Project Name: National Plan and Provider Enumeration System (NPPES)

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10/13/2024 - IHS Enterprise IT Operations & Maintenance Sustainment (Datacall to DNI)

Customer Name	Indian Health Service
Project:	Information Technology Cybersecurity Program Support Services (ITCPSS)
Contract Number	75N98120F00001
Customer/Client POC Email	David Causey, COR Email: david.causey@ihs.gov Phone: 301-443-0478
Total Contract Value	21M
Period of Performance	08/15/20 - 02/14/26
CPARS	Exceptional and Very Good

Brief Description of Services Provided:

RELI delivers a full range of cybersecurity services to the IHS Division of Information Security (DIS), supporting the agency's implementation, operation, and optimization of its mission-critical IT cybersecurity program. Acting as both the cybersecurity Architecture & Engineering (A&E) team and the Cybersecurity Incident Response Team (CSIRT). We ensure secure integration and configuration of security systems, manage incident response (IR), and architect IHS systems for federal network compatibility and SOC monitoring. Our team designs, integrates, and establishes governance for SOC operations, providing proactive threat intelligence and real-time risk analysis by monitoring data from firewalls, network security tools, vulnerability scanners, and more. RELI conducts monthly test cases and continuous training for both contract and federal personnel to ensure SOC analyst readiness and effective incident response.

RELI collaborates with the Chief Information Security Officer (CISO) to establish and track KPIs for IHS's SOC program, monitoring incidents, vulnerabilities, and significant security events. We report these metrics to stakeholders, including GAO and OMB, to enhance program operations and support compliance with standards like M-21-31. Our expertise in Cybersecurity Contract Management spans across federal agencies, including CDC, DHS, IHS, and CMS.

RELI adheres to high standards for quality management and cybersecurity, maintaining CMMI Maturity Level 3 and ISO certifications for Quality (ISO 9001), Security (ISO 27001), and IT service management (ISO 20000-1). We optimize Splunk SIEM queries for enhanced performance and have migrated IHS to a cloud-based SIEM. Our cybersecurity team specializes in digital forensics and operates IHS's CDM, SIEM, IDS, and IPS infrastructure, enhancing security operations with tools like Splunk User Behavior Analytics (UBA) for rapid detection of anomalies.

Additionally, RELI is applying and promoting the adoption of SAFe Agile methodologies across IHS' DIS to ensure alignment with DIS mission goals and objectives, increase quality of efforts, provide transparency, and improve efficiency. Our structured team-based approach focuses on relentless improvement, which centers the individual team members on a collective goal that strengthens both the quality of our efforts and team cohesion. As part of program

planning and program management support, the RELI PM seeks to ensure the alignment of ITCPSS support efforts with the IHS Strategic Plan. To ensure mission success and IHS leadership's continued support, the RELI PM documents how DIS efforts and achievements are connected to IHS strategic objectives.

Customer Name	Centers for Medicare & Medicaid Services (CMS) Center for Program Integrity (CPI)
Project:	National Plan and Provider Enumeration System (NPPES)
Contract Number	HHSM500201700045I/75FCMC20F0002
Customer/Client POC Email	Tressa Mauk Buschert, COR 410-786-3100 tressa.maukbuschert@cms.hhs.gov
Total Contract Value	49M
Period of Performance	09/30/20 - 09/29/25
CPARS	Very Good and Satisfactory

Brief Description of Services Provided:

As prime, RELI supports NPPES through all stages of the system design lifecycle (SDLC), including its migration from an on-premises system to an AWS cloud-based solution. RELI modernized, developed, and tested solutions to ensure system security and maintained NPPES' Authorization to Operate (ATO) during the migration from Companion Data Services (CDS) Virtual Data Center (VDC) to AWS.

As part of the modernization of NPPES, RELI migrated the system from legacy Oracle SPARC and IBM Mainframe systems to a cloud-native platform using AWS Fargate and Elastic Container Service (ECS) with a Java Spring Boot framework. The team implemented serverless computing, auto-scaling microservices, and Lambda functionality to enhance scalability and reliability. Initially, a "lift and shift" approach was used, but modernization was necessary to optimize performance and user experience. This redesign improved data flow between the NPPES Datamart and other systems, such as the Integrated Data Repository (IDR), while maintaining day-to-day operations.

RELI's modernization efforts include APIs to facilitate secure, scalable, and efficient data exchange between NPPES and external systems, including Provider Enrollment, Chain, and Ownership System (PECOS). RELI follows industry standards for API development, ensuring interoperability and seamless integration with external partners, enabling faster and more secure information transfer.

RELI's NPPES Security Officer ensures compliance with security requirements throughout system development and operations. The officer maintains security artifacts in CMS's Governance, Risk, and Compliance (GRC) tool, CFACTS, including the System Security Plan (SSP), Privacy Impact Assessment (PIA), and Contingency Plan (CP). RELI continuously updates these artifacts and conducts annual cybersecurity exercises, such as Incident Response Tabletop Tests, Contingency Plan Tabletop Tests (CPTT), and Disaster Recovery (DR) failover tests. The security team collaborates with the Information System Security Officer

(ISSO), Technical Review Board (TRB), and Governance Review Board (GRB) to ensure the system architecture meets CMS security and privacy standards.

RELI ensures the secure handling of personally identifiable information (PII) and system security artifacts within federal governance, risk, and compliance solutions like CMS's CFACTS, Trusted Agent, and Archer. The team supports the entire security lifecycle, including continuous ATO updates, maintenance, and 24x7 system operation. This involves DevSecOps expertise to meet the demands of over 40 million citizens accessing healthcare providers and payment plans.

09/09/2024 – NIH SAIC Datacall

National Plan and Provider Enumeration System (NPPES)
i. Contract Number: 75FCMC20F0002
ii. Estimated Annual Dollar Value of Contract: $10M
iii. Description of services (including location) provided and the Quoter's level of responsibility and authority on the project: RELI Group, as the prime contractor for NPPES, manages software development, maintenance, and operational support as well as maintains the NPPES Call Center. We oversaw the migration of NPPES to AWS Cloud using SAFe and CMS guidelines, enhancing redundancy, performance, scalability, and security across three availability zones. The public NPPES Registry database now benefits from real-time scaling and improved reliability without disrupting users. NPPES serves as the central repository for unique identifiers like NPIs for healthcare providers and health plans. The data is shared with downstream CMS systems and external healthcare networks, enabling crucial information exchange within the healthcare sector. We provide more details below in the **Detailed Description Relevance of Services Provided**.
iv. (If applicable) If Quoter was the Prime on the project, provide a list of subcontracted services and Subcontractors used, along with estimated annual cost of each subcontracted service: General Dynamics Information Technology (GDIT) - $1.9M Turning Point Global Solutions, Inc. (TPGSI) - $3M
v. Type of contract: FFP
vi. Date of contract start and completion, including options: Base: 9/30/20-9/29/21, O1: 9/30/21-9/29/22, O2: 9/30/22-9/29/23, O3: 9/30/23-9/29/24, O4: 9/30/24-6/29/25, O5: 6/30/25-9/29/25
vii. Name, title, address, phone number, and email of customer contact: Tressa Mauk Buschert, COR, 410-786-3100, tressa.maukbuschert@cms.hhs.gov

Past Performance Matrix

Technical Area	Relevant Performance Response
Cloud Service Delivery	✓
Data Migration to a Cloud Services environment	✓

Detailed Description and Relevance of Services Provided

Similarity of Scope, Scale, and Complexity.

As the prime contractor, RELI migrated NPPES to AWS Cloud, adhering to best practices and Scaled Agile Framework (SAFe) and CMS guidelines. Deployed across three availability zones with a read/replica database in OpenSearch, the system now benefits from redundancy, scalability, and enhanced security. The migration supports real-time scaling and serverless computing, maintaining operational efficiency with utilization rates of 40-50%. AWS Cloud enhances availability, data durability, and cost-efficiency. We use CMS Enterprise tools like GitHub,

and Atlassian Suite (JIRA, Confluence, Slack) for documentation, tracking, and managing KPIs, with all release documentation and user story traceability maintained on Confluence.
Additionally, RELI provides full lifecycle support for NPPES, including software development, cloud migration, and security maintenance. We manage sensitive data and ensure ATO compliance through federal GRC solutions. Our team oversees three applications, handles over 86,000 NPI applications and 12,833 monthly calls with a 96% satisfaction rate. ServiceNow is used for automated help desk management and reporting to CMS leadership.

Relevance to the Solicitation's PWS Task Areas.

