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**Grants Management (G5) Modernization**

***Phase III***

**Volume IV, Factor 4: Technical Submission**

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**Submission Date**

September 13, 2021

**DUNS Number**

60-899-9520

**GSA Schedule**

GS-35F-0623N

**Solicitation Number**

91990021Q0031

REI agrees with all terms, conditions, and provisions included in the solicitation and agrees to furnish any or all items upon which prices are offered at the price set opposite each item.

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed — in whole or in part — for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this Offeror as a result of — or in connection with — the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government’s right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in all sheets of this proposal.

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# Cover/Transmittal Letter

September 13, 2021

David Geary

Contracting Officer

Department of Education  
400 Maryland Ave., SW  
Washington, DC 20202

Via: [David.Geary@ed.gov](mailto:David.Geary@ed.gov)

Subject: REI Systems’ Phase III, Volume IV Proposal for Department of Education Grants Management Modernization Request for Quote #91990021Q0031

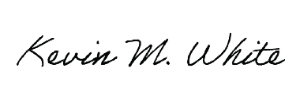
Dear Mr. Geary:

REI Systems is pleased to submit our Phase III, Volume IV: Factor 4 – Technical Submission in response to the Department of Education Grants Management (G5) Modernization Request for Quote (RFQ) issued under RFQ #91990021Q0031. This submission includes our Technical Approach, Performance Work Statement for the Task Order 1, and Agile Development Management Plan (ADMP).

* REI Points of Contact:
* Primary: Kevin White, Senior Director of Contracts
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* Capability Maturity Model Integration (CMMI) Level: CMMI Dev Level 3
* Small Business GSA Multiple Award Schedule: GS-35F-0623N

If you have any questions, please feel free to contact Ms. Wood or me, as noted above.

Sincerely,



Kevin M. White

Senior Director of Contracts

# Technical Approach for the BPA

The Department of Education (ED) aspires to leverage low-code, microservices-based, modular solutions to provide mission-critical, full lifecycle grants management and payment support to its 2,000 staff and over 40,000 grant recipients and service providers. A successful modernization of the current Grants Management (G5) system must maintain mission continuity, inject innovation into operations to increase business value while lowering operating costs, and seamlessly transition to the cloud, with a relentless commitment to quality.

ED’s strategic vision includes creating an Enterprise Grants Platform (EGP), serving as the foundation of the grants data and definitions, technology components, and services off of which the modernized G5 (G5M) and any SaaS grants applications are built. The resulting compositional platform-of-platforms will accelerate future grants module configuration or development, scale for the future, and provide flexibility to modify its components as needed.

Team REI’s comprehensive and innovative technical approach achieves ED’s Blanket Purchase Agreement (BPA) Performance Work Statement (PWS) through:

Why Team REI?

* **Grant**s management systems experience across Federal Agencies at the Department of Health and Human Services (HHS), National Aeronautics and Space Administration (NASA), Department of Homeland Security (DHS), and Department of Defense (DoD).
* Systematic and successful Cloud Modernization at the General Services Administration (GSA), DoD, United States Citizenship and Immigration Services (USCIS), and HHS.
* Innovative solutions for low-code business applications and grants accelerators used at the Health Resources and Services Administration (HRSA), NASA, and United States Agency for International Development (USAID).
* **Grants Expertise:** With over 30 years of grants experience, we have a deep understanding of the complexities of grants management and best practices.
* **Agile Delivery:** As early Agile adopters, our Agile Framework provides an incremental, low-risk delivery approach. We provide cross-functional teams to enable communication and collaboration and a Continuous Integration/Continuous Delivery (CI/CD) pipeline tailored for both custom and low-code solutions.
* **A Tailored Solution:** Our tailored solution includes powerful low-code technologies for rapid implementation and our **Grants Accelerators** that are utilized as initial assets and customized to meet program needs, while avoiding vendor lock-in for specific technologies. Our solution creates a foundation that provides robust capabilities for current needs and can also add on future platforms as they emerge as best-in-class capabilities.
* **Mindful Modernization:** Team REI’s approach goes beyond technology changes to holistically modernize applications by integrating the business, policy, technical, management, and change management expertise necessary to support transformation.

We have carefully assembled the talented Team REI, composed of REI Systems, Business Performance Systems (BPS), ShorePoint, and Macro Solutions consisting of the domain and technology expertise and capabilities, as well as a relentless focus on results to meet ED’s business and mission needs.

## Task 1 – Project Management Services [BPA PWS 5.1]

Team REI uses best practices from the Project Management Institute’s (PMI) Project Management Book of Knowledge (PMBOK) to ensure the alignment of strategic goals with quality delivery and superior stakeholder satisfaction. Our management approach is supported by our focus on quality management, extensive experience with grants systems implementations, and our investment in and adherence to Capability Maturity Model Integration (CMMI) Level 3 and ISO 9001:2015 quality processes.

From project start, we consistently focus on mission outcomes fostered through a common culture of innovation during project execution, thereby driving inputs, outputs, decisions, and milestones – ultimately guiding our activities in each deliverable phase. Our management approach is depicted in **Figure 1**.

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Figure 1: Our Management Approach provides hands-on leadership and responsive collaboration.

Team REI’s BPA Program Manager, Ms. Kimberly Farrell, PMP, serves as the primary point of contact and is accountable for program execution, Task Order (TO) oversight, quality, change management, subcontractor management, and the overall success of the program. Our managers and leads have technical backgrounds and hands-on experience delivering large Development, Modernization, and Enhancement (DME) projects. This enables them to understand and mitigate the execution risks on DME projects and hold Development Teams accountable for implementing creative technical solutions. We apply Agile practices through early and continuous delivery of value by pushing decision-making down to where it is most effective, establishing effective feedback mechanisms with empowered Agile teams, and ensuring collaborative Delivery Teams are focused on continuous improvement and measurable outcomes. Through our high engagement and responsiveness at all levels, we respond with adequate measures to any incidents, threats, and urgent asks.

Team REI practices transparency in every facet of work, ensuring that all development, user stories, sprints, and metrics are available and accessible to all project stakeholders in Jira, our Agile Lifecycle Management (ALM) tool. We create a Program Dashboard in Jira that provides performance metrics for easy access to ED stakeholders. We employ techniques for both assembling development-ready teams on-demand and for maintaining strong, high-performing teams for continuity of delivery. We use an Agile resource pool of skilled individuals that are fully capable and ready to join new or existing teams with minimal onboarding. Our management approach explicitly cultivates innovation and improvement, specifically by championing behavior that seeks better, faster, and more effective results. Whether applying automation, implementing Artificial Intelligence to improve productivity, or introducing engaging ways to increase adoption through multi-media tools, each Agile team continuously identifies process and technology improvements to add value.

### Program Management [BPA PWS 5.1.1]

Team REI’s four-phased management approach (Plan, Execute, Monitor/Report, and Closeout) is aligned with ED’s Enterprise Program Management Framework (EPMR), shown in **Figure 2** on the following page.

**Plan.** Upon award of a new TO, we develop a staffing plan, first looking at current program resources and leveraging our resource pool to identify personnel with the right skill mix for the work. The Program Manager develops the Task Order Management Plan (TOMP) for each TO that defines the scope, schedule, activities, personnel, stakeholders, risks, deliverables, and expected quality and service levels. We develop an Agile project schedule identifying all milestones, deliverables, stage gates, and critical path dependencies in line with EPMR policies.

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Figure 2: Our Program Management Approach ensures effective planning, execution, and control.

**Execute.** Once planning is completed and approved, we execute the TOMP. Risks are proactively identified, monitored, and mitigated in accordance with our Risk Management Approach. For any issues that arise, we manage them to resolution with clear paths for escalation and communication to ED. We use ED-approved tools to track risks, action items, and project issues to closure. As work is completed, products and services are delivered to the Contracting Officer Representative (COR) for review and acceptance.

**Monitor and Report.** We measure and report on project progress, performance, risk, status, and quality throughout the delivery lifecycle in accordance with contract and TO requirements. We monitor project performance on a weekly basis for variances against planned scope, budget, and schedule. We manage corrective actions to closure when a task’s performance deviates from expectations and may impact budget, schedule, quality, or client satisfaction.

REI’s Performance Sets a High Bar

***“****REI Systems certainly established for me the standard by which contractors should be measured. REI should offer classes to other contractors and the subject could be ‘How to achieve raving reviews.****’”***

**Libby Hartnett**

**Office of Information Technology, HRSA**

**Closeout.** Following completion of all project scope, we conduct a closeout meeting with relevant project stakeholders and the COR. We document lessons learned and improvement opportunities for review with the stakeholders for possible incorporation in future procedures.

#### Project Management Plan

Our experienced team provides project management best practices to improve business performance. We leverage our Process Asset Library (PAL) as a starting point for Project Management Plan (PMP) templates, which the Program Manager tailors for the G5M TOs. We create a Draft PMP that includes Project Management, Acceptance Management, Communications Management, Change Management, Security Management, Staffing Management, Configuration Management, and Risk and Issue Management. We submit the initial draft to the G5M Program Manager within three weeks of TO award. We finalize the PMP within one week of receiving feedback from the ED.

#### Contract Kick-off Meeting

Once a TO is awarded, our Program Manager and Governance Team meets with the COR and ED representatives within ten days of the TO start date. Leveraging our kickoff presentation templates from our PAL, we ensure we are fully prepared to efficiently conduct these kickoff meetings. To set expectations upfront for all stakeholders, we send an agenda in advance, outlining discussion points, such as scope, Work Breakdown Structure (WBS), schedule, resources, implementation approach, next steps, and vendor dependencies. To further aid in collaboration between stakeholders, we invite the appropriate ED representatives and vendors to the kickoff meeting per COR guidance. A successful kickoff meeting creates a common understanding of the TO vision, roles, and responsibilities and sets the tone for project success.

### Project Resource Management [BPA PWS 5.1.2]

Team REI provides the following support.

REI’s Exceptional Delivery of Results

***“****Getting Performance.gov out is a HUGE accomplishment for OMB and the Federal Government – and we really owe it to REI Systems for making it happen.****’”***

**Mark Bussow**

**Office of Management and Budget**

* **Timeline and Schedule:** We leverage an enterprise project management tool, Microsoft Project Server, to aggregate individual project plans and milestones and create an Integrated Schedule across TOs. Our progress reporting includes all active projects detailed by TO.
* **Issues and Action Items:**  We track issues and action items in an issues and action item log on a weekly basis and resolve to closure. We report on these in the weekly Status Report.
* **Standard Operating Procedures (SOP):**  We identify and document SOPs for project management and ensure compliance. We document Agile delivery SOPs and ensure compliance through the Agile Development Management Plan (ADMP).
* **Deliverables:** We emphasize template use from organizational process assets, content tailored for the intended audience, readability and presentation, and delivery readiness. All deliverables from the TO are numbered and tracked in our Program Portal, created in Sharepoint, with due dates and linked to the corresponding WBS.
* **Administrative:** Our Program Manager and Project Management Office (PMO) Analyst ensure invoices, reports, and deliverables are submitted on schedule.
* **Performance Work Statement:** We create a PWS for each TO and define performance work statements with outcomes stated in outcomes or results.
* **Improvement or Enhancement:** Our Governance Team, as well as our no-cost Advisory Board, consisting of REI’s Chief Technology Officer (Andrew Zeswitz), Director of Grants Systems (Rujuta Waknis), and BPS Chief System Architect (David Isaac), conduct a quarterly internal review and recommend improvements, provide insight into new grants legislation, and keep the team aware of events in the federal grants community.

### Performance and Quality Management [BPA PWS 5.1.3]

Team REI’s combined 70+ years of experience in developing, modernizing, and enhancing future-proof grants management systems, along with hands-on leadership and robust Agile delivery, form the foundation of our performance and quality management approach. To monitor contract performance, we employ a Quality Control Plan (QCP), depicted in **Figure 3** on the following page**,** that identifies and mitigates quality defects throughout the project lifecycle.

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Figure 3: Team REI's Quality Control Process reduces risks and ensures quality.

#### Risk Management

We apply our Risk Management Approach, described in **Section A.1.6**, to identify, track, mitigate, monitor, and closeout risks. We identify risks on a continuous basis and review them during daily scrums and at the weekly program-level Scrum-of-Scrums Meeting. We assess risks to determine probability and impact, severity, and appropriate team responses. We track risks using a Risk Register and the Agile teams manage them to closure. The Program Manager, Lead Architect, Development Lead, and Lead Business Analyst communicate management, technical and functional risks to ED in the Weekly Status Report.

#### Reporting

We leverage our Program Dashboard and automated reporting to generate program management reports for routine and ad-hoc reports. This dashboard and access for authorized ED users always provide ED full transparency and visibility for performance objectives and other relevant information.

#### Notification

Our Program Manager, Ms. Farrell, has clear lines of communication with ED stakeholders, serves as an escalation path for any concerns, and has direct reach-back to REI’s executive leadership. Along with our Development Lead, Mr. Askey, they keep ED leadership informed regarding progress, governance, user engagement, security, financial reporting, risks, and issues.

#### Service Level Agreements (SLA)

REI’s On-Schedule Delivery

*“REI Systems consistently delivered the planned products in every release and performance metrics indicated that the development velocity was consistently close to planned velocity”*

***GSA IAE CFDA and WDOL Modernization* CPARs**

Team REI identifies Service Level Agreements (SLAs) and establishes metrics for data-driven reporting. This provides transparency and easily consumable metrics for all SLAs. Team REI understands that meeting the SLAs are also dependent on our technology vendors, Appian, Salesforce, and Amazon Web Services (AWS), to maintain their SLAs. Following the acceptance of our Quality Plan, we employ a variety of Acceptable Quality Levels (AQL) to delineate roles and responsibilities for executing processes in accordance with the deliverables.

### Staff Management [BPA PWS 5.1.4]

We operate in a truly Agile manner using Agile scrum, with cross-functional teams including low-code implementation experts, ensuring rapid development to meet execution objectives. In the Plan step, our hands-on leadership proactively identifies the qualified resources for the TO; develops them through onboarding, training, and mentorship; and promotes a culture of technical excellence in the team. We train new resources through a structured onboarding program for business domain, technology, and tools leveraged on the projects. Our PMO Analyst tracks compliance with all ED-required security clearances, security training, and other security requirements of onboarded and existing staff. Our Program Manager assigns key personnel to the BPA and ensures they are available from day one. We report any replacements to the COR 30 days in advance and seek approval prior to making changes.

### Communication Management [BPA PWS 5.1.5]

Team REI creates and maintains clear paths for collaboration and communication between stakeholders, other ED vendors, and Team REI resources to ensure coordination, decision-making, knowledge sharing, problem escalation, issue resolution, and teamwork.

Within five weeks of award, our Program Manager and Change Management Analyst create a draft Communication Plan that details the approach and methods of communication. The plan identifies the training and adoption mediums, release communications, and target audience for each type of communication. After review by the G5M Program Manager, we address feedback and submit a final version within one week.

#### Weekly Status Reports

Team REI reports weekly to the COR, G5M Program Manager, and other stakeholders with project updates and any critical issues which need to be resolved. We report the status of open project items, including risks, issues, and action items. Our Program Dashboard provides constant access to project health, enabling the COR to identify activities that need additional attention. If project issues do arise, we perform an analysis, identify resolutions, and document and send relevant information to the COR and G5M stakeholders. We store these weekly reports in our Program Portal so that stakeholders always have access to the list of reports.

#### Monthly Progress Briefings

Utilizing an ED-approved template, we aggregate weekly status reports to create Monthly Progress Briefings. We detail completed project items, milestones, and deliverables, financial metrics, upcoming activities and tasks, risks, issues, and mitigation strategies. Our Program Manager and Development Lead provide this briefing to G5M stakeholders.

### Risk Management [BPA PWS 5.1.6]

Team REI employs a continuous Risk Management Approach that we execute throughout the program lifecycle, engaging program stakeholders to perform early identification and analysis of risks. We address these and other emerging risks on a continuous basis with an effective Risk Management Plan, ensuring collaborative stakeholder engagement, holding frequent adaptive planning exercises, encouraging transparency, conducting frequent technical peer reviews, and establishing SLAs. Our Risk Management Approach is depicted in **Figure 4**.



Figure 4: Our Risk Management Approach proactively manages risk.

Throughout execution, our team includes input from ED participants and other stakeholders as deemed appropriate by ED project leadership. We actively and aggressively manage risk, documented in a risk register and available on the Program Portal, to provide delivery of quality work products on-time and within budget. This helps shape our PMP and identifies any risks and mitigation activities.

### Knowledge Management of Contract Deliverables [BPA PWS 5.1.7]

Team REI begins by storing deliverables for each TO in the Program Portal repository. We leverage record-keeping systems, such as Microsoft Project and JIRA, to manage project schedules and documents. Team REI follows the guidelines set forth by ED records policy to manage the access control, retention, disposal, and deletion of any project records. This process includes clear audit trails of all transactions associated with record capture, disposition management version control, and origin and author of the documents, as appropriate. We add additional access privileges for security-related documentation. We use system controls to ensure the integrity of the record information and to avoid duplication of records.

### Compliance Management [BPA PWS 5.1.8]

Team REI will comply with all requirements regarding BPA PWS Appendices A through E.

* **Office of Chief Information Office** **Technical Requirements** **–** We comply with ED’s technical requirements by verifying alignment during the Design Review Process.
* **IT Accessibility Requirements (Section 508) –** Our Section 508 approach requires all deliverables go through reviews using checklists by 508 Subject Matter Experts (SME) to ensure compliance.
* **Managing Records and Controlled Unclassified Information (CUI) Requirements** **–** As an ISO/IEC 27001:2013 certified organization, REI is experienced in implementing solutions that comply with FISMA, the Computer Security Act of 1987, OMB Circular A-130, and NIST Special Publications standards, policies, and guidelines.
* **Preparing for and Responding to a Breach of Personally Identifiable Information (PII) –** Team REI ensures that appropriate strategies and procedures are in place to secure sensitive information, including PII and information assets. We follow NIST SP 800-52, OMB-M-17-12, and ED guidelines for PII protection.
* **US Department of Education Acronyms** – We follow ED’s nomenclature guidelines.

### Agile Lifecycle Management [BPA PWS 5.1.9]

**Section C. Agile Development Management Plan (ADMP)** describes our approach to manage EGP and G5M Agile development and perform Agile project and program management. We leverage our experience managing programs of similar size, scope, and complexity at numerous federal agencies, including HRSA, NASA, and GSA, to effectively plan, execute, monitor, and control the programs. Our Program Manager ensures that we consistently and comprehensively implement the management plan throughout the program, delivering clear communication to execute the work while proactively monitoring risk with complete transparency and driven by the G5M program objectives.

