment of supplier delivery schedule to promote proactive supplier mitigation and/or recovery for supplier issues to include, but not limited to, drawing changes, Diminishing Manufacturing Sources (DMS), and sub-tier supplier issues.



➢ **How did you perform against these metrics?**

RI&S best practices for program management is to maintain a composite SPI & CPI > 1.0 regarding EV metrics. Through Dec 2022, the program cumulative CPI is 1.17 and cumulative SPI is 1.03 illustrating RI&S' efficiencies of being under on cost and ahead of schedule. In addition, the 3-Month CPI was 1.20

and the 3-Month SPI was 1.31 demonstrating RI&S' performance is trending favorably on both cost and schedule over the prior quarter. Delinquent Starts and Finishes are marginal, and none of the reported tasks are on the Critical Path. Moreover, reported tasks have sufficient schedule slack to avoid impacts to successors at the program level. In fact, the BEI is currently at 1.02 and the CPLI is 1.0 indicating the program is on schedule to complete on time. All EAC and EV metrics are favorable at the program level further illustrating how RI&S and the USAF have collaboratively worked together to mitigate all program issues & challenges that have surfaced since the WR Depot Stand program began.

- **How do your predictive metrics drive action toward program excellence? Please provide examples.**

Predictive metrics employed by the WR Depot Standup program facilitates early warning indicators thereby allowing the program to address issues, identify trends, and ultimately implement corrective action plans with recovery dates. The program and its performers are closely aligned with an established cadence that works well for the team and senior leadership. All requirements and expectations are defined, documented, and well understood by all program functions and performers. Due to the program's predictive metrics, RI&S and USAF have overcome adversity and worked through & mitigated several challenges to include, but not limited to, obsolescence, supplier & material lead time including cost increases, global supply chain issues, and GFE & facilities availability. Despite these challenges, RI&S and USAF are tracking to finish the program within cost and schedule parameters. RI&S is properly staffed with the appropriate skill sets and material availability delivered as needed to the various teams to support all contract requirements.

WR Depot Standup is an exclusively unique and complex program with many intricate moving pieces including a geographically dispersed team. It is uncommon for a program of this magnitude and complexity to execute perfectly to plan by shadowing the baseline. Several issues have surfaced beyond the control of RI&S and USAF. However, both parties, including its suppliers and sub-tier suppliers, have continued to innovatively work together as a true partnership built on open-communication, trust, collaboration, and ultimately a shared vision for standing up the depot at WR-ALC for the USAF to become the first ALC to possess AESA organic depot repair capability for the most advanced 5th Generation Radar system for the F-15 warfighter; the APG-82(V)1 Radar.