A. TASK AREA 1: Project/Program/Call Order Management Reporting.

1.Project Management Support / Task Order Request for Proposal: Within six months after the transition, NPPES transitioned to a Scaled Agile Framework (SAFe) methodology under the guidance of our SAFe coach and Program Director, establishing a cadence of daily stand-ups, bi-weekly deployments, and 12-week Program Increment events. Adhering to SAFe practices, we set a deployment cadence of two-week iterations upon demo approval, resulting in 39 successful deployments and only 9 escape defects from 1/1/2023 to 3/19/2024. Aligning with CMS's goal for professional project management across the project lifecycle, our approach integrates two subcontractors, six Key Personnel roles, and 62 staff members into a unified team culture with full transparency, actively including our client as a core team member. We achieved a low turnover rate due to front-line staff advancement, under stable leadership from our management team with minimal changes over three years. Although JOAs were not part of the initial transition, we annually update Data Use Agreements with stakeholders to enable ongoing compliance and alignment. NPPES ensures the protection of Personally Identifiable Information in accordance with CMS guidelines.

Contract Transition-In Support (Optional).

RELI successfully transitioned this major national system from the previous incumbent using a 3-month phased approach without setbacks. The transition included a detailed plan for continuity, knowledge transfer, personnel transition, risk management, and resource analysis. RELI rapidly staffed the project, hiring 68 full-time equivalents within 52 days.

Contract Transition-Out Support (Optional). - n/a

Quality Assurance.

As the NPPES prime contractor, RELI ensures quality through CMMI Level 3 appraisal, ISO certifications, and an Independent Quality Assurance program conducting 128 monthly evaluations. We maintain compliance, support audits, and prioritize service improvements through structured training, quality checks, and user feedback, emphasizing clear communication and empathetic support.

After Hours Support.

NPPES support operations after hours utilizes AWS services such as CloudWatch, CloudTrail, REDS, Insights, and CloudFront to ensure continuous 24/7 monitoring. When an issue arises, the NPPES team promptly informs PM and Sector Lead. If security intervention is required, the PM contacts the RELI Security team within one hour, which then notifies the CMS helpdesk within the same timeframe. The Sector Lead subsequently engages with the CMS COR, ISSO, and Business Owner. Additionally, the team undergoes annual updates and reviews to prepare for contingencies, including after-hours support, with mandatory annual updates to the Contingency Plan (CP) and performance of the Contingency Plan Tabletop Test (CPTT).

B. TASK AREA 2: Cloud Services.

1. Cloud Architecture Services.

RELI migrated NPPES to the CMS AWS Cloud by modernizing the application to run on the AWS Fargate compute engine using AWS Elastic Container Service (ECS) and running a Java Spring Boot framework, including Lambda functionality, to replace the monolithic systems. RELI developed a cloud-native serverless Java and Spring Boot microservices framework through a DevSecOps pipeline. The microservices are performance tested, security scanned, and auto-scaled in and out to meet demand and gain cost efficiency.

2. Cloud Computing: On NPPES we used GitHub and Jenkins to automate our deployments and store code. For Cloud Module Development and Implementation on NPPES we used reusable Terraform modules to deploy our Cloud infrastructure across multiple environments.

3. Cloud Security: RELI securely maintains personally identifiable information (PII) data and system security artifacts within federal governance, risk, and compliance solutions (e.g., CMS's CFACTS, Trusted Agent, Archer) for over 100 federal systems. This work included supporting the entire security lifecycle for the on-premises system and the continual security work, maintenance, and ATO adjustments as it moved into an AWS cloud. RELI developed, updated and continues to maintain these artifacts so the ATO remains in good standing. This work

demands continuous DevSecOps discipline to keep the system operational 24/7, ensuring access to healthcare services for over 40 million citizens.

4. Applications, Platforms, and Data management: RELI provides strategic product management for NPPES, utilizing the Scaled Agile Framework (SAFe) to manage cloud migration, product vision, roadmaps, and lifecycle management with advanced technologies and DevSecOps workflows. The Product Manager ensures alignment with program OKRs, oversees AWS migration, and tracks progress, ensuring teams meet objectives. Through SAFe, RELI also transformed NPPES with ServiceNow capabilities, enhancing workflows, ITIL management, data accuracy, and customer service for CMS.

5. Workload Rationalization and Migration: RELI conducted thorough research into cloud technologies before migrating NPPES from its legacy Oracle SPARC and IBM Mainframe systems to a cloud-native platform on AWS. Following this research, we implemented a modernized architecture using AWS Fargate and a Java Spring Boot microservices framework, along with Lambda functions. The migration, executed through a DevSecOps pipeline, enabled performance testing, security scanning, and auto-scaling for improved scalability, reliability, and cost efficiency. We also enhanced APIs for secure, efficient data exchange with external systems like the Integrated Data Repository (IDR) and PECOS, ensuring seamless and optimized operations.

6. Operations & Maintenance: RELI provides support services, including operational, maintenance and enhancement support, identify and access management operations and enhancement support, NPI enumerator services, Health information technology for economic and clinical health act support, and data dissemination activities. We perform the maintenance and management of four different AWS programs at CMS all of which have four AWS VPCs for the four AWS environments (Dev, Test, Implement, Prod). We maintain an Enterprise Atlassian Jira platform for all sprint work, maintenance, and management of all environments. We used AWS native tools (CloudWatch, CloudTrail Trusted Advisor) along with Splunk and Tenable instances that provide us with the proper information to apply configuration management and maintenance management.

7. Operations & Maintenance of SaaS and PaaS offerings: RELI Group is responsible for the operations and maintenance of the NPPES approved SaaS and PaaS offerings, ensuring compliance with CMS standards and ATO requirements while maintaining the security and reliability of these services. Key responsibilities include providing incident management support, conducting audit log reviews, responding to security alerts, and ensuring timely resolution of security incidents. Additionally, we support NPPES customers by assisting with the setup customization, and ongoing use of their SaaS and PaaS solutions, addressing queries, and connecting them to relevant documentation and training resources. This approach aims to uphold the security, functionality, and customer satisfaction for all SaaS and PaaS offerings.

Quality of Products or Services: RELI's recent CPARs ratings for NPPES include Very Good/Satisfactory for Quality, Schedule, and Management, with the following summary of feedback from CMS:

During the performance period, RELI effectively managed risks and delivered high-quality updates to the NPPES with minimal defects, contributing to a successful contract year. Key accomplishments included implementing a 60-day password reset feature, enhancing the user interface with 17 new features, and reducing provider calls by 8.4%, supporting CMS's goal of a 15% reduction. The team improved system performance by switching the NPI Registry database from MongoDB to OpenSearch and addressed provider pain points by collaborating with the Provider Enrollment Operations Group (PEOG). RELI also responded promptly to security incidents, such as implementing a secondary email notification feature after the CentraCare incident. The contractor maintained strong communication with business owners through daily standups, weekly meetings, and Program Increment (PI) planning sessions. Significant system upgrades included decommissioning from CDS, transitioning to ARS 5.1, and beginning to track Help Desk call reductions. RELI's agile approach and adaptability to changing requirements ensured successful workload management and support for CMS business goals.

RELI has "executed quality updates to the NPPES system, causing NPPES to have a successful contract year while incorporating improvements for Providers, partnering contractors, and users within the NPPES and the partnering system, Identity and Access (I&A)…RELI has maintained their agile approach to the release updates and schedules, continued promoting and fostering healthy relationships with stakeholders and internal CMS members, and continued working on innovative ways of modernizing the systems per CMS guidance." ~ Tonya Anderson, Contracting Officer, CMS

"It is such a major difference when you have a consolidated team. I really love this team… one of the best I have seen since at CMS (20 plus years). On top of that you have some great personalities that truly make all the difference in the world. Thank you to your leadership!" ~ Erick Royle, Director, Division of Provider Systems Management, CMS

05/06/2024 - CMS Cloud Product Engineering & Operations (CPEO)

Describe your organization's experience in managing large-scale infrastructure services inclusive of on-premises and cloud-based infrastructure.

CMS National Plan and Provider Enumeration System (NPPES): On our CMS NPPES prime contract, RELI Group (RELI) supports the NPPES through all stages of the system design lifecycle (SDLC) including its migration from an on-prem system to an AWS cloud-based solution ensuring that system security and NPPES' Authorization to Operate (ATO) are maintained. Our team moved the code to AWS, modernized, developed, and tested several solutions to mitigate these issues as we migrated from the Companion Data Services (CDS) Virtual Data Center (VDC) to the NPPES AWS environments. We designed a migration plan and strategy to include a timeline with key milestones backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed and accepted by the CMS Technical Review Board (TRB). In order to connect to our external CPI partners and stakeholders, we deploy private containerized subnets to isolate the Fargate microservices compute engine, allowing connections via APIs across AWS Virtual Private Cloud (VPC) peering.