REI’s Rapid Response

REI’s Grant Management SME’s enabled HRSA to reduce the Funding Memo Process from 400 hours per opportunity to eight hours, enabling HRSA to get needed funding to medical professionals responding to the COVID-19 pandemic.

## Task 2 – License Management [BPA PWS 5.2]

We manage the license lifecycle through our inventory management tool to track expirations and required upgrades. We identify improvements in lifecycle costs of ownership and identify unused, revoked, or repurposed licenses to reduce future licensing fees.

## Task 3 – Implementation of Education Grants Platform (EGP) [BPA PWS 5.3]

Team REI brings over 10 years of experience building Salesforce-based grants solutions and Appian-based enterprise systems. A low-code Commercial-Off-The-Shelf (COTS) platform, such as Appian or Salesforce, can satisfy many of the EGP requirements. We propose one of these platforms, or both combined, based on ED’s needs and to meet EGP requirements. Additionally, Team REI offers:

* Numerous no-cost Grants Accelerators for rapid implementation in the EGP,
* A robust Application Programming Interface (API) hub for integration abstraction, and
* A Common Data Repository for centralized grants data.

This combined platform-of-platforms prevents vendor lock-in and provides ED with the most control possible. Our approach provides flexibility to add additional components, even other COTS platforms in the future, to address specific requirements. This plug-and-play approach also accommodates technology and product evolution in the future.

### Technical Architecture

Team REI’s proposed EGP provides proven technologies assembled to create a robust foundation for modular business capabilities. **Figure 5** describes the architecture of our solution.

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Figure 5: Team REI’s Technical Architecture for EGP provides a   
modular, secure, and resilient foundation for grants.

**Platform-of-Platforms:** In the center of the diagram, the EGP contains foundational components leveraging the power of low-code platforms, Appian and/or Salesforce, for rapid development. Additionally, we provide Grants Accelerators and the ability to add custom solutions on AWS, both of which do not require licenses when additional tailoring or customization is necessary and feasible. **Our approach offers a robust set of services, which can be utilized as building blocks, integrated via MuleSoft to create impactful business applications.** Our microservices and configurations-based approach allows for modules to be turned off or on for specific programs without disruption to business users. We use COTS technologies, such as Splunk and Okta, to provide authentication, monitoring, and system performance management. With an advanced security mindset, we build the solution in alignment with the required FedRAMP and ED security guidelines and standards. To minimize potentially costly downtime and improve system resiliency, we establish disaster recovery at all critical areas of the platform through multi-site and redundant capabilities for networks, services, data, and storage.

**Services:** The platform’s business and data platform services will be built on top of the combined AWS, Appian, Salesforce foundation. We maintain structured grants data in a custom database, hosted in AWS Relational Database Service (RDS) that both low-code and custom components can use, providing the flexibility for Data and Business Services to serve data to any G5M application or any legacy system that will be ported to the EGP in the future or external ED system that needs grants data.

**Grants Database:** AWS RDS provides a transparent, FedRAMP cloud-managed database architecture with a scalable, durable, and performant engine for increased application usage. AWS RDS supplies an automated database solution that ensures confidentiality, integrity, and availability of data. To enable modern business intelligence, the architecture utilizes AWS Redshift as a data warehouse solution. It provides real-time insight and connectivity to grants transactional databases, establishing a common data platform for integrations, Artificial Intelligence (AI)/Machine Learning (ML), and analytics.

Our multi-technology approach creates a menu of standardized components available for G5M or future application use, ensures continuous evolution through inherent platform roadmaps, and avoids vendor lock-in by offering choices for building components and separating ED’s critical grants data from the technology platforms.

REI’s Grants Accelerators

REI’s accelerators for rapid implementation include two-factor authentication and authorization, portal services, application and reporting forms/validations, tasks/assignments, documents, electronic folders, search, notifications, collaboration, and digital signing.

### EGP Components

We utilize a best-athlete approach to develop the components. For example, **we leverage our no-cost, no-license Grantee Portal Accelerator for 40,000+ applications and recipients to engage with ED and their grant awards. Table 1** describes the proposed approach for each EGP component.

Table 1: Our three-pronged approach to assembling EGP components provides flexibility with speed.

|  |  |  |
| --- | --- | --- |
| **Low/No Code (Salesforce / Appian)** | **Custom Services with  Team REI Grants Accelerators** | **COTS and Open Source** |
| * Forms management (low and medium complexity) * Workflow management * Alerts and notifications * Robotic Process Automation (RPA) * Official grant record * Customer feedback management * Reports and dashboards | * Grantee portal * Forms management (high complexity) * External identity and access management (Two-factor LDAP, role-based, delegation-based) * Business process accelerators for SF424 applications, awards, financial and performance reports * Grants data mart * Grants.gov and SAM.gov services | * Okta: Internal identity and access management * Splunk: System performance management and event log monitoring * AWS: Document management, database services, record management * Databricks: AI/ML |

We will initially continue to use the legacy G5M application (G5L) sub ledger, converting it to a service to minimize release implementation risks and modernize gradually over time.

### API Hub

As we move from a monolith to modular architecture, a robust API Hub is a critical component to manage integrations with external agencies, internal ED applications, external authentication, and authorization providers. We recommend the low-code tool, MuleSoft, for the API Hub. This tool provides an out-of-the-box, versatile, single source of capability that manages every communication that flows in or out of the platform. It is the integration layer of the platform for all ED applications and services to communicate with each other. **Figure 6** describes the capabilities of the API Hub.

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Figure 6: Team REI's Powerful API Hub provides   
robust, secure, and versatile integration during transition and beyond.

The API Hub is deployed as a cloud-based connector to internal applications such as G5L and Federal Student Aid (FSA) Financials. It provides comprehensive API lifecycle management, through API Gateway management, access controls, API workflow, automation, and gate controls. System administrators can conduct service publishing and discovery through a graphical interface to reduce dependency on siloed experts in future-proof OpenAPI standards. MuleSoft provides the largest and industry-best out-of-box data connector ecosystem for legacy, Appian, Salesforce, or any other third-party API using secure and standard governance practices, **allowing rapid implementation, and avoiding vendor lock-in for integration and data standards.** It provides comprehensive logging and observability capabilities on all communications. Additionally, it offers multiple options for data exchange, including asynchronous event handling, event streaming, and batch processing.

**Data Synchronization with Legacy G5:** We leverage the API hub for data synchronization during parallel implementation with legacy G5. Initially, we perform a one-time data migration of existing data and transactions into the new Grants Database. This one-time data migration provides a baseline for legacy and modern application for all future data transactions and creates a common data model. Once the migration is complete, we start to reroute legacy application service and data transactions to the API hub. This non-intrusive reroute moves legacy application connectivity to the integration layer to retrieve/update legacy data, but also transparently receive data from G5M using Event Queues and data transformation/retrieval techniques. Finally, we link the new G5M to the same integration layer to retrieve legacy or modern data elements along with publishing their own data into the integration layer and common data model.

### Task Order 1 Objectives

Team REI addresses TO 1 objectives with the following approach.

**Viability Phase:** Team REI’s unique combination of grants accelerators, modernization, and Agile expertise acts as a catalyst for successful planning and feasibility evaluation of the EGP within the first 90 days. We begin immediately with proposed architecture and EGP components and create a comprehensive blueprint that prepares for the implementation phase. Our key personnel start on Day One, while we staff the necessary EGP Agile teams in the first 30 days.

**Implementation Phase:** In the next nine months, after ED approval of the blueprint, Team REI’s Agile EGP teams implement the platform in an iterative manner, with DevSecOps processes, continuous improvement, and high-quality, rapid delivery of a powerful foundation for G5M and other ED grants applications in the future.

## Task 4 – Implementation of the Modernized G5 [BPA PWS 5.4]

The modernized G5 Application is built using the EGP components, with integration through the API hub for inter-platform communications. We use Domain-Driven Design (DDD) to identify the application boundaries of the required business capabilities and decompose the components needed of the future system into microservices. The services are independent, self-contained, independently deployable, and scalable. They are highly decoupled and focus on a phase or set of tasks in the grants lifecycle. This development pattern sets the stage for ongoing business-driven evolution of the system.

REI in the Grants Community

We partnered with the National Grants Management Association (NGMA) and GWU to produce a unique annual grants management survey. Our survey results have influenced grants policy, including the Results Oriented Grants Management cross-agency priority goal in the 2018 President’s Management Agenda.

We ensure that business processes are compliant and up to date with the Federal Integrated Business Framework (FIBF) for grants, and with the latest regulations, including the 2014 Data Act and the 2020 GREAT Act. Additionally, our data models adhere to the Common Data Element Repository, or CDER schema, defined by the DATA Act. On the following page, **Figure 7** shows the business modules built using the shared components of the EGP.

A robust grants system also needs additional capabilities, such as collaboration between Program Office staff when reviewing and monitoring grants and audit resolution, requiring program staff to track and ensure grant recipients resolve findings identified in the annual single audit process. The official Grant Record, one of the most important elements in the grants system, must house all information related to the grant, starting from the application that was approved for the grant, all notices of award associated with that grant, payment history, post-award reports submitted, and closeout documents.

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Figure 7: G5M core grants capabilities provide mission-critical support to grants and program staff.

We bring a User-Centered Design (UCD) approach to modernization. We engage stakeholders with Agile, iterative interface design processes to ensure the application meets expectations in every way, including usability, functionality, and design. Team REI’s grants SMEs ensure that the EGP components and microservices work together to provide end-to-end grants management capabilities.

## Task 5 – Operations & Maintenance (O&M) of EGP [BPA PWS 5.5]

Team REI augments EGP capabilities through continuous improvement and innovations that improve the platform’s efficiency, lower operational costs, and increase the capabilities available to the applications, as depicted in **Figure 8**. We emphasize Innovation-as-a-Habit, where we perform continuous experimentation and improvement.

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Figure 8: Our EGP O&M Approach ensures predictable maintenance and effective tracking of SLAs.

**Proactive Product Backlog:** Tickets submitted by G5M, or other application users that require EGP updates, are added to the EGP backlog. In addition, Team REI challenges our staff to identify improvements and provides the corporate support needed to experiment, validate, and industrialize innovations. Recent examples include using Natural Language Processing (NLP) to offer AI-based chatbots for NASA and using RPA at GSA to migrate thousands of reports, saving hundreds of hours. Additionally, REI’s corporate Grants Offering stays abreast of events in the grants community, such as guidance published by Grants Quality Service Management Office (QSMO) at HHS or new regulations, such as the GREAT Act. We present improvements to ED for feedback quarterly, then adjust and experiment based on the response and offer suggestions for inclusion in the EGP. We leverage a fixed cadence Agile Release Train (ART) to provide predictable maintenance and updates.

|  |
| --- |
| A screenshot of a cell phone  Description automatically generated  Figure 9: Sample Technology Radar |

**Technology Roadmap:** Technology Radar (Sample **Figure 9**) is a framework developed by ThoughtWorks that REI leverages for agencies such as HHS/HRSA, NASA, and GSA on Data.gov. In four major technology categories (Tools, Techniques, Capabilities, and Infrastructure), the Technology Radar provides the framework for identifying the adoption readiness status (Monitor, Assess, Trial, or Adopt) of candidate technologies in support of the EGP mission. The tool helps proactively monitor the ever-changing technology landscape and makes timely recommendations to bring application technology into the EGP.

**Low-Code Upgrade Releases:** Team REI provides ED advance notice of any upcoming low-code platform releases that can impact the EGP through the dedicated Appian and Salesforce account managers assigned to the EGP Team. Changes from the release are applied to the dedicated EGP development, testing, and production environments, using our comprehensive CI/CD pipeline for validating no impacts to existing functionality.

We also create a Program Integration Team to onboard legacy or new program systems to the EGP. This includes extensive documentation and SOPs for the components, how-to guides, and training guides for Program vendors.

## Task 6 – Operations & Maintenance (O&M) of the Modernized G5 (G5M) [BPA PWS 5.6]

Our customer-centric and end-user-focused O&M approach provides responsive support to users, working collaboratively with ED staff, and program offices to provide exceptional assistance. **Figure 10** describes our application support.

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Figure 10: Team REI's O&M approach includes responsive user support for G5M’s business users.

When the EDCAPS Help Desk Center logs a G5M ticket in Remedyforce, the ticket routes to the G5M User Support Team. We set up a team contact list for the User Support Team that monitors the tickets. Team REI’s User Support Team provides an immediate response to users by acknowledging the ticket, providing a reference identifier, and estimating a resolution time, if available. The team evaluates the severity of the issue and determines if they can resolve it. Resolutions include the creation of workarounds for application interactions, instructions to users, data corrections, or managing user permissions. We create Jira tickets in the product backlog for the G5M Application Team for tickets identified as enhancements or code-based bug fixes. When the issue relates to an underlying EGP component, the team creates a ticket for the EGP Maintenance Team. The User Support Team checks the status of the issue, updates the Remedyforce ticket, and provides regular updates to the users until the ticket is closed. The User Support Team works closely with the Application Team to resolve all incidents and problems within SLA guidelines and provide empathetic support to end-users to quickly resolve issues.

Increasing Availability

At HRSA, REI’s maintenance teams used automated application log monitoring resulting in a system availability increase from 95% to 99.9% and a 12% reduction in operational costs.

Our staff creates a Knowledge Portal that has procedures to resolve most issues. We support users through standardized processes, procedures, FAQs, and work packages. Empowering users through self-service workflows and sharing business process information on the Knowledge Portal reduces the number of calls for business service support and allows helpdesk personnel to quickly address and resolve complex user issues. Help Desk success requires that our User Support Team analyze existing tickets, prioritize the most time-consuming and frequent ones, and apply long-term resolutions.

## Task 7 – Training [BPA PWS 5.7]

Team REI’s training methodology is based on the Organizational Training (OT) process area from the CMMI L3-DEV model and industry-standard Analysis, Design, Development, Implementation, and Evaluation (ADDIE) instructional design model. Team REI validates which users are impacted and the best-fit training needs for each onboarded program. We develop our training content as embedded team members within the Agile teams, building first-hand knowledge of the functionality and user needs through participation in Product Teams. In addition to curriculum and learning content development expertise, we use a multi-modal and blended training delivery approach to meet target user needs.

|  |
| --- |
| Graphical user interface, application  Description automatically generated  Figure 11: Our Training Approach provides multi-modal support. |

As depicted in **Figure 11**, our multi-faceted mediums, targeted by user type, ensure the right training and outreach are provided to the right user at the right time. We determine which training mediums are most appropriate based on user journeys and applicable solution functionality. We create help content with step-by-step instructions documented on the Knowledge Portal and 508-compliant help videos using GoAnimate, which are available for frequently used features. Internal users, such as Program Officers and customer support staff, have the same resources available to them. We provide in-person and web-based training to ensure familiarity with new features.

## Task 8 – Help Desk [BPA PWS 5.8]

NASA Hypercare

Every year since 2018, REI increases Help Desk hours for NASA SBIR solicitations to cover the continental U.S. for longer business hours 9:00 AM to 9:00 PM Eastern Time, with an 25% increase in Help Desk staffing.

Acknowledging that the period immediately after a new release is crucial, we employ a hypercare approach to provide an elevated level of responsive support for any high-volume escalations. Through major new releases, we provide additional support to end-users via extended Help Desk support hours, additional Help Desk staff for the Help Desk center to support call volume surges and onsite support to ease users into the new system and the re-engineered business processes.

## BPA Deliverables [BPA PWS 5.8]

We follow the process shown in **Figure 12** to ensure that document-based deliverables such as contract kick-off meeting presentations, weekly status reports, user guides, and improvement recommendations meet timeliness and quality standards. We emphasize the following four factors: 1) organization and template use from organizational process assets, 2) content tailored for the intended audience, 3) readability and presentation, and 4) delivery readiness.

Diagram

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Figure 12: Team REI’s Deliverable Quality Assurance ensures quality is established from the start.

All deliverables are numbered and tracked in our Program Portal with due dates and linked to the corresponding WBS. Team members are provided a plain language checklist to guide their writing. We use peer reviews to ensure the completeness and accuracy of deliverables. **Table 2** below lists the deliverables we create for the BPA.

Table 2: BPA Deliverables

| Deliverables | Due Date/Frequency | Team REI Responsible | Deliver To |
| --- | --- | --- | --- |
| **Contract Kick-Off presentation** | * Ten days after award. * Once after award. | Program Manager, Development Lead | COR |
| **Kick-off meeting notes/meeting minutes** | * Three business days after kick-off meeting. * Once after kick-off meeting. | PMO Analyst | COR |
| **Project Management Plan** | * Three weeks after award. * Annually. | Program Manager | COR |
| **Communication Management Plan** | * Five weeks after award. * Annually. | Program Manager, Change Management Analyst | COR |
| **Risk Management Plan** | * Five weeks after award. * Annually. | Program Manager | COR |
| **Governance Plan** | * Eight weeks after award. * Annually. | Development Lead | COR |
| **Organizational Change Management Plan** | * Eight weeks after award. * Annually. | Program Manager, Change Management Analyst | COR |
| **Weekly Status Report** | * Every Friday. * Weekly. | Program Manager, PMO Analyst | COR |
| **Monthly Progress Briefings** | * First working Monday of the month. * Monthly | Program Manager, Development Lead | COR |

# Performance Work Statement for the Task Order #1

## Introduction

### Background

The United States Department of Education is a federal agency currently using a custom-built, full grants lifecycle management and payment system called G5. This solution has been in place for more than 13 years. The system services end-to-end grants management activities, including announcements, the intake of applications, peer reviews, awards, payments, performance monitoring, and final closeout of the awards. G5 also processes payments and seamlessly integrates with the Financial Management Support System (FMSS), ED's General Ledger. The system has presented ED with a number of challenges, specifically with incorporating newly identified Program Office requirements and streamlining the grants management business processes.

### Purpose

ED requires a standardized, innovative, and Agile full grants lifecycle management and payment system – an Education Grants Platform (EGP). A cornerstone of EGP will be a modular and scalable end-to-end grants management, cloud-based solution with an easily adaptable user experience (UX) – a modernized G5 (G5M). G5M will replace G5 incrementally to address evolving requirements and streamline the processing and management of ED's grant operations.

The G5M effort will yield a modernized, modularized, securely configured, and controlled (e.g., Risk Management Framework, SSAE-16, SAS, ISAE 3402), end-to-end grants management platform, employing tightly integrated and easily adaptable UX by leveraging low/no-code and custom capabilities. It must be scalable and modular, incorporating microservices-based architecture to prevent the need for Program Office-specific grants management solutions. G5M must include integrated tools supporting the implementation and maintenance of secure, high-velocity interfaces with a variety of sensitive content and grant data enrichment services, including Grants.Gov, SAM.Gov, Federal Student Aid Financial Management System (FSA FMS), Pay.Gov, Compliance Certification Management System (CCMS), FMSS, USASpending.gov, and additional services as dictated by business needs. G5M will employ digital services, such as Artificial Intelligence (AI), Machine Learning (ML), Robotic Processing Automation (RPA), and similar enrichment, as well as transformative technologies that can dramatically enhance data collection and analysis capabilities available to grant and program management officials and participants of the grants management process.

G5M as the nucleus of EGP allows ED to provide it as a Platform-as-a-Service (PaaS) to Program Offices and external federal departments and agencies.

Each program may extend this platform-of-platforms with satellite modules – applications in the Grants Management Line-of-Business (GMLoB) required for a specific purpose by a Program Office to conduct their grant operations. Due to the local and specific nature of program-specific applications, they are not part of the core enterprise system but rather integrate with and leverage the services provided by the EGP.

### Scope of Work

The scope of this Task Order (TO) is to implement a modern, secure, and modular full lifecycle grants management and payment platform (the EGP) to streamline end-to-end grants management operations.

The EGP provides the following:

* Modularity with the ability to turn off or restrict a module or feature as needed via configuration flags,
* Comprehensive inclusion of ED’s core grants management requirements,
* Open architecture and OMB-approved grant standards,
* Advanced security posture for data and infrastructure,
* A modern technology stack that ensures the underlying technical components do not become outdated before reaching their end-of-life, and that can be upgraded and/or swapped out as technology advances,
* A flexible, adaptable, interoperable, and configurable platform,
* Advanced business intelligence and collaboration features enabling Grants and Program Officers and staff to make more informed decisions with increased communication and visibility into data,
* An intuitive UX,
* Mobile enablement,
* Automation,
* Adherence and adaptability to legislative changes, and
* Role/privilege-based and rules-driven functionality.

The Grants Modernization initiative encompasses implementing ED’s enterprise, cloud-based grants platform. This TO involves constructing the platform so that the G5M application can be assembled, and additional Program Office-specific satellite modules can be consolidated in the future. The platform must support ED’s diverse grant programs within a common security boundary and architecture, have a uniform look and feel, and lower department and program operating costs.

The contractor shall conduct this TO in two phases:

* **Phase 1** – **Viability Phase:** Beginning upon award and for the next 90 days, culminating in ED’s review and approval of the contractor’s proposed architecture, implementation plan, and schedule.
* **Phase 2** – **Implementation Phase:** Implementing the EGP within the following nine months, thus concluding this TO.

### Type of Contract

TO 1 – Implementation of EGP is a Firm Fixed Price TO.

### Period of Performance

The period of performance for this TO shall be for 365 days (12 months) in accordance with the following:

* Viability Phase – 90 days (three months)
* Implementation Phase – 275 days (nine months) after approval of the Viability Phase

## Performance Objectives

The contractor shall conduct the following tasks to meet the performance objectives.

### Task 1: Kick-off Meeting

The contractor shall schedule and conduct (in coordination with the Contracting Officer (CO), Contracting Officer’s Representative (COR)) a Kick-off Meeting no later than ten business days after award to gain consensus on TO objectives, discuss tasks from the Government, and address questions or open items. For the Kick-off Meeting, the contractor shall:

* Provide meeting agendas and meeting preparation material at least two hours prior to the scheduled meeting.
* Capture meeting minutes and action items during the meeting.
* Within three business days, distribute the meeting minutes and action item list to the meeting attendees (or appropriate distribution list as agreed to and directed by the COR.

#### Performance Objective – Approval for Execution

* Performance Standard: Full participation of identified personnel and attendance.
* Acceptable Quality Level: Full attendance of all identified personnel required for participation.

#### Performance Objective – Record-Keeping

* Performance Standard: Kick-off documentation prior to meeting.
* Acceptable Quality Level: Send meeting agenda and preparation material at least two hours prior to the Kick-off Meeting.

#### Performance Objective – Record-Keeping

* Performance Standard: Kick-off documentation after meeting.
* Acceptable Quality Level: Provide meeting minutes and action item list less than three business days after Kick-off Meeting.

### Task 2: Agile Process

The contractor shall:

* Operate with Agile methodology and DevOps processes described in the contractor’s Agile Development Management Plan (ADMP).
* Provide Agile metrics and processes to measure Agile team performance and monitor contractor’s efforts, including the collection of performance, cost, and schedule data.
* Fully comply with applicable statutes and demonstrate working knowledge and understanding of applicable regulations, policies, guidelines, and specifications that impact the EGP.

#### Performance Objective – High Team Velocity

* Performance Standard: Variance in sprint burndown of story points with actuals.
* Acceptable Quality Level: Variance in sprint burndown of story points with actuals is less than 10%.

#### Performance Objective – Sprint Results

* Performance Standard: Deliver sprint deliverables on scheduled sprint release dates.
* Acceptable Quality Level: Deliver sprint deliverables on scheduled sprint release dates 95% of the time.

#### Performance Objective – Sprint Accuracy

* Performance Standard: Points planned in a sprint are fully accepted at the end of the sprint.
* Acceptable Quality Level: 90% of the points planned for a sprint accepted.

#### Performance Objective – Sprint Quality

* Performance Standard: Defects in each sprint release.
* Acceptable Quality Level: Zero severity one defects for each sprint release and no more than ten overall.

#### Performance Objective – Release Quality

* Performance Standard: Defects in platform release.
* Acceptable Quality Level: Zero severity one defects for each application release and no more than ten overall.

### Task 3: People

The contractor shall provide an Organizational Change Management Plan in support of the cutover strategy that outlines the priorities, interdependencies, change readiness, and training requirements for each onboarded program and system across people, process, and technology.

#### Performance Objective – User Adoption

* Performance Standard: Submit Organizational Change Management Plan on time.
* Acceptable Quality Level: Provide an Organizational Change Management Plan within eight weeks from award.

### Task 4: Cost/Budget

The contractor shall plan, monitor, and proactively manage EGP technology costs for procuring the necessary tools, software, and services to implement the EGP. The contractor shall track and report actual costs versus planned costs for specific tasks and deliverables (or sets of deliverables). The contractor shall report planned, actual, and projected costs (including estimated cost at completion) for both the Viability Phase and Implementation Phase in a financial status report. The contractor shall verify contractor invoices for accuracy and clarity before submission to the government.

#### Performance Objective – Cost Control

* Performance Standard: Submit Bill-of-Materials (BOM) prior to EGP implementation on time.
* Acceptable Quality Level: Provide BOM on or before 75 days post-award.

#### Performance Objective – Cost Control

* Performance Standard: Actual costs are accurate and within planned variance.
* Acceptable Quality Level: 95% of actual costs are within identified variance.

### Task 5: Technical Approach

The contractor shall ensure the solution architecture and design is aligned with the following objectives:

* Design flexible functionality that is easy to enhance while also scalable to meet future performance demands.
* Develop cloud-based EGP to replace the existing legacy G5 (G5L) solution(s).
* Ensure all cloud-based solutions are FedRAMP compliant.
* Ensure all cloud systems are provider-agnostic.
* Follow software engineering standards and best practices, providing all artifacts.
* Build, install, upgrade, and stabilize the Information Technology (IT) infrastructure.
* Optimize the IT infrastructure to improve performance, facilitate governance, and ensure compliance.
* Create a Product Roadmap and prioritize features with stakeholders.

#### Performance Objective – Reduction of Risk

* Performance Standard: Produce EGP future-state Technical Approach and Product Roadmap on time.
* Acceptable Quality Level: Government has an EGP future-state Technical Approach and Product Roadmap on or before 90 days post-award.

#### Performance Objective - Compliance

* Performance Standard: Architecture compliance with the ED Office of the Chief Information Officer (OCIO).
* Acceptable Quality Level: 100% architecture and design compliance with ED OCIO policies.

#### Performance Objective – Visibility

* Performance Standard: Provide Agile and DevOps process clarity.
* Acceptable Quality Level: Provide final ADMP or Implementation Plan within the Viability Phase (90 days post-award).

### Task 6: Implementation

The contractor shall deliver the EGP.

#### Sub-Task 1 – Development and DevOps

The contractor shall provide and implement a solution to support the DevOps pipeline while taking into consideration ED’s IT security posture and, at minimum, meet security conditions and other conditions required for an Authority to Operate (ATO). The solution should enable ED to meet the design, reliability, availability, maintainability, recoverability, environmental, security, and other operational requirements. The contractor shall:

* Utilize Blue/Green Environments to allow in-place upgrades with little to no downtime. Systems are to be fault-tolerant with no to minimal downtime deployments.
* Provide a strategy to implement microservices for the DevOps pipeline.
* Provide a strategy to implement a continuous integration / continuous delivery (CI/CD) pipeline for both custom and low code technologies.
* Provide a strategy to work within the environment and delivery pipeline. The contractor shall establish a connection with the current G5L-hosted, on-premise environment to support DevOps.
* Provide working functionality to users.

##### Performance Objective – Code Quality

* Performance Standard: Unit test coverage for new code.
* Acceptable Quality Level: No less than 85% of new code is covered by unit tests.

##### Performance Objective – Sprint Quality

* Performance Standard: Code issues.
* Acceptable Quality Level: Zero critical code issues before the beginning of the next sprint.

##### Performance Objective – Release Quality

* Performance Standard: Code defects in production.
* Acceptable Quality Level: Less than five production defects caused by code per release.

##### Performance Objective – Code Quality

* Performance Standard: Code defects in the sprint.
* Acceptable Quality Level: Less than 10% of user stories contain defects.

##### Performance Objective – Accessibility

* Performance Standard: 508 defects.
* Acceptable Quality Level: 100% of user stories are 508 compliant at Level AA.

##### Performance Objective – Quality

* Performance Standard: Leverage a CI/CD Pipeline.
* Acceptable Quality Level: Less than 5% of builds need to be reversed.

##### Performance Objective – Business functionality

* Performance Standard: Achievement of the business functionality.
* Acceptable Quality Level: Achievement of 95% of targeted business functionality.

##### Performance Objective – Efficiency

* Performance Standard: Lead time.
* Acceptable Quality Level: Up to 10% improvement over baseline each year.

##### Performance Objective – Efficiency

* Performance Standard: Deployment frequency.
* Acceptable Quality Level: 10% improvement over baseline year over year.

##### Performance Objective – Stability

* Performance Standard: Mean Time to Restore (MTTR).
* Acceptable Quality Level: 10% improvement over baseline year over year.

##### Performance Objective – Stability

* Performance Standard: Change failure rate.
* Acceptable Quality Level: 10% improvement over baseline year over year.

#### Sub-Task 2 – AI/ML

The contractor shall provide a strategy to utilize Artificial Intelligence, Machine Learning, and Robotic Process Automation (AI/ML/RPA) to maximize the effectiveness of the solutions that provide data collection and analysis to support the EGP.

##### Performance Objective – Efficiency

* Performance Standard: Business process efficiency where AI/ML/RPA is employed.
* Acceptable Quality Level: Up to 10% increase in efficiency from baseline in business processes where AI/ML/RPA is employed.

#### Sub-Task 3 – Data Integration

The contractor shall provide the data integration solution to keep the legacy systems in sync with the future IT systems. Provide support to move all users to next-generation systems.

* Move all provision of data to cloud-based solutions, with data flowing from the G5L, to the cloud-based G5M.
* Requests for data are made to a cloud-based G5M and submissions are pulled from the cloud down to ED’s Program Officers and staff.

##### Performance Objective – Quality

* Performance Standard: Data Accuracy.
* Acceptable Quality Level: 100% accuracy of data between legacy systems, G5L (baseline) and the EGP.

#### Sub-Task 4 – User Experience

The contractor shall enhance the internal and external user experience by developing a user-driven platform, including those accessible in a mobile environment. The contractor shall:

* Support ED’s user-centered design and usability goals of learnability, efficiency, memorability, and error reduction.
* Present textual information in a clear, uncluttered, and scalable manner.
* Be usable on any modern, up-to-date browser.
* Follow ISO 9241-210 Ergonomics of Human-system Interaction Part 210: Human-centered Design for Interactive Systems.

##### Performance Objective – User Adoption

* Performance Standard: User satisfaction.
* Acceptable Quality Level: Four points out of a five-point scale of quarterly surveys to measure user satisfaction and adoption of new services.

##### Performance Objective – Productivity

* Performance Standard: Task success rate.
* Acceptable Quality Level: Up to 10% improvement over baseline for task completion.

##### Performance Objective – Efficiency

* Performance Standard: Task error rate.
* Acceptable Quality Level: Up to 10% improvement over baseline for errors made while completing tasks.

##### Performance Objective – Efficiency

* Performance Standard: Time on task.
* Acceptable Quality Level: Up to 10% improvement over baseline for time spent on completing tasks.

### Task 7: Governance

The contractor shall facilitate, support, and conduct governance activities in compliance with the Architectural Review Board (ARB) for all business, data, and technical architecture components.

#### Performance Objective - Governance

* Performance Standard: Governance Plan.
* Acceptable Quality Level: Provide a Governance Plan no more than ten business days prior to the end of the Implementation Phase.

#### Performance Objective – Governance

* Performance Standard: ARB governance cadence for collaboration, reviews, and compliance.
* Acceptable Quality Level: Conduct one ARB meeting per month.

### Task 8: Operations

The contractor shall create an Operations Plan that describes the Concept of Operations (CONOPS), coordination with stakeholders while operating the EGP, and collaboration required with the legacy G5L to ensure continuous data synchronization and gradual decommissioning of G5L modules. This plan will be provided in the Viability Phase.

#### Performance Objective – Operations Clarity

* Performance Standard: Produce a detailed CONOPS or Test and Operations Plan.
* Acceptable Quality Level: Provide CONOPS or Test and Operations Plan no more than 90 days post-award.

### Task 9: Current State Assessment

The contractor shall evaluate the current legacy G5L system, data structures, interfaces available, and functionality provided in each of the G5L modules.

#### Performance Objective – Visibility

* Performance Standard: Submit a Discovery Plan.
* Acceptable Quality Level: Provide Discovery Plan no more than 15 days post-award.

#### Performance Objective – Visibility

* Performance Standard: Submit a detailed current-state analysis with data discovery and metrics.
* Acceptable Quality Level: Provide detailed current-state analysis no more than 45 days post-award.

### Task 10: Security

The contractor shall provide a Security Plan for the implementation of security standards and security scans and shall also address vulnerability issues found. The plan shall include the process, roles, and activities required for compiling documentation for the ATO.

#### Performance Objective – Security

* Performance Standard: Produce an ATO and Security Plan for the EGP.
* Acceptable Quality Level: Provide an ATO and Security Plan within 45 days post-award.

### Task 11: Risk

The contractor shall maintain an active risk management process, identifying and resolving risks as they occur, ensuring on-time, on-budget, with target scope, completion of the TO.

#### Performance Objective – Visibility

* Performance Standard: Maintain a project risk register.
* Acceptable Quality Level: Government has access to the risk register 100% of the time.

#### Performance Objective – Risk Mitigation

* Performance Standard: Identify risk strategies.
* Acceptable Quality Level: Within three business days of risk identification, the risk register shall be updated with the risk and any mitigation plan(s) identified.

#### Performance Objective – Communication

* Performance Standard: Notify the Government when critical risks or issues are identified
* Acceptable Quality Level: Within 24 hours of a critical risk or issue identified, the risk or issue register shall be updated and any mitigation or resolution plan(s) identified.

### Task 12: Schedule

Within ten business days of contract award, the contractor shall deliver a schedule to perform the Viability Phase of the TO. The schedule will be reviewed at the Kick-off Meeting, baselined, and incrementally evolved per the contractor’s recommended process in collaboration with ED. Within 90 days of contract award, the contractor shall deliver the schedule for the Implementation Phase. The schedules will identify major project capability milestones, dependencies, communication, risks, and lessons learned.

#### Performance Objective – Visibility

* Performance Standard: Provide Viability Phase Project Schedule.
* Acceptable Quality Level: Provide Viability Phase Project Schedule within ten days post-award.

#### Performance Objective – Visibility

* Performance Standard: Provide Implementation Phase Project Schedule.
* Acceptable Quality Level: Provide Implementation Phase Project Schedule within 90 days post-award.

#### Performance Objective – On-Time Completion

* Performance Standard: On-time completion of each phase.
* Acceptable Quality Level: Each phase completed on time 100% of the time.

### Task 13: Program Management

The contractor shall perform management and administrative activities to ensure the successful completion of the EGP.

#### Sub-Task 1 – Resource Management

The contractor shall manage personnel resources and adjust them over time to accommodate changing workloads and work content. The contractor shall manage staff onboarding, turnover, training, and performance. The contractor shall staff Agile teams and retain staff with the right skill sets and expertise to deliver the business and technical objectives. The contractor shall provide key personnel for the duration of the authorized period of performance. The contractor shall make every effort to retain key personnel in order to ensure continuity until contract/order completion. If it should become necessary to substitute or replace personnel, the contractor shall immediately notify the COR in writing of any potential vacancies and shall submit the resume(s) of replacement key personnel within five calendar days of the notification.

The contractor shall provide the following key personnel:

* Program Manager
* Development Lead
* Senior Architect
* Testing Lead
* Lead Business Analyst

##### Performance Objective – Fully Staffed Team

* Performance Standard: Identified roles are staffed for Viability and Implementation Phases.
* Acceptable Quality Level: At least 95% of identified roles are staffed within 30 days post-award.

##### Performance Objective – Staffed Key Personnel

* Performance Standard: Identified key personnel are staffed on the first day of award.
* Acceptable Quality Level: 100% of identified key personnel are staffed on the first day of award.

#### Sub-Task 2 – Reporting

The contractor shall maintain clear government visibility into program:

* Cost, schedule, technical performance, and risk, including periodic reporting.
* Documentation.

#### Performance Objective – Visibility and Transparency

* Performance Standard: Government access to program management metrics.
* Acceptable Quality Level: Government has access to program management metrics 100% of the time.

#### Performance Objective – On-Time Reporting

* Performance Standard: Reporting deliverables are provided early or by the due date.
* Acceptable Quality Level: Provide at least 95% of reporting deliverables early or by the due date.

#### Performance Objective – Reporting Quality

* Performance Standard: Reporting deliverables are of good quality and do not require changes or corrections.
* Acceptable Quality Level: At least 90% of reporting deliverables accepted without requesting changes/corrections.

#### Performance Objective – Continuity

* Performance Standard: Transition-out plan with 90 days of transition-out activities is available at the end of TO 1.
* Acceptable Quality Level: Provide Transition-out plan at least ten days prior to the end of the Implementation Phase.

### Deliverables

All electronic and paper deliverables shall be provided to ED for review and approval. The contractor shall propose additional documentation to help the program operate effectively. ED shall give notice of approval/disapproval within an agreed-to amount of time after delivery. The contractor shall resubmit within an agreed-to amount of time after receipt of EDs notice of disapproval.