RELI securely maintains personally identifiable information (PII) data and system security artifacts within federal governance, risk, and compliance solutions (e.g., CMS's CFACTS, Trusted Agent, Archer) for over 100 federal systems. This work includes supporting the entire security lifecycle for the on-premises system and the continual security work, maintenance, and ATO adjustments as it moved into an AWS cloud. RELI developed, updated and continues to maintain these artifacts so the ATO remains in good standing. This work requires significant DevSecOps discipline and skillsets as changes are required continuously and the system must remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare service.

Describe your organization's approach for delivery of infrastructure and shared services to a large federal organization with varying levels of DevSecOps maturity and experience.

CMS NPPES: The legacy NPPES was hosted on one of CMS's virtual data centers and ran on a mix of Oracle SPARC and IBM Mainframe systems. Upon award, RELI made significant changes at every level including compute, system software, and processes to maximize the efficiencies of a modernized cloud-native platform. RELI migrated NPPES to the CMS AWS Cloud by modernizing the application to run on the AWS Fargate compute engine using AWS Elastic Container Service (ECS) and running a Java Spring Boot framework, including Lambda functionality, to replace the monolithic systems. RELI developed a cloud-native serverless Java and Spring Boot microservices framework through a DevSecOps pipeline. The microservices are performance tested, security scanned, and auto-scaled in and out to meet demand and gain cost efficiency. Our integration of microservices within AWS Cloud leverages AWS's robust ecosystem using AWS Fargate for serverless computing, providing seamless operation, scalability, and reliability of microservices. Initially, our approach was to lift and shift the applications, however, we later identified the need to modernize the web-based application for better compatibility and user experience. Our redesign allows the NPPES system to optimally operate within the AWS Cloud environment and enhance our multiple application programming interfaces (APIs) to allow a positive data flow from our NPPES Datamart to systems such as the Integrated

Data Repository (IDR) for our stakeholders to consume without a hindrance on the day-to-day processing of the NPPES Enumeration system, National Provider Identifier lookup, as well as our Identity and Authorization systems. RELI uses APIs extensively to provide accessibility and facilitate collaboration between system components and external partners. Our APIs are designed to be secure, scalable, and efficient, supporting seamless integration and interoperability. The NPPES team supplies and supports multiple APIs as part of the NPPES modernization effort. Our team follows industry standards for API design and development as we view APIs as not just pieces of software but as a complete product used by clients to perform or inform a set of tasks. These APIs enable faster, more efficient, and secure information transfer between systems such as Provider Enrollment, Chain, and Ownership System (PECOS).

Describe your organization's experience and/or approach to supporting 24x7 operations while still providing core product development and engineering services in a scrum-based delivery model.

CMS NPPES: On our NPPES prime contract, our team uses a DevSecOps approach to ensure the NPPES is continually improved and operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services. NPPES utilizes several of the cloud.cms.gov tools to support AWS deployments via our DevSecOps code pipeline. We use a combination CMS GitHub, CloudBees CI, and JFrog Artifactory/Xray that allows our CI/CD pipeline to deploy code with less impact to users while deploying continuously in the environments while keeping security in place.

We use Scaled Agile Framework (SAFe) approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. This process has eliminated over 86% of the technical debt that was previously reserved on the backlog, allowing our system enhancements to be implemented in a timelier fashion, providing more value to our users.

We use an Agile methodology with daily stand ups and regular sprint planning sessions. Our sprints are 2 weeks long with a 2-day PI (Program Increment) event which allows the ART (Agile Release Train) to review the program successes, Team PI Objectives, and goals for the upcoming 12-week increments. Our release management support includes live dashboards that provide the status of initiatives, projects, and systems. We use Confluence calendar for tracking all deployments. We provide enterprise-wide release management support, deploying incrementally at the end of each sprint if the code allows for that. For release management, we communicate with stakeholders throughout the process, and using Kanban and Scrum boards to keep CMS aware of our deployment status and schedule.

Our team uses the Atlassian suite of tools, Jira and Confluence, for all tracking and metric needs. These agile tools benefit CMS by enhancing customer coordination, improving communication that facilitates cross-team collaboration, providing a single source of truth, and streamlining task execution. This approach has also resulted in a more predictable and regular release to market, better stakeholder awareness and engagement, and saving over 60% annually due to system enhancements.

Our team used Agile methodology to migrate the NPPES application to the cloud. We designed a migration plan and strategy to include a timeline backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed by the CMS Technical Review Board (TRB).

04/22/2024 - CMS Unified Case Management (UCM)

Exhibit 1: Transforming/Modernizing IT Services through Agile Project Management Support

Relevant Corporate Experience
National Plan and Provider Enumeration System (NPPES): We migrated NPPES from an on-premises monolithic infrastructure to the CMS AWS Cloud environment, necessitating not only a technical migration but a comprehensive modernization of the web-based application to enable compatibility and efficiency post-migration. Embracing a Scaled Agile Framework (SAFe), we orchestrated the transformation with a focus on minimizing disruptions and maximizing cost-effectiveness. Applying SAFe project management principles of iterative development, continuous feedback, and stakeholder collaboration enabled us to adapt rapidly to evolving requirements and integrate stakeholder feedback effectively in the project lifecycle. The legacy NPPES was hosted on one of CMS's virtual data centers and ran on a mix of Oracle SPARC and IBM Mainframe systems. Upon award, RELI made significant changes at every level including compute, system software, and processes to maximize the efficiencies of a modernized cloud-native platform. RELI migrated NPPES to the CMS AWS Cloud by modernizing the application to run on the AWS Fargate compute engine using AWS Elastic Container Service (ECS) and running a Java Spring Boot framework, including Lambda functionality, to replace the monolithic systems. RELI developed a cloud-native serverless Java and Spring Boot microservices framework through a DevSecOps pipeline. The microservices are performance tested, security scanned, and auto-scaled in and out to meet demand and gain cost efficiency. Our integration of microservices within AWS Cloud leverages AWS's robust ecosystem using AWS Fargate for serverless computing, providing seamless operation, scalability, and reliability of microservices. Initially, our approach was to lift and shift the applications, however, we later identified the need to modernize the web-based application for better compatibility and user experience. Our redesign allows the NPPES system to optimally operate within the AWS Cloud environment and enhance our multiple application programming interfaces (APIs) to allow a positive data flow from our NPPES Datamart to systems such as the Integrated Data Repository (IDR) for our stakeholders to consume without a hindrance on the day-to-day processing of the NPPES Enumeration system, National Provider Identifier lookup, as well as our Identity and Authorization systems. RELI uses APIs extensively to provide accessibility and facilitate collaboration between system components and external partners. Our APIs are designed to be secure, scalable, and efficient, supporting seamless integration and interoperability. The NPPES team supplies and supports multiple APIs as part of the NPPES modernization effort. Our team follows industry standards for API design and development as we view APIs as not just pieces of software but as a complete product used by clients to perform or inform a set of tasks. These APIs enable faster, more efficient, and secure information transfer between systems such as Provider Enrollment, Chain, and Ownership System (PECOS). Our performance metrics were closely aligned with the program's Objectives and Key Results (OKRs), focusing on reducing technical debt, ensuring zero production defects post-migration, and achieving significant cost savings. We achieved an 86% reduction in technical debt and completed 16 deployments with zero production defects within the first three months post-transition. Through a rigorous deployment cadence and enhanced monitoring, our team achieved a defect escape rate of less than 1%, directly contributing to the program's objectives. Using a cloud-neutral microservices approach, CMS recognizes annual cost savings of over 60% by reducing the number of physical systems by over 50%. These metrics

were not only indicators of our project success but also reflected our commitment to delivering on our organizational OKRs of efficiency, reliability, and cost-effectiveness.

RELI tracks and reports key metrics to monitor the progress and effectiveness of the modernization effort. These metrics include system performance, cost savings, deployment frequency, and defect rates, among others. We use OKRs to help plan and align our team and CMS towards a core set of goals that are outcome oriented. By collaboratively setting goals as a team, the team delivers critical value while pushing for ambitious goals with measurable results. We use the goals set by the teams to monitor progress and performance metrics that allow us to quickly identify variances, enabling timely recovery plans and effective mitigation actions, if needed. We proactively identify risks, assign ownership, and track them via a risk board weekly so we stay on schedule when implementing IT modernization initiatives.