The contractor shall deliver artifact items in accordance with the TO, identified in **Table 3** below, at a minimum.

Table : TO 1 Deliverables

|  | Deliverables | Due Date | Delivery Method |
| --- | --- | --- | --- |
| **1** | Kick-off Meeting | Within five business days of award | Virtual remote meeting with CO/COR |
| **2** | Meeting Agendas, Minutes, and Action Items | As requested | Electronic to COR |
| **3** | Viability Phase Project Schedule | In ten days | Electronic to COR |
| **4** | Discovery Plan | In 15 days | Electronic to COR |
| **5** | Current State Analysis along with Performance Metrics | In 45 days | Verbal: In-person or virtual meeting  Electronic to COR |
| **6** | Detailed EGP Future State Analysis and Approach | In 90 days | Verbal: In-person or virtual meeting  Electronic to COR |
| **7** | ATO and Security Plan | In 45 days | Electronic to COR |
| **8** | Technical Execution/ Implementation Plan | In 90 days | Electronic to COR |
| **9** | Test and Operation Plan/CONOPS | In 90 days | Electronic to COR |
| **10** | Bill of Material | In 75 days | Electronic to COR |
| **11** | EGP Implementation Project Schedule | In 90 days | Electronic to COR |
| **12** | Education Grants Platform | In 365 days after award | Electronic to COR |
| **15** | Platform Backlog | Throughout sprints | Jira |
| **16** | Sprint Planning | Updated epics, features, and user stories at the beginning of each sprint | Jira |
| **17** | Sprint Retrospective and Demo | Last business day of each sprint | Jira |
| **18** | Weekly Status Reports | Weekly on Friday | Electronic to COR |
| **19** | Monthly Progress Briefings | First working Monday of every month | Electronic to COR |

## General Requirements

### Points of Contact and Responsibility

The contractor shall identify one point of contact, and an alternate, who will be the single interface for all management and technical matters. The contractor shall also provide and keep up to date a list of individual points of contact and their area of responsibility relative to each service area defined in this PWS.

### Hours of Operation

The contractor shall ensure that personnel working directly with ED and its contractors are available during the core business hours of 9:30 AM – 3:30 PM ET, Monday – Friday except for federal holidays. The annual contractor performance assessment may include a government statement assessing the proposed personnel, what work personnel performed, and any disruptions that may delay work due to contractor personnel replacements.

The contractor shall operate and maintain the EGP system to maintain 24x7 availability. Maintenance activities that require a system outage shall be conducted after midnight and before 6:00 AM ET weekdays, preferably on weekends. The contractor shall acknowledge and initiate resolution of urgent issues escalated from the Help Desk during the hours specified below.

The contractor may have the flexibility to schedule individuals outside normal hours to address systems operations issues and/or to meet prescribed deadlines. This flexibility shall be pre-approved by the COR.

If the contractor provides end-user support services, the minimum hours of operations for EGP end-user support services will cover continental United States business hours, 9:00 AM – 9:00 PM ET, excluding federal holidays.

### Recognized Holidays

The contractor recognizes the following as federal holidays: New Year’s Day, Birthday of Martin Luther King, Jr., President’s Birthday, Memorial Day, Juneteenth Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day, Inauguration Day, and ad hoc federal holidays as deemed by The White House.

### Staffing and Key Personnel

In order to meet the requirements of this procurement, the contractor shall provide personnel with skills and qualifications in the following areas:

* Program Management
* Project Management
* Delivery Management
* Technical and Program Communication
* Agile Software Development
* Software Development Lifecycle Management
* Grants Management Systems
* Solution and Technical Engineering and Architecture
* Requirements Gathering and Analysis
* User Experience
* Web Application Development
* Forms Development
* Systems and Software Testing
* Systems Operations and Maintenance
* Systems Administration
* Cloud Solution and Infrastructure Engineering and Operations
* Federal IT Systems Security
* Reporting
* Training Materials Development and Training Delivery
* Stakeholder Management
* Technologies used in the current G5 system

### Place of Performance

The place of performance shall be the contractor’s facilities with occasional meetings at the Department of Education in Washington, DC and elsewhere in the Washington, DC area.

### Government Furnished Equipment

The contractor shall take administrative control of all Government Furnished Equipment (GFE) and software. The contractor shall assume management of Other Direct Cost (ODC) items, including warranties, support contracts for both hardware and software, software subscriptions, systems support services, direct consumables, security certificates, and additional hardware or software as required.

### Training

The Government will not provide or pay for training, conferences, or seminars for contractor personnel in support of, or for the performance of, their tasks, with the exception of ED-specific and specialized training not obtainable outside of ED.

### Travel

No travel expenses will be authorized for this TO.

### Transition

The contractor anticipates no Transition-In activities related to this TO.

The contractor shall facilitate, support, and conduct Transition-Out activities within 90 days, including knowledge transfer, in conjunction with ED and the new contractor(s) at the conclusion of this TO.

## Assumptions

### Schedule

Contractor assumes that after the 90-day Phase 1 Viability Phase, there will be no more than a five-business day review and acceptance period of the EGP Implementation Plan, as ED’s stakeholder(s) will be involved in the Phase 1 execution and drafting of the Phase 2 plan.

Availability and participation from ED’s G5M Program Manager, Product Owner, and Subject Matter Experts (SME) during implementation planning, architecture reviews, backlog prioritization, backlog refinement, and requirement analysis is essential to ensure the right features are implemented in the right way, at the right time.

Contractor shall work with ED to identify the applicable Enterprise Program Management Review (EPMR) Phase gate reviews required in the Implementation Phase.

### Technical

The contractor shall provide technical support and detailed documentation in obtaining a new or modified ATO through the ED’s Office of the Chief Information Officer (OCIO) and in collaboration with ED’s Security Assessment Team.

ED will provide timely access to Education's Central Automated Processing System (EDCAPS) Authentication support staff for design, implementation, and troubleshooting of authentication inter-connectivity for Single Sign-On (SSO) implementation.

## Video Submission

Video Submission of the PWS Overview, Performance Objectives, Performance Elements, and Assumptions and Constraints for this TO is available at:

[https://www.youtube.com/watch?v=q2wK7fsoAgM](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3Dq2wK7fsoAgM&data=04%7C01%7Crujuta.waknis%40reisystems.com%7Cf87557c8d66640dfd02b08d97469a98d%7C3199644175464120826bdf0c3e239671%7C0%7C0%7C637668819429209614%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=M9A3N4pUidXH2QfSsa2DiQVoF%2B4GPYKKMzNcy8mWHZA%3D&reserved=0)

## Quality Assurance Surveillance Plan

### Introduction

This Quality Assurance and Surveillance Plan (QASP) is a contractor-developed and applied document used to ensure systematic quality assurance methods are used in the administration of the Statement of Objectives (SOO) included in TO 1.

### Purpose

This QASP sets forth standard surveillance for monitoring the performance-based TO and guidelines that ED will use in evaluating the technical performance of the contractor.

The Surveillance/Evaluation Methods identified in this QASP, in concert with the contractor’s Quality Assurance Procedures (QAP), will assure the Government of satisfactory contractor performance.

The QASP is intended to accomplish the following:

* Summarize the types of services to be performed and work products to be delivered that are covered under the TO and the desired outcomes associated with them.
* Define the specific contractor and government responsibilities for evaluating the performance of the contractor in delivering the products and services covered by this TO.
* Describe the surveillance or evaluation methods to be used by the Government to confirm the contractor’s performance.
* Provide initial surveillance draft formats of the reports to be used to evaluate and report on the contractor’s performance.
* Describe the sequence and timing of the performance reporting process.

#### Performance Management Approach

This QASP defines the performance management approach taken by ED to monitor and manage the contractor's performance to ensure that the expected outcomes or performance objectives communicated in the TO 1 SOO are achieved.

A performance-based approach enables the contractor to play a meaningful role in how it performs the work if the proposed processes are within the stated constraints. The focus on results provides the flexibility to continuously improve and innovate over the course of the contract, ensuring all critical outcomes are achieved and performance levels are met or exceeded.

Performance management rests on the capability to review and analyze information generated through performance assessment. The ability to make decisions based on the analysis of performance data is the cornerstone of performance management; this analysis yields information that indicates whether the contractor is achieving expected outcomes for the project.

#### Performance Management Strategy

The contractor is responsible for the quality of all work performed. The contractor measures that quality through our own Quality Control (QC) program. QC is work output and therefore includes all work performed under this TO, regardless of whether the work is performed by contractor employees or by subcontractors. The contractor's Quality Control Plan (QCP) will set forth the staffing and procedures for self-inspecting the quality, timeliness, responsiveness, customer satisfaction, and other performance requirements in the TO 1 SOO. The contractor shall develop and implement a performance management system with processes to assess and report its performance to the designated government representative. This QASP enables the Government to take advantage of the contractor's QC program.

The contractor is responsible for making the required changes in processes and practices to ensure performance is managed effectively.

### Scope

The QASP is a tool for use in government administration of the TO and remains subject to revisions at any time by ED throughout the TO performance period. ED will retain the right to change the surveillance methods, metrics, and Quality Assurance (QA) procedures described in the QAP, or to increase or decrease the degree of surveillance efforts at any time necessary to assure TO compliance. The contractor, and not ED, is responsible for management and QC actions to meet the terms of the TO.

### Content of the QASP

Content of this QASP is provided below.

* Summary of Work to be Performed (**Section B.6.5**)
* QASP Roles and Responsibilities (**Section B.6.6**)
* QA Surveillance Process (**Section B.6.7**)
* Steps in the Surveillance Process (**Section B.6.8**)
* Surveillance Standards and Tools (**Section B.6.9**)
* Other QA Communication and Reporting (**Section B.6.10**)
* Resolving QA Issues (**Section B.6.11**)
* Performance Requirements Summary (**Section B.6.12**)
* Responsible, Accountable, Consulted, Informed (RACI) Matrix (**Section B.6.13**)
* QASP Forms/Checklists (**Section B.6.14**)

### Summary of the Work to be performed

The summary of the work performed in this PWS is described in **Section B.1.3**.

### QASP Roles and Responsibilities

#### ED Personnel

##### Contracting Officer

The CO has overall responsibility for the administration of all ED contracts and TOs. The ED CO is part of the Management Team and is the only individual authorized to take actions on behalf of the Government to approve, amend, modify, or deviate from the TO terms, conditions, requirements, specifications, details, and/or delivery schedules. Within that authority, the CO has the ability to delegate to the COR for the everyday administration of the TO. The CO is responsible for the overall administration and final closeout of the TO, and as it relates to the implementation of the QASP, shall:

* Ensure compliance with contracting requirements.
* Issue all modifications against the TO.
* Negotiate and issue TO modifications.
* Resolve contractor claims and disputes.
* Issue cure notices (notification that, unless unacceptable performance is corrected, the Government may terminate the TO for default, IAW FAR 49.607).
* Issue show-cause letters (following a cure notice, requesting facts bearing on the case).
* Terminate the TO.

##### Contracting Officer’s Representative

The ED COR is responsible for the daily administration of the ED TO. The ED COR is part of the ED Management Team.

In implementing the QASP, the COR’s responsibilities include:

* Managing QA activities to ensure compliance and completeness.
* Responsible for conducting the final inspection and acceptance of all reports.
* Requesting or approving changes in the QASP.
* Fulfilling any other such responsibilities specified in the TO.

##### Task Order Manager / G5M Program Manager

The Task Order Manager (TOM) or G5M Program Manager is responsible for the day-to-day coordination of the ED TO. The ED TOM is part of the ED Management Team.

In implementing the QASP, the TOM responsibilities include managing QA activities to ensure compliance and completeness by:

* Overseeing the quality aspects of the project.
* Serving as the technical liaison with contractor staff.
* Facilitating the resolution of QA issues that have external dependencies.
* Communicating changes or requests for changes in the TO and QASP to the contractor.

#### Contractor Personnel

##### Program Manager

* Shall be available to meet with the COR and TOM upon request to present deliverables, discuss progress, exchange information, and resolve emergent technical problems and issues. These meetings shall take place at ED facilities or virtually, as needed.
* Shall ensure contractor employees understand and abide by ED-established rules, regulations, and policies concerning safety and security.
* Shall provide monthly progress briefings to the CO and COR.
* Shall be responsible for keeping the CO and COR informed about contractor status throughout the performance period of the TO and ensure contractor activities are aligned with ED objectives.
* Shall ensure the contractor addresses activities outlined in the QASP and meets performance objectives.
* Shall review the results of the contractor’s performance with the CO and COR.

##### Scrum Master(s)

* Shall be responsible for ensuring the contractor follows Quality Assurance practices.
* Shall ensure the surveillance techniques for relevant performance standards for their Agile teams are established and metrics are available.

### Quality Surveillance Process

This section describes the various surveillance processes that may be used on this TO.

#### Methods

The COR will perform evaluations using the below methods applicable and outlined in the Performance Requirements Summary (PRS) table included in the QASP.

1. **100% Inspection**

This method is an inspection where specific characteristics of every performance unit are examined and tested to determine conformance with requirements.

1. **Random Surveillance**

Random Surveillance is a sampling method in which each unit of the population has an equal chance of selection. This method is done to determine whether the contractor’s performance of a particular task for a given period of time meets the performance requirement based on randomly selected samples of the task. This method is the most appropriate for frequently recurring tasks.

1. **Periodic Surveillance**

This method of surveillance evaluates tasks selected using a methodology other than a 100% or random inspection. It may be appropriate for tasks that occur infrequently and where 100% inspection is neither required nor practical. An example of periodic surveillance is weekly inspections when the COR chooses the location and time in other than a statistically random manner.

1. **Customer Feedback**

This method is an independent evaluation of an activity or process to assess compliance with the contractor’s terms of the contract. Customer feedback may be necessary for certain types of tasks that do not lend themselves to random sampling of 100% inspection. Customer feedback may be obtained from the results of formal customer satisfaction surveys or from random customer complaints. The CO may use validated customer complaints as the basis for actions (other than payment deductions) against the contractor. For a sample Customer Feedback Form, see **Section B.6.14.1**.

1. **Walk-Throughs**

This method evaluates correctness, timeliness, reliability, and productivity. Structured walkthroughs are used for orientation, examining promising ideas, identifying defects or errors, and improving products at any stage in the process. For example, the contractor’s demonstration of a new software enhancement or sprint demo is considered a walk-through.

1. **Toll Gate Method**

This method is used as a vehicle for securing the concurrence (i.e., approval) of designated individuals to continue with the task/project and move forward into the next phase of transition, development, or maintenance. The contractor shall follow the Quality Gates specified in ED’s EPMR Framework. The concurrence is an approval (sign-off) of the deliverables for the gate reviews. It indicates that all qualifications (issues and concerns) have been closed or have an acceptable plan for resolution.

1. **Contractor Self-Reporting**

This surveillance method allows for the contractor to provide the results of their QCP and performance monitoring procedures to determine adherence to TO performance standards. As referenced in the Performance Management Strategy section, the contractor's QCP will set forth the procedures for self-inspecting the quality, timeliness, responsiveness, customer satisfaction, and requirements in accordance with the standards defined in **Section B.6.9**.

### Steps in the Surveillance Process

Surveillance must be done and shall implement the methods identified in the section above, including scheduling, performing, resolving performance issues discovered through surveillance, and documenting surveillance.

#### Scheduling Surveillance

The COR is responsible for developing a monthly schedule of surveillance activities based on the QASP requirements. The schedule will be completed no later than seven calendar days before the beginning of the period it covers. Computer-generated or locally devised forms may be used. For a sample Quality Assurance Surveillance Schedule, see **Section B.6.14.2**.

#### Performing Surveillance

Surveillance will be performed according to the methods described in this QASP and will meet the schedule established between the contractor and the organization’s personnel. The contractor shall provide whatever assistance is required in the surveillance procedures. For a sample Surveillance Activity Checklist, see **Section B.6.14.4**.

#### Resolving Performance Issues

ED and the contractor may discover performance issues or deficiencies through the surveillance process. The COR will provide a list of any unresolved deficiencies to both the CO and the contractor’s Program Manager to provide an opportunity for the Program Manager to provide more information regarding the status and resolution date of the problem. If evidence is shown where the contractor’s quality program has already documented the deficiency and timely corrective action in resolving the problem, the COR will follow up with the contractor’s Program Manager to ensure the deficiencies are remedied in a timely manner, in accordance with the TO 1 SOO.

All deficiencies associated with performance requirements listed on the Performance Requirements Summary, whether remedied by the contractor or not, will be included in the COR’s Status Report, regardless of who identified the deficiency.

The COR and contractor’s Program Manager will meet at least monthly, and when needed, to discuss TO performance. The contractor’s Program Manager will provide a copy of the meeting minutes to all attendees within five workdays of the meeting. Should the need arise for an emergency meeting because of unexpected performance issues, these meetings can be called by either COR or the contractor’s Program Manager. For a sample Contract Discrepancy Report, see Section **B.6.14.3.**

#### Documenting Surveillance

Documentation used and referenced to perform surveillance shall consist of monthly reports, contractor plans and procedures, schedules, customer feedback, and contract data requirements. This documentation provides the CO with contractor status as it applies to the performance criteria.

All documentation resulting from surveillance must be made part of the contract file. The COR must keep the documentation files during the surveillance period, but either monthly or at the conclusion of the contract, as directed by the CO, the COR must give the files to the CO for inclusion in the official contract file.

#### Surveillance Folder

A surveillance folder must be developed and maintained by the COR who is assigned to accomplish QA for a performance requirement. The folder is maintained as a hardcopy or digitally in a computer database/file system/collaborative site provided there is adequate backup of the data to preclude accidental loss. This section provides details for what specifically will be maintained. The surveillance folder must contain, at a minimum, the following documents and be set up using the QAP File Index.

* **Appointments:** COR nomination letters and copy of the CO’s Letter to the Contractor appointing the new COR to the contract.
* **Contract Documents:** The contract with all modifications, directive documents, references, pertinent terms defined by the contract, equipment listings, SOO, and QASP.
* **Special Reports Documentation:** Monthly performance meeting minutes that are held with the COR, CO, and the contractor should be recorded to encourage good communication and to resolve issues before they become significant challenges.
* **Surveillance Paperwork:** Documented surveillance inspections performed by the COR will be kept in this section. All paperwork that supports the documented surveillance should be kept in this section as well. The types of information that may be included are details of inspections or data gathering, conversations or meetings with the contractor, and notes and comments that support the inspection paperwork. Quality Assurance Surveillance Reports will be kept in this section.
* **Unacceptable Performance Documentation:** In accordance with FAR 49.607, a section used for filing all documentation associated with contract quality assurance, e.g., Customer Complaints (both active and resolved), notices of contract deficiencies, Customer Discrepancy Report, the CO’s inputs/determinations, Cure Notices, Show Cause, and all supporting documentation.
* **Final Acceptance and Funding Issues:** In this area, keep paperwork for future changes to the contract, i.e., addendums, options, etc., that must be worked during the life of the contract.

### Surveillance Standards and Tools

The COR will assess the contractor’s performance to ensure the contractor is performing up to the specified standards. The performance standards documented in the TO 1 SOO are further specified in the Performance Requirements Summary table included in this QASP.

#### Quality Assurance Standards

The COR shall implement and maintain a QASP that ensures the accuracy and timeliness of the contractor’s work. The QASP shall uphold the minimum standards of accuracy and timeliness in all work performed.

#### Tools

The Quality Assurance Surveillance Activity Checklist, contained within **Section B.6.14.4**, will be used to monitor performance under this contract.

### Other QA Communication and Reporting

All quality issues that may arise during the execution of this task is managed through the resolution methods defined in the QASP.

### Resolving QA Issues

It is possible that ED and the contractor may discover quality assurance issues or deficiencies. The COR will provide a list of any unresolved deficiencies to both the CO and the contractor’s Program Manager. The contractor’s Program Manager will be afforded an opportunity to show if the problem is already worked. If evidence is shown where the contractor’s QC program has already documented the deficiency and timely corrective action is resolving the problem, the COR will follow up with the contractor’s Program Manager to ensure the deficiencies are remedied in a timely manner.

#### Negative Incentives

If any of the performance requirements do not meet the target metric set in the Performance Requirements Summary table in **Section B.6.12**, the COR shall document the discrepancy(ies) and shall notify the CO and contractor on a monthly basis, or immediately if the situation significantly affects the well-being of the EGP, for appropriate action. When the performance is below the target metric standard, the ED may implement a negative incentive that includes increased surveillance and/or contractor reporting requirements, as well as documentation on the contractor’s interim and annual past performance reviews (per FAR 42.15).

#### Notification

The COR will notify the CO, in writing, of unacceptable quality levels. The CO will promptly provide written notification of discrepancies on a monthly basis or immediately if the situation significantly affects the well-being of the EGP. The contractor shall be given the opportunity to respond, in writing, to each discrepancy.

#### Response

If marginal or nonconforming performance cannot be resolved immediately upon notification to the COR’s satisfaction, the contractor must develop and present to the COR a description of the cause and a plan for remediation within five business days of the initial notification. The contractor shall cite specific quality assurance program procedures or new procedures instituted to prevent a recurrence.

The REI Program Manager, Ms. Kimberly Farrell, has direct access to REI Corporate resources to gain reach-back support when necessary. ED has direct access to the REI Chief Operating Officer, Mr. Scott Fletcher, for escalation as required.

### Performance Requirements Summary

The PRS is a culmination of quality planning for each specific task based on the PWS. The PRS converts the deliverables/objectives listed in the SOO into the specific requirements, expectations, and measures for this specific piece of work. It is probably the most important element in the QASP since it focuses on measuring the quality of specific deliverables and their requirements.

Each deliverable has an associated performance measure(s)/objective(s). Success in the performance measure/objective is defined by the target metric/performance standard. Surveillance methods provide more substance relating to the acceptance criteria.

#### Performance Requirements Summary

Table : Performance Requirements Summary

| PWS Section | Performance Objective | Performance Standard | Acceptable Quality Level (AQL) | Surveillance Method |
| --- | --- | --- | --- | --- |
| **Task 1: Kick-off Meeting** | Approval for execution | Full participation of identified personnel and attendance | 100% identified staff attend | Contractor Self-Reporting |
| **Task 1: Kick-off Meeting** | Record-keeping | Kick-off documentation is available prior to meeting | No less than two hours prior to meeting | Email to COR |
| **Task 1: Kick-off Meeting** | Record-keeping | Kick-off Meeting Minutes are available after meeting | Less than three business days after meeting | Email to COR |
| **Task 2: Agile Process** | High team velocity | Variance in sprint burn-down base story points with actuals | < 10% variance in sprint burn down base story points with actuals | Jira Reports |
| **Task 2: Agile Process** | Sprint results | Sprint Deliverables are delivered on scheduled sprint release dates | 95% Sprint Deliverables are delivered on scheduled sprint release dates | Jira Reports |
| **Task 2: Agile Process** | Sprint accuracy | Points planned for a sprint accepted | 90% of the points planned for a sprint accepted | Jira Reports |
| **Task 2: Agile Process** | Sprint quality | Defects in each sprint release | Zero severity one defects for each sprint release and no more than ten overall | Jira Defects |
| **Task 2: Agile Process** | Release quality | Defects in platform release | Zero severity one defects for each release and no more than ten overall | Jira Defects |
| **Task 3: People** | User adoption | Submit Organizational Change Management Plan on-time | Organizational Change Management submitted within eight weeks of award | Confirmation from Government |
| **Task 4: Cost/Budget** | Cost management | Submit BOM prior to EGP implementation on time. | Provide the BOM within 75 days of award | Confirmation from Government |
| **Task 4: Cost/Budget** | Cost management | Actual costs are accurate and within planned variance | 95% of actual costs are within identified variance. | Invoice Report |
| **Task 5: Technical Approach** | Reducing risk | Submit EGP Detailed Future Analysis and Approach and Product Roadmap on time. | Government has Future Analysis Approach and Product Roadmap before or at 90 days after award | Confirmation from Government |
| **Task 5: Technical Approach** | Compliance | Architecture compliance with ED OCIO Office | 100% architecture and design compliance with ED OCIO policies | Architecture Review |
| **Task 5: Technical Approach** | Visibility | Provide Agile and DevOps process clarity | Provide final ADMP within 90 days of award | Confirmation from Government |
| **Task 6: Implementation - Sub Task 1** | Code quality | Percentage of code covered by unit test | > 85% | SonarQube Reports |
| **Task 6: Implementation - Sub Task 1** | Sprint quality | Number of critical issues at the end of each sprint | Zero open critical issues before the beginning of the next sprint | Jira Monitoring Reports |
| **Task 6: Implementation - Sub Task 1** | Release quality | Number of critical issues in a release | <5% critical issues caused by a release | Jira Monitoring Reports |
| **Task 6: Implementation - Sub Task 1** | Code quality | Percentage of user stories with defects | < 10% | Jira Monitoring Reports |
| **Task 6: Implementation - Sub Task 1** | Accessibility | 508 Defects | 100% user stories are compliant at Level AA | 508 Test Reports |
| **Task 6: Implementation - Sub Task 1** | Quality | CI/CD Pipeline | <5% of builds need to be reversed | Jenkins Reports |
| **Task 6: Implementation - Sub Task 1** | Achieve business functionality | Achieve targeted business functionality | Achieve 95% of targeted business functionality | KPI Dashboard |
| **Task 6: Implementation - Sub Task 1** | Efficiency | Lead time | 10% improvement over baseline year over year | Jenkins Reports |
| **Task 6: Implementation - Sub Task 1** | Efficiency | Deployment Frequency | 10% improvement over baseline year over year | Jenkins Reports |
| **Task 6: Implementation - Sub Task 1** | Stability | MTTR | 10% improvement over baseline year over year | Jenkins Reports |
| **Task 6: Implementation - Sub Task 1** | Stability | Change Failure Rate | 10% improvement over baseline year over year | Jenkins Reports |
| **Task 6: Implementation – Sub Task 2** | Efficiency | Business process efficiency where AI/ML/RPA is employed | 10% increase from baseline in business processes where AI/ML/RPA is employed | User Research |
| **Task 6: Implementation – Sub Task 3** | Quality | Data Accuracy | 100% accuracy of data between legacy G5L (baseline) and G5M | Database Logs |
| **Task 6: Implementation – Sub Task 4** | User adoption | User satisfaction and adoption | Four points out of a five-point scale of quarterly user surveys | User Surveys |
| **Task 6: Implementation – Sub Task 4** | Productivity | Task Success Rate | 10% improvement over baseline | System Logs |
| **Task 6: Implementation – Sub Task 4** | Efficiency | Task Error Rate | 10% improvement over baseline | System Logs |
| **Task 6: Implementation – Sub Task 4** | Efficiency | Time on Task | 10% improvement over baseline | System Logs |
| **Task 7: Governance** | Governance | Up-to-Date Governance Plan for ARB | Governance Plan | Confirmation from Government |
| **Task 7: Governance** | Governance | ARB Cadence | One ARB meeting per month | Contractor Self-Reported |
| **Task 8: Operations** | Operations | Provide a detailed Concept of Operations (CONOPS) document | Provide CONOPS no more than 90 days after award | Confirmation from Government |
| **Task 9: Current State Assessment** | Visibility | Submit a Discovery Plan | Provide a Discovery Plan no more than 15 days after award | Confirmation from Government |
| **Task 9: Current State Assessment** | Visibility | Submit a detailed Current State Analysis with Data Discovery and Metrics | Provide Current State Analysis with no more than 45 days after award | Confirmation from Government |
| **Task 10: Security** | Security | Produce an ATO and Security Plan | Provide an ATO and Security Plan within 45 days after award | Confirmation from Government |
| **Task 11: Risk** | Visibility | Maintain a project risk register | Government has access to the risk register 100% of the time | Confirmation from Government |
| **Task 11: Risk** | Risk mitigation | Identify Risk Strategies | Within three business days of risk identification, the risk register is updated with risk, and any mitigation plan(s) identified | Contractor Self-Reporting |
| **Task 11: Risk** | Communication | Notify the Government when critical risks or issues are identified | Within 24 hours of a critical risk or issue identification, the risk or issue register is updated, and any mitigation or resolution plan(s) identified | Contractor Self-Reporting |
| **Task 13: Schedule** | Visibility | Provide Viability Phase Project Schedule | Provide Viability Project Schedule within ten days of award | Confirmation from Government |
| **Task 13: Schedule** | Visibility | Provide Implementation Project Schedule | Implementation Project Schedule within 90 days of award | Confirmation from Government |
| **Task 13: Schedule** | On-time completion | On-time completion for each phase | Each phase completed 100% on time | Contractor Self Reported |
| **Task 14: Program Management** | Team is fully staffed | Identified staff onboarded, badged, and operating in full capacity | 95% of identified staff at the end of 30 days after award | Contractor Self-Reporting |
| **Task 14: Program Management** | Key personnel are available | Identified key personnel are staffed on the first day of award | 100% of identified key personnel are staffed on the first day of award | Contractor Self-Reporting |
| **Task 14: Program Management** | Visibility and transparency | Government has access to Program Management Metrics | 100% access to program management metrics | Program Metrics Report |
| **Task 14: Program Management** | On-time reporting | Provide Reporting Deliverables early or by the due date | Provide 95% of reporting deliverables early or by the due date | Confirmation from Government |
| **Task 14: Program Management** | Reporting quality | Reporting Deliverables do not require changes or corrections | 90% of reporting deliverables accepted without requesting changes/corrections | Confirmation from Government |
| **Task 14: Program Management** | Continuity | Transition-Out Plan with 90 days of transition-out activities is available at the end of TO 1 | Provide Transition-Out Plan at least ten days prior to the end of the Implementation Phase | Confirmation from Government |

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### RACI Matrix for the QASP

The RACI matrix describes the participation by various roles in completing tasks or deliverables for the QASP. RACI is an acronym derived from the four key responsibilities most typically used: Responsible, Accountable, Consulted, and Informed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| This matrix outlines a typical sequence of steps during contract management and the  key stakeholder groups and documents involved.  **Legend**  R – Responsible. Has responsibility for this step  A – Accountable. Is ultimately accountable and gives formal approval  C – Consulted. Is a key member of the team that works to produce the quality process outputs  I – Informed. Is kept informed about the process and will be affected by the outcome  **Persons/Groups**  **Action or Step** | **Contracting Officer** | **Contracting Officer Representative (COR)** | **Contractor Program Manager** | **Contractor Scrum Master(s)** |
| **Develop QASP** | I | R | A | C |
| **Manage QASP implementation** | I | R | A | C |
| **Conduct Surveillance Activities** | I | A | R | I |

### QASP Forms/Checklists

#### Customer Feedback Form Sample

|  |  |
| --- | --- |
| Date and Time | 2/14/XX at 11:05 a.m. |
| Source of Comment |  |
| Line Office | ED |
| Branch | OFO |
| Individual | Joe Doe |
| Nature of Comment | Called three times between 9:00 a.m. and 11:00 a.m. on Monday 2/14/2015 for Help Desk service to my laptop and the phone was unanswered. |
| Contract Reference | 5, 5.4.1, and PRS Table |
| Validation | Contract requires a one-hour response time. Complaint is valid. |
| Date and Time Contractor Informed of Comment | 2/14/XX at 11:30 a.m. |
| Action Taken by Contractor | Contractor had a person out sick and did not have backup Tier 3 personnel assigned. Contractor has now developed a roster of backup Tier 3 personnel who are forwarded Help Desk calls during normal business hours. |
| Received and Validated By | M. XXXX /COR |

*The remainder of this page is intentionally blank.*

#### Quality Assurance Surveillance Schedule Sample

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **QUALITY ASSURANCE SURVEILLANCE EVALUATOR SCHEDULE** | | | | | | **Contract No.: XXXXXXXXX** | | | **Week of: xxxxxxx** | | | | | **Month/Yr: xx/xxxx** | | |
| **Day** | **Operated Surge Help Desk** | **Operated Schedule Surge Help Desk Maintenance Services** | **Operated Schedule Surge Help Desk Maintenance Services** |  |  | |  |  | Etc., |  |  |  |  | |  |  |
| Feb 15 | PM | 9:00 |  |  |  | |  |  |  |  |  |  |  | |  |  |
| Feb 17 |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |
| Feb 18 | AM | 8:00 | 7:00 |  |  | |  |  |  |  |  |  |  | |  |  |
| Feb 19 | PM |  |  |  |  | |  |  |  |  |  |  |  | |  |  |
| Feb 20 |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |
| Feb 21 |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |
| Feb 22 |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |
| Week Total |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |
| Month Total |  |  |  |  |  | |  |  |  |  |  |  |  | |  |  |

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#### Contract Discrepancy Report Sample

|  |  |  |  |
| --- | --- | --- | --- |
| CONTRACT DISCREPANCY REPORT | | | |
| Contract No.: XXXXXX | | Report No. for this Discrepancy: XXX | |
| To: (Contractor and Manager’s Name) | | From: (Name of COR/TOM) | |
| Date Prepared: XX/XX/XXXX  Date Returned by Contractor: XX/XX/XXXX  Date Action Completed: XX/XX/XXXX | | | |
| Discrepancy or Problem: (Describe in detail; include reference to PWS Directive; attach continuation sheet if necessary)  There have been 20 unscheduled Help Desk requirements during this quarterly surveillance period (Jan – Mar). On four of the requirements, the contractor did not respond within four minutes of the agreed time as required by 5.2.2 and the PRS item three. On all four occasions, the service was delivered over five hours late. The performance requirement is 85%, therefore the requirement was performed unsatisfactorily since only three noncompliance events are allowed. | | | |
| Signature of Contracting Officer: | | | |
| To: (Contracting Officer) | | From: (Contractor) | |
| Contractor response as to Cause, Corrective Action, and Actions to Prevent recurrence; Attach continuation sheet if necessary. (Cite applicable quality control program procedures or new procedures) | | | |
| Signature of Contractor Representative: | | | Date: |
| Government Evaluation (Acceptance, partial acceptance, rejection; attach continuation sheet if necessary) | | | |
| Government Action (Reduced payment, cure notice, show cause, other) | | | |
| CLOSEOUT | | | |
|  | Name – Title | Signature | Date |
| Contractor Notified |  |  |  |

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#### Quality Assurance Surveillance Activity Checklist Sample

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SURVEILLANCE ACTIVITY CHECKLIST  (To be performed [Daily/Weekly/Monthly/etc.,]) | | | | Contract No.: |
| **Contract Requirement** | **Contract Reference** | **Method of Surveillance** | **Date Accomplished** | **Compliance** |
| Operate Help Desk | 5.1 | Period surveillance | 2/19/14 – 9 AM | Yes |
| Operate Scheduled Help Desk Service | 5.2.1 | Random surveillance | 2/19/14 – 11 AM | Yes |
| Operate Unscheduled Help Desk Service | 5.2.2 | 100% inspection | 2/19/14 – 4 PM | No. Help Desk responded 24 hours late. Standard is one hour from notification. |
| [Contract requirement] |  |  |  |  |
| [Contract requirement] |  |  |  |  |
| [Contract requirement] |  |  |  |  |
| [Contract requirement] |  |  |  |  |
| [Contract requirement] |  |  |  |  |

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#### Quality Assurance Surveillance Plan Checklist Sample

|  |  |  |  |
| --- | --- | --- | --- |
| **QUALITY ASSURANCE SURVEILLANCE PLAN CHECKLIST** | | | |
| **QASP No.** | **Review Steps** | **Date Verified** | **Reviewer** |
| 1 | Was the QASP reviewed and approved by the appropriate official? |  |  |
| 2 | Does the QASP include all appropriate tools such as the checklist? |  |  |
| 3.a  3.b  3.c  3.d  3.e | Does the QASP establish:   * Performance measures based on performance standards in the PWS? All PWS functional areas for which performance standards were developed should be addressed. * Methods of surveillance, including schedules, checklists, and customer satisfaction surveys? * Level of surveillance? * Acceptable quality levels? * Inspection procedures that identify what will be checked? |  |  |
| 4.a  4.b  4.c | Does the QASP stipulate?   * Methods of surveillance and inspection? * Needed government resources? * Type and period of reports required? |  |  |
| 5 | Are there provisions to provide periodic updates to the contracting officer and contract administrator? |  |  |
| 6 | Does the plan adequately define the role of the key participants? |  |  |

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# Agile Development Management Plan (ADMP)

## Introduction

This document defines Team REI’s Agile development best practices that will be utilized on the G5 Modernization (G5M) Program. Agile software development refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams. This ADMP identifies how we will implement a repeatable process of providing development and deployment services in small iterations. Unless otherwise noted, Team REI’s ADMP is technology agnostic. This plan also identifies our staffing approach, including our organizational structure, management, and technical resources, and our approach to on-site management support. This document is developed in response to the RFP and is part of Team REI’s proposal. Upon award, we will review this plan with the Department of Education and adjust it based on feedback.

## Purpose

The purpose of the Agile Development Management Plan is to define the Agile management practices for the G5M Program. Our approach outlines what will occur during each step of the Agile development lifecycle and is followed independent from the technology stack, i.e., low-code or custom development. Team REI delivers a quality product through automation, quality controls, and best practices that deliver true value to the end-user. We have tailored our standard REI ADMP to meet the needs of the G5M Program and ED’s required processes which results in a repeatable model that is scalable across teams and releases.