Exhibit 2: Demonstrated Experience in an Agile environment using the SAFe Model

Relevant Corporate Experience
NPPES: The NPPES contract exemplifies our expertise in managing complex projects within an Agile environment, particularly SAFe. Our meticulously planned transition from the incumbent contractor enabled uninterrupted system operations while addressing inherent risks. This process, spanning three months, involved a strategic blueprint encompassing work-in-progress and production cutover schedules. Key activities included leveraging Jira for Agile task management, employing SharePoint for document control, and the formulation of data-use agreements. Transitioning to SAFe methodology marked a pivotal phase in our project execution. RELI instituted a regimented framework of daily stand-ups, bi-weekly deployment cycles, refinement sessions with business owners, and retrospectives aimed at fostering continuous improvement. A cornerstone of our SAFe adoption was the organization of a 2-day PI event every 12 weeks, which served to align team efforts with overarching OKRs. This approach not only streamlined our deployment cadence — with two-week iterations culminating in 39 successful deployments and a mere 9 escape defects between 1/1/2023 and 3/19/2024 — but also solidified our alignment with CMS's objectives for exemplary project management throughout the lifecycle. Our team's composition, featuring two subcontractors, six key personnel roles, and a **total of 68 full-time equivalents**, was deliberately structured to foster a cohesive team culture. Transparency and client inclusion were hallmarks of our methodology, and we integrally involved stakeholders in the project's progression. We leverage subject matter experts (SMEs) in Medicare and Medicaid Provider data who play a critical role in navigating the complexities of provider data management, offering invaluable insights that directly contribute to the refinement of our data integrity strategies and support frameworks. Their expertise was instrumental in addressing unique challenges associated with Medicare and Medicaid data, thereby enhancing the project's overall data governance and compliance. Over three years, these efforts culminated in a project environment characterized by robust technical solutions, strategic agility, and an unwavering commitment to quality and operational excellence.

Exhibit 3: Demonstrated Experience in AWS Cloud and other Enterprise Shared Services

Relevant Corporate Experience
NPPES: The NPPES team successfully migrated NPPES to the AWS Cloud Environment while adhering to established best practices and using SAFe and CMS guidelines aligned with program OKRs. Our systems are now deployed across three availability zones, with a read/replica database hosted in OpenSearch. This approach offers redundancy, faster performance, scalability, and enhanced security for the searchable public-facing NPPES Registry database. This migration to AWS allows the NPPES application to increase the size and compute power in real-time without user disruption. To accommodate this dynamic growth, the NPPES infrastructure uses serverless computing, maintaining operational efficiency with utilization rates at no more than 40% to 50% consistent usage. Leveraging the AWS Cloud provides high availability and data durability for critical business objectives while also cutting costs. We use CMS Enterprise tools including GitHub, SharePoint, and the Atlassian Suite tools JIRA, Confluence, and Slack for tracking and maintaining documentation which provides end-to-end traceability related to the application support and enhancements of the NPPES system. All release documentation is stored on Confluence with user story traceability to each deployed feature. The enterprise tools provide team goals and sprint metrics broken down into Key Performance Indicators (KPIs). RELI uses the Atlassian Suite for program and project management, risks and issues tracking, and reporting dashboards with live data.

04/05/2024 - CMS Advanced Provider Screening (APS) Technical Factor 1: Corporate Experience

Corporate Experience Narrative

CPI seeks a contractor skilled in Agile software development to manage and operate the APS system, encompassing CMS's hosting infrastructure, third-party data integration, and system enhancements. This effort contributes to CPI's National Fraud Prevention Program, enhancing provider screening to safeguard Medicare and Medicaid. RELI offers comprehensive APS support by collaborating with incumbent BAH (a national IT and data management leader), NGS (experienced in provider fraud, waste, and abuse from the MAC perspective), and TurningPoint (proficient in CPI provider systems such as the National Plan and Provider Enumeration System [NPPES] and the Provider Enrollment, Chain, and Ownership System [PECOS]). RELI is ready from day one, leveraging the experience of BAH and NGS from the last Transition-In, offering a low-risk entry with our skilled team adept at handling daily APS processing, business rules evaluation, reporting, and alerting to enable program eligibility and combat fraud, waste, and abuse.

The sources of experience cited in this narrative (Error! Reference source not found.) showcase the depth and breadth of RELI's experience on projects performing functions, using tools and architectures, and collaborating with stakeholders similar to those under APS. RELI's role was that of a prime contractor on all projects cited, and RELI will serve as the prime on any contract awarded under the solicitation.

1.1 Demonstrated Experience with SOO Objectives

1.1.1 Transition-In (SOO 4.1) and Transition-Out (SOO 5)

Table 2: Relevant Corporate Experience
Transition-In (SOO 4.1): RELI recently transitioned programs similar to APS, including NPPES and Multidimensional Information Data Analytics System (MIDAS), by setting up procedures for seamless work transition from incumbents, quickly ramping up resources, and ensuring service continuity. **NPPES:** In September 2020, RELI assumed control of the NPPES contract, successfully transitioning from the incumbent contractor on schedule. The process entailed a 3-month phased plan, thoroughly outlining work-in-progress and production cutovers. Transition activities incorporated a comprehensive strategy, leveraging Jira for task management, SharePoint for documentation, crafting data use agreements, coordinating personnel transitions, and facilitating knowledge transfer through job shadowing, meetings, knowledge sharing sessions, and creating materials for swift onboarding. Additionally, the transition emphasized risk management and resource analysis. RELI quickly staffed the project, adding 68 full-time equivalents within the first 52 days, with 5 to 7 new hires per week becoming rapidly credentialed through the Enterprise User Administration process. Just days after assuming full control, RELI finalized staffing and ensured operational continuity, swiftly addressing critical security findings for a renewed Authority to Operate, strategically integrating personnel, and knowledge exchange.

1.1.2 Program Management (SOO 4.2)

Table 3: Relevant Corporate Experience
Program Management (SOO 4.2): NPPES and MIDAS both manage large data systems using SAFe and other best practices. **NPPES:** Within six months after the transition, NPPES transitioned to a Scaled Agile Framework (SAFe) methodology under the guidance of our SAFe coach and Program Director, establishing a cadence of daily stand-ups, bi-weekly deployments, and 12-week Program Increment events. Adhering to SAFe practices, we set a deployment cadence of two-week iterations upon demo approval, resulting in 39 successful deployments and only 9 escape defects from 1/1/2023 to 3/19/2024. Aligning with CMS's goal for professional project management across the project lifecycle, our approach integrates two subcontractors, six Key Personnel roles, and 62 staff members into a unified team culture with full transparency, actively including our client as a core team member. We achieved a low turnover rate of 9%, due to front-line staff advancement, under stable leadership from our management team with minimal changes over three years. Although JOAs were not part of the initial transition, we annually update Data Use Agreements with stakeholders to enable ongoing compliance and alignment. NPPES ensures the protection of Personally Identifiable Information in accordance with CMS guidelines.

1.1.3 Operations and Management (O&M) (SOO 4.3)

Table 4: Relevant Corporate Experience
Operations and Maintenance (SOO 4.3): RELI maintains continuity for CMS' critical data systems, including CPI's operational data system NPPES and CCIIO's MIDAS data warehouse; APS serves as both an operational and data analytics system. **NPPES:** RELI's O&M Plan, successfully implemented for NPPES, defines roles, jobs, and schedules for daily operations. Our approach emphasizes stakeholder engagement, including internal and external parties, to thoroughly manage requirements through Needs, Use, and Test Cases that define and scope requirements effectively. RELI developed detailed blueprints and SOPs to outline the enhancements for the NPPES design and DevSecOps processes, detailing impacts, costs, timelines, dependencies, and integration points. We held architectural and operational reviews with CPI business and technical

Table 4: Relevant Corporate Experience
leadership, the CMS Technical Review Board, and NPPES business partners. RELI provided a holistic and collaborative approach with a comprehensive strategy which facilitated the cloud-neutral architecture, employing a hybrid migration strategy that minimized risks while enabling continuous operations. User acceptance testing refined the system's design and usability, verifying enhancements met real-world user needs and expectations. In executing the NPPES migration, we modernized the codebase to Java SpringBoot-based microservices and used Terraform modules for cloud neutral Infrastructure as Code management to provide consistency across NPPES environments and facilitate seamless deployments. Our infrastructure management system, complemented by a DevSecOps CI/CD pipeline and tools such as CMS GitHub, CloudBees CI Jenkins, JFrog Artifactory/Xray, and SonarQube, enabled streamlined development pipelines for continuous deployment with minimal user impact, integrated security testing, and adherence to Section 508 accessibility standards. Application autoscaling effectively scaled serverless AWS Elastic Container Service (ECS) Tasks in NPPES, leading to cost savings and improved performance. We directed application logs to CloudWatch and processed by Splunk, with background jobs managed via Amazon EventBridge, enhancing operational efficiency. These efforts resulted in the NPPES system being migrated ahead of schedule and within budget and with significantly enhanced system efficiency and reliability. By transitioning to SAFe, we eliminated 86% of technical debt. In three months, RELI completed 14 deployments with zero production defects and achieved early deployment of AWS services, demonstrating RELI's commitment to high-quality, resilient, and cost-effective operations.