## Agile Delivery Framework

REI’s ***CMMI Level 3-appraised*** Agile Delivery Framework (ADF) promotes a dynamic mindset in application planning, design, development, deployment, and O&M phases. REI’s ADF uses Scrum for iteration-based projects when tasks are predictable—prioritizing scope with customer input, and delivery is time-boxed to balance predictability with uncertainty. We use Kanban for flow-based projects, such as operations, when the time it takes to complete a task, or the types of tasks, is not predictable. For the G5M Program, we will use Scrum for development modernization, enhancements, and maintenance. We will use Kanban for operations support. Our ADF brings rigor and repeatability for predictable delivery outcomes, enabling project teams to have empirical process control through strict adherence to Agile ceremonies, such as backlog grooming, daily standups, demos, and retrospectives. This framework is used on major grants modernization initiatives at agencies such as HRSA and NASA. We have also brought this process to the Office of the Comptroller of the Currency (OCC), where we have ten years of hands-on experience delivering low-code technology. We also leverage this process to our Salesforce-based grants management tool, which manages grants in 25+ state, local, and non-profit customers in the U.S with over 18,000+ users.

Our ADF, shown in **Figure 13** on the following page, consists of five steps necessary to deliver and maintain a quality product. It aligns with ED’s Enterprise Program Management Review Framework (EPMR) to ensure ED maintains management oversight of their IT investment.

Graphical user interface, application

Description automatically generated

Figure : Our Agile Delivery Framework promotes continuous innovation.

The **Initiate** step includes all activities required to kick-off a project, such as ensuring the availability of the staff and seeking alignment with the vision and objectives for the project. A successful kick-off meeting will pave the way for collaborative planning and execution. Implementation of the new Education Grants Platform (EGP) and G5M application will leverage the development, modernization, and enhancement (DME) lifecycle aspect of the REI ADF. For more about this step, please refer to **Section C.4** below.

The **Plan** step defines, iterates, and delivers the Solution Roadmap, creates the product backlog, and defines the project Definition of Done. We also discuss upcoming environment needs during this step. We gain Enterprise Review Board (ERB) approval before proceeding to the Execute step. For more about this step, please refer to **Section C.5**.

The **Execute** step enables the execution of the work using Scrum for development and modernization and prescribes Kanban for operations support. Sprints are typically between two and five weeks in length. We propose two-week sprints for the development and modernization activities. During execution, we integrate security throughout the lifecycle using automated testing for DevOps. This ensures Section 508 acceptance criteria and testing are proactively incorporated into each Sprint and included in our Definition of Done. For more details about how we execute our ADF, including coding and testing, please refer to **Section C.6**.

The **Quality Assurance** step ensures the stakeholders and integrated systems can confirm that the solution meets the business need. We gain ERB approval before releasing a product to production. For more about this step, please refer to **Section C.7**.

The **Release** step includes checklists, review mechanisms, and the artifacts required for successful releases, including ATO, security approvals, change control, project cost, and status reporting. We adopt a Release Train approach at a cadence approved by ED for regular, high-quality releases. A key aspect of Team REI’s ADF is that it applies to any technology stack. Unless specifically denoted, our ADF works for both custom and low-code technologies. For more about this step, please refer to **Section C.8**.

## Initiate

During this phase, we organize small Agile teams around business capabilities and staff them with cross-functional (T-shaped) resources. This allows us to keep teams together, hold them accountable for full-stack or low-code development, keep communication simple, increase collaboration, and maintain high performance levels over time. Every team member is fully engaged and productive, thus reducing management overhead. We will form scrum teams of technologists for the development of EGP and G5M, including software engineers, quality assurance engineers, business analysts, and User Interface/User Experience (UI/UX) specialists led by a Scrum Master. Kanban teams of operations support personnel ensure end-users have the training, operations, and any surge support needed.

Being Agile Means Being “T-Shaped”

T-shaped team members are required to execute Agile effectively. T-shaped people are deep in one discipline, such as business analysis, but are able to effectively pull other tasks off of the board, such as testing and documentation.

documentation.

Team REI recommends the implementing weekly scrum-of-scrums***,*** led by a Scrum Master, to facilitate communication and rapid removal of impediments during the G5M Program. This recommendation is based on the complex nature and multiple scrum team approach employed for the modernization effort and is proven successful in our Agile DME work at HRSA. There is an inherent dependency between the G5M Team, EGP Teams, Operations Team, and any other Program Integration Team when building the platform-of-platforms and services. A scrum-of-scrums provides a planned cadence and structure so that the team leads frequently communicate their progress and identify any impacts across the teams. Issues that surface are addressed quickly, leading to a quick resolution as teams agree and negotiate which team will complete specific tasks to move forward. We track these tasks on a scrum-of-scrums task board.

## Plan

At the beginning of a new Task Order (TO), we perform a series of planning activities critical to the success of the G5M Program. These activities - backlog creation, product planning, product roadmap generation, release planning, and project scheduling – are pre-requisites for a successful execution of a new product. We conduct these activities for each product. We maintain separate backlogs, roadmap, and release plan for EGP, G5M, and any future integrating applications, to allow flexibility and release control at the appropriate level. Creating modular components is a key aspect of this implementation. Unlike traditional or waterfall management practices, time and cost are the constraints in Agile projects. The scope is variable and executed within the constraints of time, and the cost based on the capacity of the available Agile teams. It is the scope, controlled by ED as the Product Owner, that is the focal point of the project and requires constant stewardship. This stewardship is achieved through proactive backlog management of the project scope in partnership with ED.

### Backlog Creation

During this phase, the initial product backlog is created as a partnership between the Lead Business Analyst and G5M Program Product Owner. Team REI’s Lead Business Analyst works closely with ED’s Product Owner to review available requirements and outline the core functionality through the creation of epics and features that are ready to size, prioritize, and break into releases.Although we create the product backlog during this phase, it constantly evolves as items are prioritized, estimated, broken down into user stories, moved into a sprint, and released.

Our teams use multiple techniques to size features, including relative estimation (t-shirt sizes), story points, and ideal days for sizing. We apply parametric and analogous estimation techniques for top-down capacity planning using team-specific velocities and benchmarks based on project and team records from our corporate data warehouse. In addition, we use team-based planning techniques, such as Planning Poker or Program Evaluation Review Technique (PERT), to normalize estimates and gain team commitment.

#### Product Planning

Product planning includes finalizing the solution architecture, evaluating technology choices for each requirement, and creating a blueprint for implementing the requirements. The technology choices and architecture decisions impact the Product Roadmap for the EGP backlog, while business process decisions, features, and functions for user interaction impact the G5M backlog.

Functional Capabilities. Our Lead Business Analyst, supported by Business Analysts, follows our Requirements Management Methodology, detailed in **Section C.6.1**, to review and validate the 288 core requirements of the G5M Program modernization effort. We identify the relevant requirements for the EGP backlog, which also includes capabilities required by the API Hub, and those that apply in the G5M backlog. The team then reviews the EGP backlog and updates it to ensure the business process requirements in the G5M backlog represent comprehensive component-level support.

Technical Capabilities. Team REI validates our proposed reference architecture, fully aligned with ED’s technical vision, with G5M Program stakeholders. This architecture includes technologies and components needed for the EGP. After validation, our Development Lead, Solution Architect, and Lead Business Analyst work with ED stakeholders to identify the appropriate low-code, Team REI Accelerator, or COTS solutions available in the EGP architecture to meet the relevant EGP backlog requirements, using our CMMI-certified Decision Analysis and Resolution (DAR) process. We initiate an Analysis of Alternatives (AoA) for evaluating the specific technology components to meet EGP needs. We base our recommendation for technology components on factors such as configurability, user experience, integration ability, performance, security, architectural compliance, Total Cost of Ownership (TCO), and implementation risk.

Based on the scope of the TO, the prioritized functional and technical capabilities convert to user stories that drive the inputs for the Release Planning step.

### Product Roadmap Generation

|  |
| --- |
| Graphical user interface  Description automatically generated with medium confidence  Figure : Features Grouped into Releases Based on Priority |

The product backlog is used as input to develop the Product Roadmap. The roadmap outlines the vision, direction, priorities, and progress of the product for all ED stakeholders. It is a plan of action that aligns the organization around short- and long-term goals and describes how we will achieve them. The roadmap is a high-level and strategic plan that includes features instead of the more granular user stories. We develop the roadmap using a standard prioritization technique called the MoSCoW method (Must have, Should have, Could have, Won’t have). We group features into releases based on this prioritization, shown in **Figure 14**.

The product roadmap is owned by the ED Product Owner in conjunction with the Team REI Lead Business Analyst. The roadmap for each product is also consolidated into a holistic Program-level Roadmap, showcasing how EGP, G5M, and any future program integrations will occur at the BPA level.

### Release Planning

The last planning step is release planning, which outlines and sets expectations for stakeholders as to when the new feature will be available for use. Using the ED-identified priority of the features, the business value remains at the forefront for product delivery. Based upon each Scrum Team’s capacity, a Release Plan is developed for each product showing stakeholders what features are expected with each planned production release and when that release will occur. It also outlines expected milestones and major initiatives for each release, such as User Acceptance Testing (UAT).

#### Definition of Done

The Definition of Done is a formal list of criteria that must be met for a user story, sprint, or release to be considered complete. This definition represents the enterprise-grade quality standards for documentation, business results, code quality, testing, security, compliance, environment preparation, deployment to production, and post-production support. Rather than waiting until the UAT or later to validate if all the stories are “done” and the features are working, the Product Owner validates and provides their acceptance per story – incrementally.

Our ADF includes a clear Definition of Done for each development activity to ensure all stakeholders have the same expectations for work products and understanding of work progress. Importantly, our Definition of Done incorporates standards of completeness for user story development, sprints, and releases that ensure high-quality, enterprise-grade work products. For example, we include standards for design, coding, security, testing, infrastructure, and documentation to ensure delivered software not only works but is maintainable, usable, and accessible as well. **Figure 15** on the following page details Team REI’s standard Definition of Done. The Scrum Team develops the initial Definition of Done and will work with the ED Product Owner to refine and finalize this definition to meet ED’s needs and expectations immediately after contract award.

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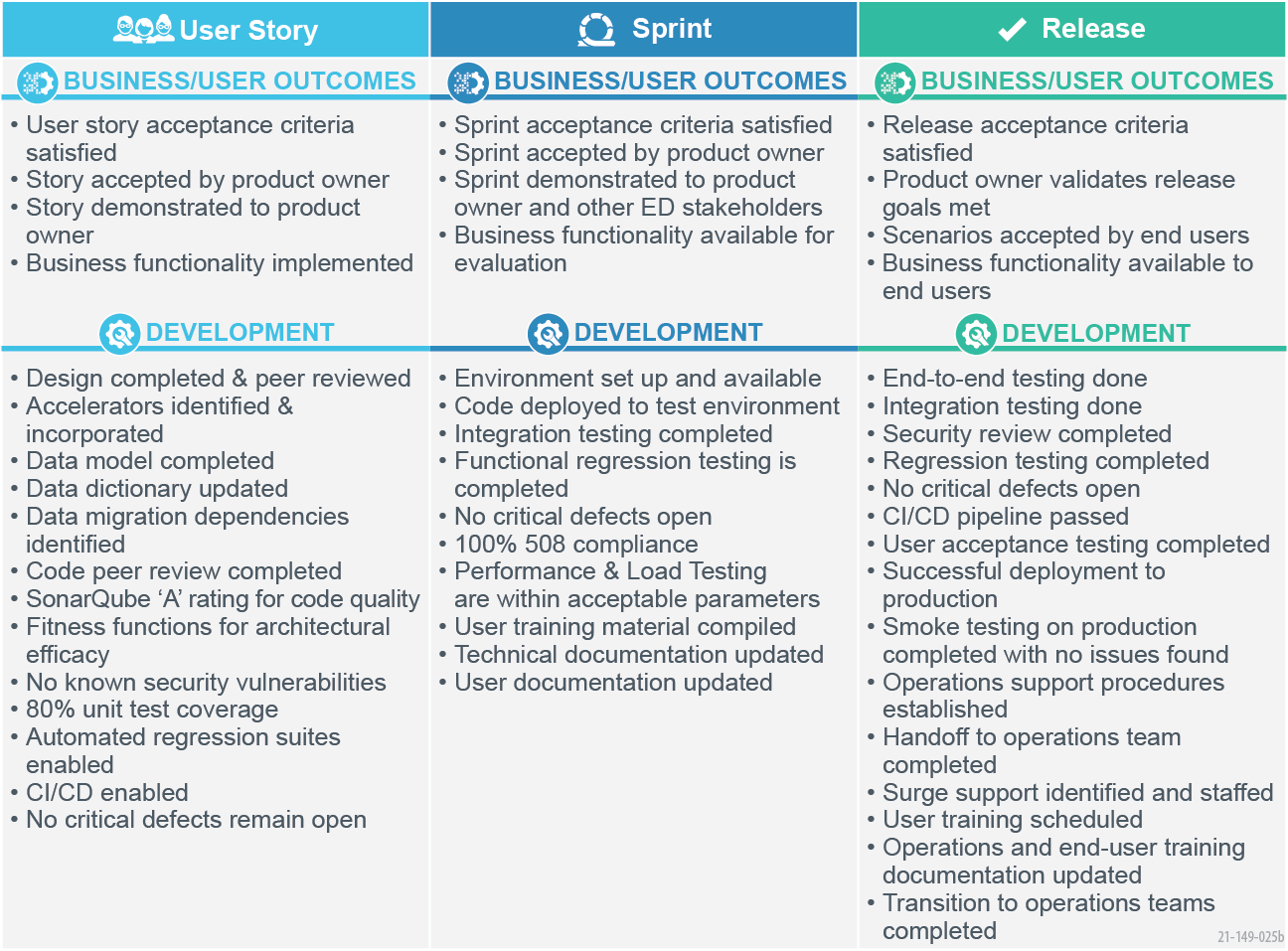


Figure : Team REI’s Standard Definition of Done

By using the agreed-upon Definition of Done at each level, gaps or issues are identified and fixed early in the project. This process reduces risk, and project timelines are maintained.

## Execute

We highlight the iterative nature of Agile execution in this step, where practices and ceremonies, such as backlog refinement, daily scrums, planning sessions, and sprint retrospectives, occur. **Table 5** below outlines the key ceremonies that occur within each sprint.

Table : Team REI Scrum Ceremonies

| Sprint Ceremony | Objective |
| --- | --- |
| **Backlog Refinement** | The ED Product Owner and Scrum Team review items in the backlog to ensure that they contains the appropriate items and prioritization and that the items at the top of the backlog are ready for delivery. Key activities during this session include adding or removing user stories associated with a feature, validating the priority of stories, assigning estimates to stories, and splitting user stories that cannot fit into a single sprint. |
| **Sprint Planning** | The sprint planning session occurs on the first day of the sprint and attended by the ED Product Owner, Scrum Master, and the entire Scrum Team. The purpose of sprint planning is to define the Sprint Goal, what can be delivered in the sprint, and how that work will be achieved. The team pulls the highest priority user stories from the backlog until the team’s capacity is reached, then adds all associated tasks to complete the user story. These tasks will help determine how many user stories we can complete within a single sprint. |
| **Daily Scrum**  **(Stand-Up)** | The Daily Scrum is a 15-minute time-boxed event for the Scrum Team and is held at the same time and place each day. The team uses the Daily Scrum to inspect progress toward the Sprint Goal and to inspect how progress is trending toward completing the work in the Sprint Backlog. The Daily Scrum is an internal meeting for the Scrum Team only. The Product Owner is usually not in attendance. |
| **Scrum-of-Scrums (SoS)** | A scrum-of-scrums is a scaled agile technique used to connect multiple Agile teams who work together on enterprise-level solutions. It helps teams develop and deliver complex products through transparency, inspection, and adaptation, at scale. These meetings, usually held weekly, include a designated member as “ambassador” from each scrum team that has a full understanding of the current status of development within that team. Program level dependencies and risks are highlighted during this meeting. |
| **Sprint Review** | The sprint review gives the Sprint Team and ED stakeholders the chance to inspect the outcome of the sprint and to help determine future changes. It is not a status meeting and is intended to elicit feedback and foster collaboration. The Scrum Team presents the results of their work and progress toward the Product Goal discussed. This meeting is not used to receive formal sign-off on work products. The result of the Sprint Review is probable Product Backlog items for future sprints. |
| **Sprint Retrospective** | The Sprint Retrospective occurs after the Sprint Review and prior to the next Sprint Planning. The retrospective is an internal meeting for the Development Team only. The purpose of the Sprint Retrospective is to inspect how the last sprint went and identify items that went well and potential improvements. During each Sprint Retrospective, the Scrum Team plans ways to increase quality by improving work processes or adapting the Definition of Done, if applicable. Although improvements are implemented at any time, the Sprint Retrospective provides a formal opportunity to focus on inspection and adaptation. |

For each prioritized backlog item (user story or defect), we conduct Requirements Analysis, Design, Development, Testing, and Integration tasks, as summarized in **Figure 16** and discussed in detail below. While these activities are similar to those in “waterfall” development, the key difference is that they are performed incrementally and iteratively for user stories to rapidly deliver business value to users. We quickly address feedback identified during each task and revert to previous tasks as necessary to ensure high-quality functionality is delivered to end-users.

Timeline

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Figure : Team REI’s Development Steps and Techniques

### Requirements Analysis

During this step, the Product Backlog is developed and refined through backlog refinement and User-Centered Design sessions. The Lead Business Analyst and Business Analysts Team play a critical role in this step by ensuring the backlog is groomed prior to the backlog refinement sessions. We ensure the backlog remains two sprints ahead of the Sprint Team to ensure a complete and prioritized backlog ready for development.

**Backlog Refinement.** A recurring backlog refinement session occurs, in conjunction with the ED Product Owner, to ensure a set of well-defined and prioritized user stories are available for sprints. During backlog refinement sessions, we analyze the needs described by each epic developed during the planning phase. We create user stories, further broken out if needed, assign points based on the complexity level, and elaborate around stakeholder-defined acceptance criteria. Points are assigned to each user story using techniques such as Planning Poker, a consensus-based technique used to estimate the effort of user stories. The primary purpose of these sessions is to ensure the next few sprints worth of user stories in the backlog are ready for sprint planning.

**User-Centered Design.** Team REI follows a six-step,User-Centered Design (UCD) model for detailed requirements analysis presented on the following page in **Figure 17.** This approach delivers experiences that engage users and help them intuitively execute their work. The model accelerates solution development through a healthy balance of data gathering and analysis complemented by focused, efficient stakeholder involvement. We advance our requirements process to introduce lean Business Process Re-engineering (BPR) to improve efficiency. Our Lead Business Analyst is responsible for providing guidance and oversight to Agile teams for this process. Depending on the scope of the epic or user story, the UCD process is tailored accordingly. For example, after style guides and theming templates are created, the Lead Business Analyst might determine a user story does not need to go through the UCD process due to the scope of the story and nature of the change.