1.1.4 Systems Monitoring (SOO 4.4)

Table 5: Relevant Corporate Experience
Systems Monitoring (SOO 4.4): RELI uses best in class performance, security, costs, and effectiveness monitoring tools. **NPPES:** We leverage a comprehensive suite of AWS services, including CloudWatch, CloudTrail, REDS, Insights, and CloudFront, to monitor system performance and enable high availability, 24 hours a day, 7 days a week, across three AWS availability zones, complemented by performance testing and a microservice architecture. This allows us to efficiently detect and minimize performance issues, with protocols in place for promptly addressing failures with CMS staff and stakeholders using Slack and email. In 2023, annual penetration testing, alongside proactive alerts from JFrog for vulnerabilities in libraries and containers, verified the system's security integrity with zero findings. Deployments use AWS CloudFront to deliver static content through S3 with read-only access, optimizing latency for U.S.-based NPPES users, while an AWS Web Application Firewall safeguards the application and application programming interfaces (APIs) from malicious traffic including web exploits and bots. Splunk facilitates centralized logging and incident analysis with a service level objective of over 99.5% uptime, integrating logs from various AWS services for real-time analysis. RELI uses NICE CXone and ServiceNow for operational processes and conducts quality monitoring for the contact center, highlighting our dedication to operational excellence and continuous improvement.

1.1.5 Systems Infrastructure and Data Analytics (SOO 4.5)

Table 6: Relevant Corporate Experience
Systems Infrastructure and Data Analytics (SOO 4.5): RELI maintains environments, continuity of operations and recovery, data, storage and retention, data quality, and data analytics to optimize operations. **NPPES:** The NPPES modernization effort using microservices included uncovering business rules to boost data quality and system efficiency through data analytics and business collaborations to enable NPPES data accuracy. This resulted in a redesign of the NPPES data model and architecture, documenting interface control documents, leveraging AWS services to replace outdated legacy systems, including transitioning to AWS RDS Oracle for backend storage and OpenSearch. We created an analytical data mart to alleviate the load on the OLTP Oracle database, addressing excessive resource consumption, fulfilling service level agreements (SLAs), and achieving cost efficiencies. To maintain high-quality provider data, RELI implements strict rules for handling NPPES data from various sources, including provider submissions, bulk uploads, and governmental data files. Our strategy employs keyword matching and license, state, and taxonomy verification to identify duplicates, with the GateKeeper process matching key information to database fields to pinpoint potential duplicate records. We refined our continuity of operations and disaster recovery strategies in the cloud, allowing for data and workload distribution across multiple AWS availability zones to increase resilience and reduce expenses. The deployment of multi-zone Oracle instances and an OpenSearch cluster provides high availability and durability across development, testing, implementation, and production environments spanning three AWS US-East-1 region availability zones. RELI maintains a resilient AWS infrastructure, deploying Splunk for centralized logging, with a greater than 99.5% uptime since migrating to the cloud.

1.1.6 Data Sources and Vendors (SOO 4.6)

Table 7: Relevant Corporate Experience
Data Sources and Vendors (SOO 4.6): RELI possesses extensive data integration expertise across Medicare, Medicaid, and Marketplace data ecosystems, collaborating with states, commercial plans, federal agencies, and CMS' data catalog. **NPPES:** The NPPES agreement mandates third-party vendors' active participation in bi-weekly operational meetings, known as Stakeholder Coordination Calls, facilitating updates, system deployments, and upcoming initiatives. Additional engagements with CPI involve visual timelines, call center statistics reviews, and risk discussions, promoting transparent

Table 7: Relevant Corporate Experience
communication between NPPES and stakeholders. By monitoring information sharing system agreements and vendor maintenance needs, we ensure operational continuity and prevents disruptions.

1.1.7 APS End User and Stakeholder Support (SOO 4.7)

Table 8: Relevant Corporate Experience
APS End User and Stakeholder Support (SOO 4.7): RELI provides Tiers 0, 1, and 2 support as well as performing RCA, stakeholder engagements and requests, and focus groups as a data integrator and as a data analytics consumer. **NPPES:** We provide Self-Service Tier 0, Tier 1, and Tier 2 help desk services with our Enumerator Team by using ServiceNow to manage and track tickets via phone calls and emails to the enumerator email address. The Enumerator Team answers 10,000-13,000+ calls per month with an average response time of 1 minute and 5 seconds, exceeding the government requirement of less than 3 minutes. For automation purposes, we use an ACD phone system to track calls, wait times, and resolutions, which are reported to CMS weekly to validate that help desk support requirements are met and to maintain transparency.

1.2 Demonstrated Experience with Relevant Technologies, Architectures, and Tools (SOO 2.2)

RELI's corporate experience with technologies, architectures, and tools overlaps significantly with those referenced in the APS Technical Overview (SOO 2.2) presenting CMS with a skilled team of experts to oversee and maintain this mission-critical program.

Table 9: Relevant Corporate Experience
NPPES: Software: Jira, Confluence, Visio, Zoom, Eclipse, IntelliJ, Visual Studio Code. Cloud Hosting: AWS (Open/Elastic Search, RDS Oracle, Transfer Family, Secrets Manager, SSM Parameter Store, S3, ECS Fargate, Route53, Load Balancers, SES, Security Groups, Event Bridge, IAM Roles and Privileges, Cloud Front, Lambda). Data Processing and UI Components: Java, Spring Boot, Docker, GitHub, Angular 2+, Node.js, CloudBees (Jenkins), Terraform, Apache JMeter, JFrog Artifactory, Cloud Tamer (Kion). Monitoring Reporting Tools: Cloud Watch, Cloud Trail, Cost Explorer, Splunk. Security: SonarQube, Burp Suite, Security Hub.

03/12/2024 – NIH National Institute on Aging (NIA) IT Support Services

1. **How does your organization structure and manage your IT help desk services to ensure efficient and responsive support for end-users, and can you share examples of successful past performance in this area?**

RELI structures and manages its IT help desk services with a keen focus on ensuring efficient and responsive support for end-users by leveraging a comprehensive, multi-tiered support framework. This framework is underpinned by principles of agility, quality assurance, and continuous improvement, drawing from our extensive experience managing the National Provider Identifier (NPI) Enumeration System (NPPES) for the Centers for Medicare & Medicaid Services (CMS). We implement a **Tiered Support Structure.**

Tier 1: Initial Contact and Issue Resolution - At this level, we employ a dedicated team of help desk professionals trained to handle a wide range of inquiries and common issues. This team serves as the first point of contact for end-users, providing immediate assistance for straightforward problems and gathering detailed information for more complex issues. Our approach ensures that most user concerns are resolved promptly, enhancing user satisfaction and efficiency.

Tier 2: Specialized Support - For issues that transcend basic troubleshooting or require specific expertise, we escalate the matter to our Tier 2 support. This level consists of specialists with advanced knowledge in specific areas, such as system applications and identity & access management, mirroring the specialized teams within the NPPES program. These professionals

delve deeper into problems, leveraging their technical expertise to provide solutions and workaround strategies.

Tier 3: Advanced Technical Support and Development Team - Complex and critical issues that require intervention at the system or application level are escalated to our Tier 3 support. This tier includes our development team and senior technical experts who work on the NPPES program, ensuring that any systemic issues are addressed at the source. This team is also responsible for implementing long-term fixes, system enhancements, and updates based on feedback and issues identified through help desk interactions.

Agile Methodology and Continuous Improvement: Our IT help desk services incorporate an agile methodology framework, reflecting our successful management practices within the NPPES program. We employ scrum teams to manage and resolve support tickets, with Scrum Masters facilitating swift and effective problem-solving sessions. This agile approach ensures that our help desk services are adaptable, with the flexibility to respond to changing user needs and system updates promptly.

Continuous improvement is a core principle of our service delivery model. We conduct regular retrospectives to assess the performance of our help desk services, identify areas for enhancement, and implement process improvements. This iterative process ensures our help desk services evolve in alignment with user expectations and technological advancements.

Quality Assurance and User-Centric Approach: Our commitment to quality assurance and a user-centric approach is evident in the structured training programs for our help desk personnel, rigorous quality checks, and a feedback loop that incorporates user suggestions into service improvements. We prioritize clear communication, empathy in user interactions, and a deep understanding of our systems to ensure that every user receives the support they need.

02/29/2024 – HRSA NPDC CSPOC

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available, yes or no?
National Plan and Provider Enumeration System (NPPES)	CMS	Tressa Mauk Buschert, COR 410-786-3100 tressa.maukbuschert@cms.hhs.gov	$ 49,977,811.00	09/30/20 - 09/29/25	Yes

Description of Services: As the prime contractor, RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record for unique identifiers assigned to healthcare providers, practitioners and health plans that apply for the National Provider Identifier (NPI). RELI successfully implemented a help desk solution that processes over 66,000 applications for National Provider Identifier (NPI) and handles over 12,833 monthly telephone calls, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users.

Task 1: CSPOC Management Support: RELI provides a single point of contact (POC) and established a tiered support structure and implemented an automated system using ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails. Utilizing a FedRAMP Certified IVR Solution, NICE CXOne, integrated with ServiceNow, we automate processes and efficiently manage all communications. This system also

Commented [LH1]: annually

tracks Help Desk call times and wait times, ensuring alignment with government outcomes and help desk support requirements.

As prime, RELI collaborates with subcontractors to manage, maintain, and enhance three complex systems. Coordination involves at least seven other contract stakeholders through meetings and support calls. APIs facilitate data integration, enabling stakeholder access to necessary information. RELI utilizes a Scaled Agile Framework (SAFe) for project management, including quarterly planning and close integration with the business team. We also develop and implement efficient protocols, SOPs, and training materials.

In response to user feedback, we regularly perform system enhancements, leading to a reduction in requests and inquiries. Additionally, we enhance usability by implementing features such as well-defined navigational prompts in the NPPES tool, verifying 508 compliance, and maintaining the user guide with accurate information through regular updates.

Task 2: Customer Service Support: RELI manages more than 154,000 telephone calls annually through the NICE CXOne tool and handles over 124,000 applications and emails annually through ServiceNow. The number of emails and phone calls, the length of calls, and their statuses and resolutions are recorded using ServiceNow and the ACD phone system and are reported to CMS leadership on a weekly basis using dynamic, real-time dashboards. We also provide trend data from ServiceNow based on the volume of calls and applications per week that helps CMS predict operational needs and improve overall NPPES system performance. Monthly Customer Satisfaction Surveys are conducted to enhance service quality.

We support Multi-Factor Authentication (MFA) by collaborating with CMS to enhance the Identity and Access (I&A) tool, enabling better security for provider profiles and compliance with regulations. Additionally, we provide international practitioner access, ADA compliance, and Spanish support services for telephone content. For ticketing and email handling, we implemented ServiceNow, and automated integration across CRM and NPPES applications to reduce manual entries.

Task 3: NPDB Program Operations Support: RELI provides program operations support for Identity and Access (I&A), collaborating with CMS to enhance the I&A tool and implement multi-factor authentication (MFA) for improved security. NPPES users utilize I&A services for account creation, management, and governance of provider registrations. We meet all SLA requirements, with an average help desk wait time of less than 3 minutes and protecting privacy through mandatory PII training for help desk staff. Additionally, we maintain accurate records and provide regular reports to stakeholders for transparency and accountability.

Task 4: Outreach: RELI conducts monthly surveys with callers to gather feedback on the level of customer service they received. CSRs are rated individually, and we send the results of the surveys to CMS monthly. For outage communications and updates, we communicate via automatic response unit (ARU) for phone calls and on the NPPES application front page. For long term outages, we also communicate via distribution lists. RELI collaborates on a bi-weekly cadence with stakeholders within CMS CPI such that NPPES information is accurately accessible. Our Agile methodologies benefit CMS by enhancing customer coordination and improving communication with cross-team collaboration. RELI implemented Agile principles result in better stakeholder awareness and engagement, and savings from system enhancements.

RELI's Communications Plan outlines methods, tools, timing, and communication levels, covering program announcements, system status updates, and other information. It includes a matrix for deliverable review and approval, various communication media, meeting facilitation processes, scheduling procedures for weekly and ad hoc meetings, and a RACI matrix for all deliverables.

Task 5: Reporting: For reporting, we submit meeting minutes, monthly reports, and an annual report. Using agile tools like Miro and the Atlassian suite (Jira and Confluence), we enhance program management, communication, and collaboration for CMS. We also provide live reporting to the COR. We provide program recommendations for system modifications and conduct program analysis every 12 weeks so that SAFe ceremonies meet business needs and facilitate timely stakeholder communication.

Task 6: Use of Plain Language: All NPPES tools are 508 compliant. We also continuously review and update our user guide to ensure the latest information is available and accurate.

Task 7: Transition-In: RELI successfully performed a smooth transition of a major national system from the prior incumbent with no major setbacks. Transition included a 3-month phased approach, with a detailed plan and timeline for work-in-progress and production cutovers. Transition activities included a transition plan with transition methodology to ensure project continuity, joint operating agreement development, personnel transition planning, knowledge transfer, transition status meetings, risk management, and resource-planning and

resource-turnover analysis. We also staffed this project quickly, bringing on 68 full-time equivalents in the first 52 days.

Task 8: Transition-Out (Optional): RELI has a transition out plan in place that ensures continuity of service, meeting all requirements at the end of the contract.

02/26/2024 – CMS MSSP OSC

RELI Project Name: National Plan and Provider Enumeration System (NPPES)	
Name of Company or Agency	Centers for Medicare & Medicaid Services (CMS) Center for Program Integrity (CPI)
Project Title and Contract Number	National Plan and Provider Enumeration System (NPPES) **Prime Contract**: HHSM500201700045I/75FCMC20F0002
Dollar Value per Contract Year and Period of Performance	$49,977,811 TCV Base: 9/30/20-9/29/21 Dollar Value: $9,089,476.00; O1: 9/30/21-9/29/22 Dollar Value: $10,348,014.00 O2: 9/30/22-9/29/23 Dollar Value: $10,549,016.00; O3: 9/30/23-9/29/24 Dollar Value: $10,602,121.00 O4: 9/30/24-6/29/25 Dollar Value: $8,185,785.00; O5: 6/30/25-9/29/25 Dollar Value: $1,203,399.00

Project Description Highlighting Relationship to Work Required by the ACO

As the prime contractor, RELI manages software development, maintenance, and operational support for the NPPES. NPPES serves as a System of Record for unique identifiers assigned to healthcare providers and health plans applying for a National Provider Identifier (NPI). The program caters to over 4.7 million providers. RELI was contracted to perform a major system upgrade for all NPPES applications and maintains the NPPES Call Center. RELI's contributions include improving user experience by collaborating with Provider Enrollment Operations Group (PEOG) through quarterly Provider Focus Groups (PFG) and monthly customer satisfaction surveys. RELI also **performs NPPES website management and data dissemination** by ensuring information is current and organized, engaging users effectively through support, training, and feedback gathering, and enhancing system efficiency and operations by facilitating easy access to critical artifacts. A significant RELI contribution to the NPPES project was upgrading its website using AWS, reducing processing time.

How this Experience will Benefit CMS and Outcomes of MSSP OSC

RELI's experience as the NPPES Enumerator and processing and handling applications will be leveraged when evaluating the SSP ACO application and adjudication process and identifying potential ACO-MS refinements and SSP website updates.

Difficulties or Constraints Encountered and How They Were Overcome

- RELI transitioned NPPES from a Waterfall approach to a Scaled Agile (SAFe) methodology, using daily stand-ups, retrospectives, user story refinement, and bi-weekly system releases, increasing system enhancement frequency.
- As the NPPES Enumerator, **RELI processes over 59,000 applications and handles an average of 12,766 telephone calls per month, totaling more than 154,000 calls annually.** The call center uses an ACD phone system to monitor help desk calls and wait times, enabling automated reporting to meet Government objectives and support requirements efficiently.

01/22/2024 – CMS Medicare Advantage Encounter Data Dashboard and Analytics Response to: RFI

#6 Do you have experience with CMS Cloud, Snowflake, MicroStrategy, Python, HTML/CSS, Java Script, SAS EBI, source control tools such as Git, GitHub and Agile Methodologies?

Yes. On the NPPES contract, our team uses CMS Enterprise tools such as GitHub, SharePoint, and the Atlassian Suite tools JIRA, Confluence, and Slack for tracking and maintaining documentation which provides end-to-end traceability related to the application support and enhancements of the NPPES system.