Diagram

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Figure : Team REI’s User-Centered Design Process

1. **User Research.** First, our Grants Business Analysts gather, review, and interpret the requirements to better understand the business needs and project objectives. Using this knowledge, we conduct impact analyses, identify business gaps, and recommend business process streamlining to increase efficiency. The output of this phase is the documented Customer Journey Maps and user personas.
2. **Analysis.** Using our deep grants knowledge, we then conduct impact analyses, identify business gaps, and recommend business process streamlining to increase efficiency. The output of this phase is a product backlog of user stories and the Information Architecture of the new solution.
3. **Design.** A crucial step for seamless and consistent user experience in a platform-of-platforms-based solution, is the identification of style guides, theming templates, and branding guides that apply regardless of the underlying technology.
4. **Prototype.** Next, we create high-fidelity prototypes using tools such as Axure, which provides visual requirements validation for stakeholders. We comply with principles from the USWDS and 21st Century IDEA Act and apply these principles to create guidelines for each screen component to ensure consistency and adherence to standards. We demo these prototypes to elicit early feedback and validate our UX solution. These prototypes help stakeholders visually validate requirements through the interaction, navigation, and visual inspection of new features.
5. **User Testing.** We advance usability testing through A/B Testing using Axure’s out-of-the-box capabilities or directly within the forms created within the low-code platform. Testing early at this stage avoids catching errors and issues during development or User Acceptance Testing (UAT). At this point, a Technical Team member performs a feasibility analysis on the proposed prototype to ensure that the design is achievable given performance and accessibility constraints.
6. **Listen.** Finally, we leverage user forums, focus groups, system logs, and user tickets to consistently monitor the system adoption and user feedback for further fine-tuning, areas of improvement, and enhancements. Continuous improvement allows for the solution to evolve as business needs and even standards and guidelines change over the years.

The Governance Team, described in **Section C.16.2**, along with Agile team Product Owners, works with project stakeholders quarterly to analyze project goals, create user stories to address those goals, and prioritize user stories to create the scope for every release, reviewing the backlog monthly. We include UX and non-functional elements such as performance, security, technical debt, and architecture in the backlog.During implementation, we capture additional backlog items during sprint demos, UATs, and production feedback from end-users. We prioritize and address the new items during subsequent sprints if chosen. This provides ED with up-to-date product-level backlogs and a program-level G5M roadmap.

### Design

During this step, high-level architecture and design are pre-requisites for subsequent sprints, and required information for the team to organize and perform effectively. A design spike is a critical agile technique utilized to properly address user story design. Time and capacity are set aside in a sprint to allow developers to focus primarily on design questions as a precursor for development.

The Governance Team is accountable for governance, compliance with standards, technical oversight, and guiding the overall design for the G5M Program. We design software collaboratively with ED’s OCIO leads – working closely with users in an Agile manner to stay closely connected with the business needs. This entails assessing the output of the UCD process and constructing a design that is consistent, repeatable, and modular to bring cost sustainability to the solution. We design features with an ‘enterprise first’ and ‘configuration first’ approach, ensuring flexible, configurable capabilities are architected. Developers analyze the requirements and identify the best platform components to deliver the new functionality most efficiently. When necessary, we follow the DAR process outlined in **Section C.5.1.1**. A critical activity during this step is to identify environment needs. The Governance Team will proactively identify all steps required to set up the environments needed to ensure release success. If an ATO is required for release, we perform a complete Security Assessment during this phase. We compile design documentation, such as the System Design Document, at this time. The Governance Team ensures that the critical design step incorporates all the necessary the standards, guidelines and technical policies required, thus ensuring a robust foundation for implementation, and avoiding later rework.

### Code

Team REI begins the development of the project through Agile teams. Each user story within a sprint is a vertical slice of functionality that can be developed and reviewed at the end of the sprint. This Vertical Slicing is essential in realizing the benefits of Agile Adoption. We employ standard tools, environments, style standards, and processes to enforce consistency throughout each Agile team. We conduct development in a sandbox environment, where we execute security and accessibility tests, high volume performance tests, and prototype new technologies before introducing them into the test environment. Secure design principles will lead all development activities including low-code solution development. Application code scans are integrated for Static Application Security Testing (SAST), such as Fortify Static Code Analyzer and SonarQube, Dynamic Application Security Testing (DAST), such as Fortify WebInspect, and open-source scans. Container, operating system, platform, and infrastructure scans are added. Finally, API and data service (i.e., MuleSoft) scans are added to the pipeline.

We utilize Test-Driven Development (TDD) to produce code that is flexible, maintainable, and easily extensible. We work closely with stakeholders and functional SMEs throughout execution to ensure the software is developed against approved requirements. In addition, technical and functional peer reviews of the software are completed to ensure code quality and are incorporated as part of our Definition of Done at the end of each Agile sprint. Please see **Section C.5.3.1** for more details about our Definition of Done. Peer review checks are done against coding standards created for each technology reviewed. A checklist is created for each technology implemented within the program. For example, we require heavily commented code in all technologies (i.e., Java, Appian, Salesforce) to assist in the peer review process and ensure maintainability in the future.

**Reviews to Ensure Software Quality.** At each stage of the development cycle, we conduct the internal process reviews, listed in **Table 6** below, to ensure the project is optimally executed, and the developed solution meets the requirements and quality standards.

Table : Our Development Process Reviews produce code with little to no inherent defects.

| Review Type | Description & Benefit |
| --- | --- |
| **Design Reviews** | Software development UI and Digital Services Playbook standards, ensuring adherence to all standards. |
| **Peer Reviews** | Scheduled and performed at the sprint level. Results are reviewed by our leads throughout the lifecycle, reducing risk and resulting in a highly secure system. Any defects that arise because of these activities are immediately fixed, resulting in usable code at the end of the sprint cycle. |
| **Automated Static Code Analysis** | SonarQube is used to measure and monitor items such as lines of source code, method complexity, unit test coverage and overall Technical Debt. This allows for earlier identification and correction of defects, resulting in increased quality of code. |
| **Automated Security Scan** | Provides assurance on the security compliance. |
| **Sprint Demos** | Elicit frequent stakeholder feedback to ensure understanding of the developed product. |

### Test

Our testing methods include Unit, Functional, Security, Browser Compatibility, Section 508 Compliance, Performance, and Data Testing to ensure the readiness of the functionality. Our ADF supports engagement with business, user, and technical experts at multiple points in the lifecycle to elicit feedback and progressively update the solution. Utilizing JIRA, we tag test cases to requirements or user stories, providing full traceability. Our TDD approach implements automated unit, security, and integration tests. This approach detects issues earlier in the lifecycle by automating and running critical test cases upon ode check-in, eliminating costly manual testing. Our approach uses the same process to validate technical requirements such as security and 508 Compliance. We use JMeter and Fiddler to proactively ensure that functionality is performing as expected and can support the projected user load. We use production data to determine the load at peak usage, testing products for peak load volume. We align our security tools and settings with ED’s settings and remediate any findings early in the development cycle, automatically running scans upon code check-in in the development environment.

### Integrate / DevOps Methodology

Enabling a CI/CD pipeline speeds delivery with increasing levels of assurance through automation of deployment and verification. We use a CI/CD approach built with a combination of open-source DevOps tools that automate a broad array of assurance tests. We use Jenkins to automate both our custom and low-code CI/CD pipelines, shown in **Figure 18** below. This ensures built-in quality through automated quality checks. We utilize a CI/CD approach structured with progressive Assurance Tiers, first executing unit test and code coverage tests after every code check-in.

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Figure : Team REI's CI/CD Pipeline

As the product passes the automated code-quality gate reviews, we apply progressively more complex functional, security, accessibility, and performance tests. We supplement our CI/CD pipeline with ***Security Best Practices*** for ***DevOps****,* including checks and issue remediation throughout the lifecycle – not just after a security threat or compromise has occurred. Our approach will provide complete security coverage at all layers of the platform. We enable a fully automated DevOpsPipeline to speed delivery with increasing levels of assurance through automation of deployment and verification in every phase of the development cycle.

#### Environments

**Figure 8** on the following page outlines the Team REI’s progression of environments and associated major activities that occur within each environment. We collaborate with OCIO to establish each environment along with the necessary infrastructure required for setting up, acquiring, and configuring necessary automation testing and deployment tools.

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Figure : Team REI's Environment Progression Model

#### Source Code Approach

We use Git as a source code repository to maintain versioning across releases, which is utilized for both custom code as well as low-code technologies. While low-code technologies such as Appian and Salesforce have a built-in versioning feature, we also perform nightly check-ins of developer applications and database scripts within Git as an extra precaution in case of catastrophic failure.

We use GitFlow, a robust branching framework, for our branching and merging process. This process enables multiple teams to work on a single codebase for different releases simultaneously, including both planned and emergency releases.

#### Release Train

We utilize a release train of versioned software releases of multiple products on a Pre-Determined Regular Schedule. Implementing a release train process allows independent Agile teams within the G5M Program, as well as other teams across the organization, to align their changes into a release. This allows for systematic planning for dependencies, analysis and mitigation of impacts, and a controlled and predictable pace of work for increased efficiency and velocity. This release train will incorporate all patches, including quarterly Appian and Salesforce patches as required, as well as custom microservices.

## Quality Assurance

Once execution is complete, quality assurance is the final step prior to release. These activities, detailed in the Release Plan, are in place to ensure stakeholder sign-off, system acceptance, and operational readiness are performed on the list of epics and user stories that are about to be released to Production.

|  |
| --- |
| A picture containing calendar  Description automatically generated  Figure : Team REI's User Acceptance Testing Process |

**User Acceptance Testing.** After sprints are complete, we initiate UAT for verification. **Figure 20** describes our UAT approach. Before UAT, we submit UAT test scripts and test results for any required gate review. We automate UAT test data creation for each release. Our staff leaves UAT environments open for stakeholders to continue to beta test the new functionality, improving adoption and reducing potential errors.

**System Acceptance.** We perform Integration testing on a separate integration environment to test build and master script quality, as well as changes in impacted G5 modules. We provide support via various mediums, including phone, documentation, presentation, and in-person, depending on the nature and impact of the release. We address critical issues reported and log enhancements to the product backlog for future prioritization.

**Operational Readiness.** During this step, we ensure the software and environment are ready for release, and all Release Level Definition of Done items completed.

**Reporting.** During product verification, we record traceability in JIRA. Throughout all phases of testing, we record defects in JIRA and track them to closure. We report the results of all stages of testing in the test strategy document and discuss with G5 stakeholders, providing ED with accurate reports for more informed decision-making.

## Release

During this step, the build is successfully deployed to production and smoke tested with no issues found. A critical step that occurs is a handoff of the build to the Operations Team to provide key post-production support to end-users. Knowledge transfer sessions are scheduled, and materials reviewed to ensure the Operations Team fully understands the technical and functional requirements of the enhancements. Final reporting also occurs regarding the release. This includes information regarding release burndown and projected versus actual epics and user stories delivered.

## Security

We diligently support all security activities conducted by the ED Security Team and proactively develop software with security controls in place that adhere to FISMA moderate standards. As part of our Security Architecture Framework, we create a Baseline Security Architecture to ensure the minimum acceptable standards are defined. These standards include the list of approved ports and services available for use. We recommend the introduction of threat modeling to create the baseline, which allows the identification and mitigation of potential security issues early in the development cycle. As part of this approach, we will add functional components, ports, and protocols to a modeling tool that provides a comprehensive list of potential vulnerabilities. As part of our Security best practices, we will ensure the principle of least privilege applies across all products. To aid in this task, we will maintain a role matrix which documents each role by product, what components are visible, and what actions that role can take. We will provide Program Offices with a report listing the users and the roles assigned to each to ensure the correct permissions are applied. We work in conjunction with ED to review and update roles if needed.

## Documentation

We follow the process shown in **Figure 21** on the following pageto ensure that document-based deliverables, such as TO kick-off meeting presentations, EPMR documentation, user guides, and improvement recommendations meet timeliness and quality standards.

Our documented Definition of Done emphasizes five factors: 1) organization and template use from organizational process assets, 2) content tailored for the intended audience, 3) readability and presentation, 4) accessibility and, 5) delivery readiness. All deliverables from the SOW are numbered and tracked in our Program Portal with due dates and then linked to the corresponding WBS. Team members are provided a plain language checklist to guide their writing. We use Peer Reviews to ensure completeness and accuracy.

Diagram

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Figure : Team REI’s deliverable quality assurance   
promotes consistent and high-quality documentation.

Documentation requirements for user stories, sprints, and releases are incorporated into the Definition of Done outlined in **Section C.5.3.1**.

## Operations and Maintenance

**Operations.** Our Tier 3 staff have expert knowledge of the EGP and G5M application and underlying low-code platforms. They perform a thorough root cause analysis, checking all possible sources for the incident. When applications are deployed in the EGP, we will utilize AWS ATO as a Service tool suite (e.g., AWS GuardDuty, Inspector, and CloudTrail) for active, continuous monitoring of all applications and services. Our Operations Team also interfaces with the low-code providers when operations tickets impact the low-code platform.

**Defect Management**. All reported defects are immediately logged in JIRA for issue triage and assigned to the Maintenance Services Team. During Defect Analysis, we may require additional information to recreate the scenarios, which we extract from the defect description, interviewing the reporter, exception logs, web traffic log, or other application troubleshooting tools such as Splunk. Upon analysis, the assignee ensures the details about the issue are accurate, and it is correctly categorized as a defect. The defect is then put in queue for the next scheduled Minor or Emergency Release.

**Root Cause Analysis (RCA)**. RCA is a practice used to identify the underlying cause of a reported issue. We determine when, where, and why a problem occurred, utilizing available data, expert judgment, and industry best practices such as cause-and-effect diagrams. In cases where the issues are easily recreated, real-time debugging of code is a highly effective approach to isolate the issue and determine the root cause. Once we identify a root cause, it is categorized as common (i.e., a process or procedure update is required) or special (i.e., an environment issue). For common causes, updates to the required process are made. Special causes are usually one-time occurrences, and no updates are needed. If Team REI is unable to determine a root cause for an issue, they reach back to senior technical resources at REI and our Original Equipment Manufacturers (OEM) partners to attempt to determine the cause of the incident.

**Patches and Upgrades for OEMs and COTs Products.** Maintaining a secure, effective development and production environment requires that all servers, platforms, and development tools be maintained and patched appropriately to reduce the vulnerabilities present in the systems. OEMs and Commercial-off-the-shelf (COTS) products release new functionality on a pre-determined and pre-published cadence. For example, Appian releases new versions on a quarterly schedule and provides hotfixes every month. Team REI will work with ED on a patching cadence that ensures low risk to the G5M Program. This cadence will be incorporated into our *release train* for full transparency.

## Agile Reporting

Each Scrum Team uses JIRA to conduct sprint plans and track work. Kanban teams also create boards in JIRA to track tasks and measure Work in Progress (WIP). We use inbuilt and custom performance metrics and leverage ED-specific tools as required and/or as preferred by the government. Team REI shall generate metrics, such as sprint velocity for efficiency. We provide, at a minimum, the following Agile-based metrics:

* **Sprint-Based Metrics**
* Number and categorization of defects by sprint
* Sprint burndown chart
* Percentage of story points accepted versus planned
* Defects outstanding, defect trends by the team, 508 defects, and defect aging
* **Release-Based Metrics**
* Number and categorization of defects by Release
* Percentage of features accepted versus planned
* Defects outstanding, defect trends by the team, 508 defects, and defect aging
* Feature progress report
* **Operations Metrics**
* Work in progress
* Cycle time
* Throughput

At the beginning of each TO, the Team REI Program Manager will work with ED to determine the complete list of metrics to report against and the frequency at which to provide them. Team REI exports these metrics into Word, Excel, or other formats shared with ED at pre-determined frequencies.

## Change Management

Team REI’s Product Team and proxy Product Owners from each Agile team works with ED stakeholders to plan and prioritize requirements from the product backlog. We create program-level backlogs to provide visibility into the requirements of various capabilities and initiatives, then prioritize them based on impact assessments and project constraints (such as available capacity and team velocity). The product backlog provides the roadmap to the feature delivery. Once in production, change requests for the G5M Program shall be submitted as tickets through the Tier 1 help desk or through user feedback in UATs, demos, and directly in the live system. These changes can include new capability requests or modifications to existing features from the user community and PMO. We recommend a formal CCB process, led by ED, that is responsible for approving changes that require coding, configuration, or modification to the COTS tools. We will conduct detailed release planning, define a target release schedule, and present it to the ED’s CCB for approval.

## Preliminary Risks

Effective risk identification, management, documentation, and reporting requires participation from the entire team, so the right mitigations and responses are implemented. We identify risks on a continuous basis and review them during daily scrums with our Agile teams. We assess risks to determine the probability and impact, severity, and appropriate team responses. We track risks using a Risk Register in Jira, and the corresponding Agile team manages them to closure. Our Program Manager monitors all program risks to ensure they are properly managed, with mitigation plans in place, and escalated to ED leadership, if appropriate. **Table 7** outlines preliminary risks that could occur when executing the tasks outlined in the BPA.