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available?
National Plan and Provider Enumeration System (NPPES)	CMS CPI	Tressa Mauk Buschert, COR 410-786-3100, tressa.maukbuschert@cms.hhs.gov	$49,977,811	09/30/2020 – 09/29/2025	Yes

Description of Services: As a prime on the CMS National Plan and Provider Enumeration System (NPPES) program, RELI provides Enumerator support and call center services as well as software development, maintenance, and operational support to medical professionals that submit to Medicare and/or Medicaid. We use the SAFe approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Agile methodology with daily stand ups and regular sprint planning sessions. Our sprints are two weeks long with a two-day Program Increment (PI) event which allows the Agile Release Train (ART) to review the program successes and goals for the upcoming 12-week increments.

Our team uses the Atlassian suite of tools, Jira, and Confluence for all tracking and metric needs. These agile tools benefit CMS by enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution. This approach has also resulted in a more predictable and regular release to market, better stakeholder awareness and engagement, and saving over 60% annually due to system enhancements. Our team used Agile methodology to migrate the NPPES application to the cloud. We designed a migration plan backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed by the CMS Technical Review Board (TRB).

12/26/2023 –NIH National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK)
Information Technology, Program Management, and Security Services

Contract Name	Customer Name	Customer POC	Total Contract Value
National Plan and Provider Enumeration System (NPPES)	Centers for Medicare & Medicaid Services (CMS)	Tressa Mauk Buschert 410-786-3100 tressa.maukbuschert@cms.hhs.gov	$49,977,811

Description of Services: FedPath member RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. As part of this contract, RELI performed a major system upgrade of the entire NPPES and currently maintains the NPPES Call Center.

Task 1 – Program Management Support

RELI uses Scaled Agile Framework (SAFe) approach for project management on the NPPES contract. Our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an Integrated Base Review (IBR) meeting. We adhere to CMS OMB 300 mandates and follow the CMS TLC standards for all deliverables. We use CMS Enterprise tools, such as JIRA, Confluence, GitHub, for tracking and maintaining documentation. We use Slack for communications related to the application support and enhancements of the NPPES system.

Task 2&3 – IT Security Support

RELI leads the security work on the NPPES contract. The NPPES is a national system comprised of many collection mechanisms, storage repositories and large national sensitive PII data. Our team supports the entire lifecycle of security from the On-Prem system and the continual security work, maintenance and ATO adjustments as it moved into an AWS cloud. RELI securely maintains sensitive data and system security artifacts within federal Governance, Risk, and Compliance (GRC) solutions (e.g., CMS' CFACTS, Trusted Agent, Archer GRC, etc.) for over 100 federal systems. RELI developed, updated and continues to maintain these artifacts so the ATO remains in good standing. This work requires significant DevSecOps discipline and skillsets as changes are required continuously and the system must remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services.

Task 4 – Clinical Informatics Support

Though Fedpath does not have direct experience with REDCap, we have experience with similar systems and have provided similar analytics services to those outlined in this requirement. We will utilize our partner network to fill the gap.

Task 5 – Application Development Support

The NPPES program has 3 applications that our team maintains for continuous updates and process improvements. RELI is responsible for the entire system life cycle from requirements, analysis, design, development, integration, user acceptance testing (UAT), deployment, and production support to subsequent system enhancements. We ensure quality through building an internal environment used throughout the development and QA processes, risk and issue solutioning, communication, configuration management, deliverable management, service continuity, tools and training and process improvements. We design the infrastructure to meet all government regulations with performance standards and requirements.

12/15/2023 - U.S. Air Force Information Technology (IT) Lifecycle and Performance System

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available?
National Plan and Provider Enumeration System (NPPES)	Centers for Medicare & Medicaid Services (CMS)	Tressa Mauk Buschert, COR tressa.maukbuschert@cms.hhs.gov 410-786-3100	$49,977,811	09/30/20 - 09/29/25	Yes

Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply to the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a significant system upgrade of the entire NPPES.

On the NPPES contract, RELI successfully implemented a help desk solution that processes over 66,000 applications for National Provider Identifier (NPI) and handles over 12,833 monthly telephone calls, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users. We implemented an automated system using ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails, and we report weekly to CMS leadership.

This program includes supporting three separate systems for processing NPIs, maintaining user login IDs, providing usable information to the enumerator team, and storing data for public consumption of provider services. The program's end users include more than 4.7 million providers. By leveraging new technologies such as AWS, RELI has increased website processing time which is now seven times faster to create a more efficient user experience. RELI transformed NPPES with innovative ServiceNow capabilities including dynamic dashboards and robust integration with external services, enabling CMS to take advantage of more efficient workflows and Information Technology Infrastructure Library (ITIL) management functionalities. With the NPPES ServiceNow implementation, RELI improved customer service, enhanced data accuracy, and enabled CMS to readily access policies, documentation, records, and other critical artifacts.

11/30/2023 - NIH - National Institute of Environmental Health Sciences (NIEHS) - NIEHS IT Infrastructure; RFI-115376-SB Response to: RFI

Agency, Contract Name & Number	Agency POC	Role	Total Contract Value	Period of Performance
Centers for Medicare & Medicaid Services (CMS) **National Plan and Provider Enumeration System (NPPES)** 75FCMC20F0002	Tressa Mauk Buschert, COR 410-786-3100 tressa.maukbuschert@cms.hhs.gov	Prime	$49,977,811	9/30/20 - 9/29/25

Description of Relevant Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the National Provider Identifier (NPI). The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES.

RELI migrated NPPES to the CMS AWS Cloud by modernizing the application with a mix of Oracle and IBM Mainframe hardware and IBM COTS products to run on the AWS Fargate compute engine using AWS Elastic Container Service (ECS) and running a Java Spring Boot framework, including Lambda functionality, to replace the current monolithic systems. Our approach went far beyond a "lift and shift," and it is a software modernization effort incorporating other CPI initiatives to include the CMS MuleSoft Application Program Interface (API) gateway and Kafka functionality. Our redesign allows the NPPES system to optimally operate within the AWS Cloud environment and enhance our multiple APIs to allow a positive data flow from our NPPES Datamart to systems such as the Integrated Data Repository (IDR) for our stakeholders to consume without a hindrance to the day-to-day processing of the NPPES Enumeration system, National Provider Identifier lookup, as well as our Identity and Authorization (I&A) systems. These modifications also enhance our compliance with the Health Insurance Portability and Accountability Act (HIPAA) Administrative Standard.

11/21/2023 – CMS CDAC

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available?
National Plan and Provider Enumeration System (NPPES)	CMS Center for Program Integrity (CPI)	Tressa Mauk Buschert, COR 410-786-3100 tressa.maukbuschert@cms.hhs.gov	$49,977,811	09/30/20 - 09/29/25	Yes

Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare

providers and health plans that apply for the NPI. NPPES data are shared widely throughout CMS' operational data ecosystem, such as with CPI's API Hub, Master Data Management, Integrated Repository, and others. RELI has experience as a trusted data partner, disseminating data to many downstream systems using a variety of data exchange patterns. The data from NPPES is also shared externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. This program includes supporting three separate systems for processing NPIs, maintaining login IDs for users, providing usable information to the enumerator team, and storing data for public consumption of provider services. The program's end users include more than 4.7 million providers in NPPES.

11/10/2023 – USDA National Agricultural Statistical Service (NASS)

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available?
National Plan and Provider Enumeration System (NPPES)	Centers for Medicare & Medicaid Services (CMS)	Tressa Mauk Buschert, COR 410-786-3100 tressa.maukbuschert@cms.hhs.gov	$49,977,811	9/30/20 - 9/29/2025	Yes

Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES.

RELI migrated NPPES to the CMS AWS Cloud by modernizing the application with a mix of Oracle and IBM Mainframe hardware and IBM COTS products to run on the AWS Fargate compute engine using AWS Elastic Container Service (ECS) and running a Java Spring Boot framework, including Lambda functionality, to replace the current monolithic systems. Our approach went far beyond a "lift and shift," and it is a software modernization effort incorporating other CPI initiatives to include the CMS MuleSoft Application Program Interface (API) gateway and Kafka functionality. Our redesign allows the NPPES system to optimally operate within the AWS Cloud environment and enhance our multiple APIs to allow a positive data flow from our NPPES Datamart to systems such as the Integrated Data Repository (IDR) for our stakeholders to consume without a hindrance to the day-to-day processing of the NPPES Enumeration system, National Provider Identifier lookup, as well as our Identity and Authorization (I&A) systems. These modifications also enhance our compliance with the Health Insurance Portability and Accountability Act (HIPAA) Administrative Standard.