Table : Team REI’s Preliminary Risks

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk Category** | **Risk Description** | **Potential Impact** | **Proposed Response Strategy** |
| Schedule | Forecasting a project schedule across a large program is difficult, and a lack of clarity on schedules results in stakeholder unavailability and delays in execution. | High | Team REI leverages our ADF and past experience managing enterprise programs to develop and manage a Release Plan that outlines all stakeholder expectations regarding time commitment.  We submit status weekly, providing insight and visibility into completed activities, as well as critical upcoming tasks and their dependencies. |
| Technical | Program/Office products are not aligned to the G5M Program Platform of Platforms and architecture standards. | High | Team REI will track a backlog by product. We then version the latest requirements and test cases and update them based on changes in a release. This way, we carry forward a cumulative version of requirements, testing, and related code traceability. |
| Technical | Completing migration and validation is a complex activity that requires domain and system knowledge. | Medium | Team REI implements test automation by using BDD methodology for writing test cases which helps automate regression testing while increasing the predictability and reliability of functional testing. |
| Technical | New COTS tools introduced for innovation are not always fully 508 compliant when incorporated into the federal ecosystem. | High | Team REI evaluates new COTS tools for compliance with Section 508 standards and works with the vendor to find solutions to compliance issues. |
| Schedule | End users are not always available for user testing or usability testing due to competing policy priorities. | High | Team REI works with ED to identify the next best option to simulate user testing. The goal is to get feedback from stakeholders and system end-users. We work with ED to identify former participants, help desk staff, or other team members to act as user proxies. |
| Administrative | For multiple-year modernization initiatives, maintaining product documentation and traceability across versions/releases is challenging. | Medium | Team REI tracks ALM documentation in JIRA by product capability. We then version the latest requirements and test cases and then update them based on changes in a release. In this way, we can carry forward a cumulative version of requirements, testing, and related code traceability. |
| Technical | Onboarding additional programs onto the EGP will create a need for additional communication and collaboration. | High | Team REI will create technical documentation as well as support change management activities for stakeholders. Further, a separate scrum team is added to support the integration, if needed. |
| Technical | Building a platform with a single technology can result in a monolithic application where ED relies on a single technology with a substantial cost for switching courses. | High | Team REI’s platform-of-platforms, a low-code product combined with REI Application Accelerators integrated via an API hub, will ensure additional components are added and swapped out as needed without impacting other critical business areas of the G5M Program. |
| Planning | Lack of proper planning at the start of each Task Order could result in an underestimation of the amount of work involved and incorrect information disseminated to key stakeholders. | High | Team REI has experience modernizing multiple enterprise systems for Federal agencies. We work with our Federal counterparts to develop a multi-year roadmap outlining the cost and schedule for the development of the modernized system, how long parallel operations will run for, and when the legacy system can be deprecated. |
| Security | The scope of the first Task Order requires an ATO by the end of the first year, which is a critical go-live milestone. | Medium | Team REI understands and has experience leading the ATO process at ED. We will work closely with the ED ISSO, assessors, and other stakeholders to plan and execute all work required for a fully-signed and executed ATO by the end of the first TO. |

## Agile Coaching for Federal Agencies

REI began our Agile journey in 2013 and we continue development with strong practices to this day. We use a three-pronged approach to coach and advise Federal agencies in their Agile journey:

* **Awareness:** We develop resources to educate stakeholders on the inherent benefits of Agile and publish a list of anti-patterns differentiating between plan-driven and value-driven approaches. We hold briefings for stakeholders, storing materials in a knowledge base. We also conduct baseline assessments and develop an execution roadmap tailored for each portfolio.
* **Coaching:** Our Mindful Modernization approach assists in transforming how people interact (e.g., clarify accountability and prioritization decision rights through outcome maps), how epics/features are prioritized (e.g., what is must-have versus nice-to-have), how resources are allocated (e.g., use capacity-based teams over project-based staffing), how technology reduces handoffs (e.g., DevOps integration), and how transparency enables faster actions (e.g., use information radiators such as Kanban walls).
* **Adoption:** Finally, we advance the Agile journey by supporting Communities of Practice (e.g., Joint Planning Team at IAE) and Agile Centers of Excellence. Our Agile experts conduct periodic assessments and provide guidance to different teams on incremental adjustments.

By influencing structural, cultural, operational, political, and physical factors at these Agencies, our approach will ensure that they truly embody the Agile mindset and functions as an Agile organization. As a result, users see the system and provide early feedback to improve usability and addressed incorrect functionalities iteratively instead of waiting until User Acceptance Testing (UAT). Deliverable quality has also significantly improved because of early automated testing, transparency, and collaboration within the team.

Another key aspect of Agile transformation is streamlining and transforming required Federal processes that were built around a Waterfall Model. When helping HRSA move to an Agile model, REI provided subject matter expertise to the following:

* **Enterprise Performance Lifecycle (EPLC) Framework.** Like ED’s EPMR, HRSA’s EPLC provides a standard structure for planning, managing, and overseeing IT projects over their entire life cycle. REI worked with HRSA to tailor the existing EPLC process to meet the needs of the program utilizing agile development. This ensured each program remained within the bounds of the framework while not overburdening the Scrum Team with documentation.
* **Capital Planning and Investment Control (CPIC).** The CPIC process was implemented to ensure IT investments integrate strategic planning, budgeting, procurement, and management of IT in support of agency missions and business needs. REI worked with HRSA to include Agile-related metrics, such as the number of planned and completed epics, to ensure complete and accurate reporting.

## Staffing Plan

Team REI’s staffing approach promotes a philosophy of delivering continuous value through the capabilities of talented teams and T-shaped individuals comprised of an exceptional blend of technical, management, and customer service skills. Our approach aims to meet the G5M Program objectives and PWS scope by maximizing team performance while minimizing risk to cost, schedule, and program mission fulfillment using an Agile management framework tailored specifically for ED modernization projects. It is based on a core team of accomplished, well-trained professionals who have the requisite grants and IT modernization experience and toolsets to deliver at a high level starting on Day One.

### Approach to Staffing Scalable Agile Teams

Achieving ED G5M Program objectives requires finding and retaining the right resources to ensure the highest performance, productivity, and collaboration on the contract. Team REI uses a matrixed staffing approach and proven recruiting processes that are developed and fine-tuned on over 50 similar IT programs. Team REI currently has over 250 in-house resources with grants experience ready to be leveraged in this ED program. Our staffing approach maintains a high-quality labor pipeline which allows us to efficiently orient our project team, complete necessary training, confirm start dates, submit security packages, and efficiently onboard staff. Team REI’s recruiting capability includes a talent pool of over 800 employees for reach-back and resource identification. We provide individuals that best match the task skill requirements, offering ED a best-value approach tailored to solutions. This flexible model ensures excellent customer service and satisfaction of ED’s current and future goals by providing a team of dedicated and specialty staff needed to meet the PWS objectives. The staff drawn from our pool of specialized IT professionals have government-wide IT system and application modernization and transformation experience with directly relevant technology expertise.

Our personnel development, recruiting, and retention process, shown in **Figure 22,** ensures we will have the right people available at the right time to deliver quality services that exceed ED’s expectations. Our staffing principles are to recruit and hire talented individuals, provide the professional development necessary to help employees excel, and provide competitive compensation and benefits to retain them, all in a culture driven by supporting personal to achieve professional satisfaction and future career growth. Team REI has successfully applied this process to our projects, both at ED and across the government.

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Figure : Process for Personnel Recruiting, Development, and Retention.

### Organizational Chart

Team REI’s cross functional G5M Program organization addresses every ED PWS element, provides maximum staffing flexibility, and aligns our Team’s skills with the ED requirements. Team REI’s organizational structure, **Figure 23**, is modeled after the successful cross-functional approach we are using today on similar grant-making programs such as HRSA and NASA, and low-code implementations such as OCC. Our cross-functional Agile teams, shared resources, collaborative approach, and Executive Team attention ensure that Team REI will meet all aspects of G5M Program execution. Core elements of our cross-functional staffing approach include:

* **Hands-on Technical Leadership**. Our Program Manager and Development Lead have hands-on experience delivering successful grant modernization projects. As a result, they proactively plan effective mitigation strategies. For example, on our NASA SBIR program, our PM worked closely with the government during the 35-day government shutdown to ensure that the program continued to meet strict deadlines even when the client was prohibited from working – resulting in a very pleased customer. Further, our teammates provide key leaders for our G5M Program Innovation and Advisory Board. They will meet periodically to ensure that Team REI incorporates the best of what each firm offers.
* **Responsive Collaboration**. Team REI creates and maintains clear paths for collaboration and communication between program stakeholders, other vendors, and Team REI resources to ensure well-defined paths for coordination, decision-making, problem escalation, issue resolution, and teamwork. For example, REI supports GSA’s modernization of beta.SAM.gov. During the go-live for a recent major release, REI HQ served as the command center for all government staff and vendor partners to collaborate and manage the go-live initiative.
* **Scalable Agile Teams.** ED delivery requires rapid, timely delivery of highly qualified, cross-functional staff with modernization experience.

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Figure : Team REI’s Organization Chart for the ED G5M Program

Team REI is organized around three primary program responsibilities described below that address all PWS tasks. The REI Executive Team supports and monitors the program and provides ED leadership a direct communication path for issue escalation.

* **Program Management (PM) Team.** Drives parallel, interdependent workstreams, ensuring the G5M Program tasks are delivered on-time, within budget, and with a high level of quality. Our PM Team will bring their grants modernization experience to aid in successful delivery. Our proposed Program Manager (PM), Kimberly Farrell, is our single Point of Contact for the successful delivery of the G5M Program and has direct access to the REI Senior Leadership in case of escalations. She reports into Robin Wood, Director of Emerging Accounts. These are leaders who are known for delivering similar high-quality and complex mission-critical technology solutions. Ms. Farrell, an agile-certified Program Manager with over 20 years of experience, currently leads multiple grant modernization efforts at HRSA. She will be supported by David Askey, our proposed Development Lead, who currently supports REI’s NASA SBIR system. The Program Team manages and supports the Delivery Team, allocates resources, coordinates with teammates, and monitors progress. They monitor and manage program risk and collect and report performance and quality metrics. By applying PM techniques we have used on programs of similar size and scope to the G5M Program, Team REI can deliver on-time and within budget while meeting and often exceeding client expectations. The entire G5M Program Team reports directly to Ms. Farrell.
* **Governance Team.** Drives consistency and transparency across the entire team while maintaining a focus on users and stakeholders to ensure a successful G5M Program implementation. Our Governance Team assesses the current grants landscape, designs process changes, and works with our developers to identify a *consistent and user-friendly solution* irrespective of the underlying platform used for development.
* **Execution Team.** A scalable set of Agile Product Delivery Teams, each focused on a specific set of platform or business capabilities. Scrum-of-Scrums Meetings will aide in communication and help manage dependencies. Our planned execution involves the following Agile teams:
* ***Program Integration Team***– Responsible for working collaboratively with other ED grants system owners and their contractors to leverage EGP for both existing and new capabilities.
* ***G5M* *Team*** – Responsible for development of the G5M application, scope of which is outlined in Attachment 8 -Task Order 01 SOO. This team is initiated after the platform is ready for consumption.
* ***Operations Team***– Responsible for post-production operations of the program, including training and user support.
* ***EGP Team***– Responsible for the development of the core platform.

### Contact Information for Senior Leaders

Team REI’s Senior Leaders are available and ready to support ED 100% upon contract award. Their contact information is listed in **Table 8** below.

Table : Team REI Senior Leadership Information

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Contact Information** |
| Kimberly Farrell | Program Manager | 703-989-7165, kimberly.farrell@reisystems.com |
| David Askey | Development Lead | 703-598-1901, david.askey@reisystems.com |
| Galina Birnbaum | Lead Business Analyst | 201-252-4968, galina.birnbaum@reisystems.com |
| Justin Wilcoxsen | Senior Architect | 703-477-3173, justin.wilcoxen@reisystems.com |
| Andrew Connors | Testing Lead | 703-819-3333, andrew.connors@bpsconsulting.com |

Our Senior Leadership is supported by REI Corporate Leadership, who are always available for support and in case of any escalations. As a mid-tier company, our success is tied to the success of the G5M Program. Our executives are invested and always available – at no cost to ED. **Table 9** below outlines the contact information for corporate leadership within REI, who are available to ED for any needs that arise.

Table : REI Corporate Leadership Contact Information

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Contact Information** |
| Scott Fletcher | REI Chief Operating Officer | 703-328-0298, sfletcher@reisystems.com |
| Samidha Manu | REI Vice President | 703-955-6126, smanu@reisystems.com |
| Robin Wood | Director, Emerging Accounts | 240-426-4423, robin.wood@reisystems.com |

In addition, our Program Management Team has the reach back of an Advisory Board of ED SMEs and Technical Experts, shown in **Table 10** below. This Advisory Board brings invaluable knowledge and experience that can be leveraged by the ED OCIO when shaping the future vision for its IT investments. The Program Management Team will leverage this expertise when collaborating with ED on strategic program decisions, such that all impacting factors are considered. ***This service comes at no cost to ED.***

Table : Team REI's Advisory Board

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Role** | **Contact Information** | **Description** |
| Andrew Zeswitz, REI Systems | Chief Technology Officer | 703-963-5973,  andrew.zeswitz@reisystems.com | Andrew has extensive experience in the federal market. He leads corporate strategy to identify and adopt new technologies, and champions innovation and delivery evolution. Andrew’s main focal points are application modernization, delivery automation, cloud solutions, and cybersecurity. |
| Rujuta Waknis, REI Systems | Director, REI Grants Management Services | 571.244.5930, rujuta.waknis@reisystems.com | Rujuta is the Director of the Grants Offering at REI Systems, with over 18 years of experience creating technology products and data solutions in domains such as grants management, acquisitions, and resource management. She is an advocate for the improvement of grant outcomes through data sharing and data-driven decision-making. She has implemented enterprise grants management solutions across the grants lifecycle for multiple federal government agencies. |
| David Isaac, BPS | Managing Partner | 301-651-8929, David.Isaac@BPSconsulting.com | David has over 35 years of experience as a business practice manager and large-scale system architect for a wide variety of information technology initiatives. This includes work in enterprise web applications, data warehousing, strategic performance management, and grants systems at agencies, such as ED. |
| Natalie Carey, Appian | Senior Director | 202-558-8428, natalie.carey@appian.com | Natalie is a menber of Appian’s Public Sector Practice and is the Grants Solutions Industry Lead. She has more than 18 years of experience serving the federal government, including ED. Other areas of focus for Natalie are hyperautomation (humans + bots + AI), low-code, and cybersecurity. |
| Michael Shortino, Salesforce | Principal Digital Strategist | (703) 969-4313, mshortino@salesforce.com | Michael is part of our Public Sector Industries Team and specializes in digital transformation engagements to build a co-strategy with customers. He has over 20 years of business and information technology consulting experience, consulting on and managing projects in multiple industries and disciplines. His experience includes working with clients on a variety of engagements, from strategy and architecture to technology implementations. |

### Management Resources

Tools. Team REI leverages best-in-class tools based on our experience leading both low-code and grants modernization initiatives at Federal Agencies such as OCC, HRSA, and NASA. These tools, listed in **Table 11** below, track code changes, facilitate collaboration, enable information sharing, and provide transparency and visibility.

Table : Industry-Standard Tools that Support Team REI's ADF

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Benefit to ED** |
| Jira | * Documented risks in Jira with priorities, impact, response strategy, and risk rating * Agile reporting tool * Agile Kanban board and location to enter and store epics and user stories | Visibility, Transparency |
| Wiki/Confluence | * Centralized Knowledge Base of issues, FAQs, workarounds * Contact List for on-call staff | Efficiency, Lower Cost |
| Data Script Library | Commonly used, source-controlled database script library | Efficiency, Consistency |
| GIT | Version control for modified code, data scripts, and automation scripts | Visibility, Transparency, Lower Cost |
| SharePoint | Document storage repository for Standard Operating Procedures (SOPs), plans, and templates | Productivity, Collaboration |
| Microsoft Office | Industry standard software used to develop status reports and project plans | Visibility, Productivity, Efficiency |

Staff. We operate in a true Agile manner using our ADMP, with T-shaped resources and COTS implementation experts, ensuring rapid development and meeting execution objectives. In the **Plan** step, our hands-on leadership proactively identifies the qualified resources for the TO; develops them through onboarding, training, and mentorship to enable them to handle mission-critical needs; and promotes a culture of technical excellence in the team. We train new resources through a structured onboarding program for the business domain, technology, and tools leveraged on the projects, including the COTS products and low-code solutions implemented. In the **Perform** step, we execute through self-organized teams structured based on capacity. **Table 12** outlines the billable resources that will be responsible for the management of the G5M Program BPA. Ms. Farrell, with the support of her Management Team, has the full support of REI to make any scope, schedule, budget, and contractual decisions regarding the BPA.

Table : Team REI Management Resources

|  |  |  |
| --- | --- | --- |
| **Name** | **Role Name** | **Role Description** |
| Kimberly Farrell (KEY) | Program Manager | * ­Serves as the Single Point of Contact for the contract­ * Drives program execution, customer satisfaction, and communication across G5M Program * Creates a shared vision and provides accountability for managing and onboarding staff * ­Leads contract management tasks, including subcontractor management, risk mitigation, cost control/budget/financials/ invoicing/schedule * ­Leads program performance assessment for the team |
| David Askey (KEY) | Development Lead | * Supports PM in all program management tasks noted above * Serves as POC when PM is unavailable * Leads the development of G5M, EGP, and future Program Office integration efforts |
| Zahra Sohani | PMO Analyst | * Supports the PM and PM functions * Leads management of project schedule and reporting, risks and issues, budget, financials * Support RACI, device management, and disposition * Identifies and protects Controlled Unclassified Information (CUI) * Maintains records management * Conducts Business Impact Assessment |

### Technical Resources and Skill Sets

Our experience has shown that having focused teams of engineering staff is key to providing continuity, ensuring efficiency, keeping communications tight, and achieving high levels of predictable velocity. In **Table 13** on the following pagewe have identified the following roles, also outlined in our Organizational Chart outlined in **Section C.16.2**, to ensure a successful G5M Program:

Table : Team REI Technical Resources

|  |  |
| --- | --- |
| **BPA Labor Category** | **Skillset Needed** |
| Solution Architect (KEY) | * Cloud and DevOps Modernization * Multi-platform solution design |
| Test Lead (KEY) | * Grants domain knowledge * Automation expertise |
| Security Analyst | * Secure cloud-based architecture * Experience with cyber defense tools |
| Lead Business Analyst (KEY) | * Grants domain expertise * Business process design |
| UI/UX Lead | * Experience leading application modernization designs * UCD experience |
| Change Management Analyst | * Experience leading CM activities for a modernization effort * Understanding of the full scope of OCM |
| Data Lead | * Data migration and synchronization * Cloud-based database design |
| Scrum Master | * Experience leading multiple Agile teams through a large-scale modernization initiative * Agile certification |
| Business Analyst | * Grants domain expertise * User story creation and elaboration experience |
| Software Engineer | * Back end as well as client-side development expertise * Experience working on large-scale modernization initiatives |
| Test Engineer | * Experience writing and executing test cases * 508, automation, and performance testing experience |
| Infrastructure Engineer | * Experience with creating and maintaining a CI/CD pipeline * Expertise in multiple tools such as Jenkins |
| Low-Code Developer | * Salesforce or Appian expertise as required * Modernization experience |
| Data Engineer | * Experience writing and executing SQL scripts * Expertise with complex data migration activities |
| Web Designer | * Understands 508 and WCAG compliance standards * Experience developing prototypes utilizing Azure and other prototyping tools |
| User Support Specialist | * Grants domain knowledge * Experience providing Tier 3 support |
| Training Specialist | * Experience creating content for user guides and other training material * Grants expertise |
| Helpdesk Technician | * Call Center experience * Ability to provide surge support, as needed |

### Management of the Offeror's team that will be on-site

Team REI’s management will be primarily located at REI Headquarters in Sterling, VA. We will support all meetings at the government site, as needed and as outlined within the Task Order Statement of Work.

In addition, our Management Team commits to being on-site at ED one to two days per week to ensure effective communication and engagement throughout the period of performance of the BPA.

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