11/08/2023 – NIH - NIMHD Division of Intramural Statistical (DIR) Consulting Services

CMS CPI National Plan and Provider Enumeration System (NPPES)			
Project Officer	**Name: Mr. Erick Royle (Director)** **Address: 7500 Security Boulevard, Baltimore, MD 21244** **Phone: 410-786-0076** **Email: erick.royle@cms.hhs.gov**		
Contract Number and Date of Contract	75FCMC20F0002	**Contract Type**	FFP
Places of Performance	RELI Group, Inc. 5520 Research Park Dr Ste 105, Catonsville, MD 21228	**Period of Performance**	9/30/20 - 9/29/25
Total Original Contract Value	$4,723,538.76	**Total Present/Final Contract Value**	$4,723,538.76
Method of Acquisition	Competitive/Noncompetitive	**Nature of Award**	Initial/Follow-on

Detailed Description of Contract Work and Comparability to Proposed Effort

RELI is the prime contractor for the CMS National Plan & Provider Enumeration System (NPPES) project. The NPPES project is a large and complex contract, comprised of full time staff members, including the Program Director, Product Manager, Systems Architect and Security Officer. This program includes supporting three separate systems for processing National Provider Identifier (NPI) records, maintaining login IDs for users, providing usable information to the enumerator team, and storing data for public consumption of provider services. The program's end users include more than 4.7 million providers in NPPES.

RELI supports NPPES through all stages of the system design lifecycle (SDLC) including its migration from an on-prem system to an AWS cloud-based solution ensuring that system security and NPPES' Authorization to Operate (ATO) are maintained.

Our team moved the code to AWS, modernized, developed, and tested several solutions to mitigate these issues as we migrated from the Companion Data Services (CDS) Virtual Data Center (VDC) to the NPPES AWS environments. We designed a migration plan and strategy to include a timeline with key milestones backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed and accepted by the CMS Technical Review Board (TRB). In order to connect to our external CPI partners and stakeholders, we deploy private containerized subnets to isolate the Fargate microservices compute engine, allowing connections via APIs across AWS Virtual Private Cloud (VPC) peering.

Task 1 – Task Order (TO) Management

RELI manages cost, schedule, and performance using integrated program management processes across all aspects of performance to meet the objectives of NPPES. Using a Scaled Agile Framework (SAFe) approach for project management, we instituted key processes that include quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives and to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions.

Task 3 – Data Management and Data Sharing

CMS CPI National Plan and Provider Enumeration System (NPPES)

RELI provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The scope of work for NPPES included migration of the massive system to Amazon Web Services (AWS). The legacy NPPES, which was hosted on one of CMS's virtual data centers, ran on a mix of Oracle SPARC and IBM Mainframe systems storing to Oracle and Mongo databases. Since RELI began supporting the contract, we significantly changed the NPPES at every level including compute, system software, and processes to maximize the efficiencies of a modernized cloud-native platform.

- **Compute:** RELI upgraded NPPES from IBM WebSphere and MQ Commercial Off-the-Shelf (COTS) Java Web Archive files, running on a mix of Red Hat instances on Oracle and IBM mainframe servers, to a framework that uses an AWS Fargate serverless microservices system that incorporates Java Spring Boot technology. This upgrade made it possible to reduce the number of servers currently running in the legacy systems. Using the latest technology significantly decreased server costs by using AWS Fargate Serverless instances.
- **Software:** RELI shifted from using an aging COTS IBM WebSphere suite of software that ran the Java Foundation Classes modified Model View Controller architecture to a Java Spring Boot framework, which is the de facto standard for microservices deployment. We also configured the Oracle Enterprise Edition 19C RDS Multi-AZ (Availability Zone) deployment for High Availability (HA) database with an independent read replica (database copy) for our CPI business partners to query for analytics, reducing the load on the Online Transactional Platform. A software modernization effort also incorporated other CPI initiatives, including the CMS MuleSoft Application Program Interface (API) Hub gateway and Kafka functionality. NPPES uses several cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline.
- **Processes and Tools**: We use the following tools for our DevSecOps pipeline: CMS GitHub Source code repository and management system hosted in the CMS Cloud environment; CloudBees CI Jenkins to manage deployments of data pipelines; JFrog Artifactory/Xray as a single source of truth for all packages and container images as they move across the entire DevOps pipeline; SonarQube Platform for static application security testing tool for code analysis; Selenium Box Enterprise Selenium Grid for test execution infrastructure; and JMeter test tool from Apache as a user load testing tool. We used AWS CloudFront web service front end via the AWS Simple Storage Service (S3) with read-only access for NPPES customers located within the United States. To connect to external CPI partners and stakeholders, we deployed private containerized subnets to isolate the Fargate microservices compute engine, allowing connections via our APIs across AWS Virtual Private Cloud (VPC) endpoints.

Major Technical Problems Encountered and How They were Overcome

Previously, there were problems with technical debt and defects that were not addressed in a timely manner. To deliver to production in a more timely and effective manner, RELI leverages a Scaled Agile Framework (SAFe) approach and CMS Enterprise shared services to manage NPPES requirements and changes. We store all release documentation on Confluence with user story traceability to each deployed feature, providing end-to-end traceability for application support and NPPES enhancements. We break down sprint goals and metrics into Key Performance Indicators, allowing us to track our progress and meet objectives efficiently while maximizing value for CMS. Our SAFe approach, coupled with effective requirements and change management practices, enables us to consistently deliver high-quality solutions for NPPES while minimizing risks associated with software development. This approach provides the necessary flexibility to adapt to changes as they arise, while also ensuring that our solutions are compliant with CMS requirements.

Experiences that Resulted in Lessons Learned and/or New Processes that Improved Performance or had Significant Positive (or Adverse) Impact

One of our lessons learned from this migration was that cloud services that have comparable features to commercial products do not always produce the same functionality. We selected AWS DocumentDB for its MongoDB compatibility, but it was better to deploy MongoDB on EC2 to retain the expected functionality.

Completion Successes and Delays

In addition to the above referenced, RELI's successes include the following selected examples:

CMS CPI National Plan and Provider Enumeration System (NPPES)

- NPPES retains millions of healthcare providers' information that is passed to the public and to critical downstream systems at CMS. By moving to AWS and using SAFe practices the NPPES program has resulted in more predictable and regular releases to market, better stakeholder awareness and engagement, and an annual cost savings of over 60% due to system enhancements.
- Migrated NPPES to the cloud early, and within budget.
- Removed 86% of technical debt in the backlog, completed 14 deployments with zero production defects, and deployed AWS ahead of schedule.
- A 12-week Program Increment resulted in 54 user stories, zero defects, and 11,254 phone calls, receiving in customer kudos: "It is such a major difference when you have a consolidated team. I really love this team… one of the best I have seen since at CMS (20 plus years). On top of that you have some great personalities that truly make all the difference in the world. Thank you to your leadership!" ~ CPI Director

Cost Management History

Managed budget effectively as a firm fixed price contract.

Personnel and Turnover

The average number of personnel on the contract per year: 71
Percent turnover of personnel per year for performance: less than .004%

10/24/2023 - CMS Customer Support Front End System (CSFES)

1. Providing full system life cycle from requirements, design, development, integration, acceptance testing, deployment, and production support in compliance with the CMS Target Life Cycle (TLC) at CMMI Level 3 or higher (company level) or a similar Life Cycle.

Customer & Contract Name	Prime Contractor	Role of Subcontractor	Period of Performance
Centers for Medicare & Medicaid Services (CMS) **National Plan and Provider Enumeration System (NPPES)**	RELI Group	Our subcontractors on NPPES provide call center and systems support.	09/30/2020 – 09/29/2025
Description of Relevant Services: As a prime on the CMS National Plan and Provider Enumeration System (NPPES) program, RELI provides Enumerator support and call center services as well as software development, maintenance, and operational support to medical professionals that submit to Medicare and/or Medicaid. We use the SAFe approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Agile methodology with daily stand ups and regular sprint planning sessions. Our sprints are two weeks long with a two-day Program Increment (PI) event which allows the Agile Release Train (ART) to review the program successes and goals for the upcoming 12-week increments.			

Our team uses the Atlassian suite of tools, Jira, and Confluence for all tracking and metric needs. These agile tools benefit CMS by enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution. This approach has also resulted in a more predictable and regular release to market, better stakeholder awareness and engagement, and saving over 60% annually due to system enhancements. Our team used Agile methodology to migrate the NPPES application to the cloud. We designed a migration plan backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed by the CMS Technical Review Board (TRB).

2. **Implementing Information Technology standards, including but not limited to the Technical Reference Architecture (TRA), CMS Information Security (IS) Acceptable Risk Safeguards (ARS), and the CMS Target Life Cycle (TLC https://www.cms.gov/ Federal Information Security Management Act (FISMA) High system or equivalent Information Technology Standards.**

Customer & Contract Name	Prime Contractor	Role of Subcontractor	Period of Performance
CMS **NPPES**	RELI Group	Our subcontractors on NPPES provide call center and systems support.	09/30/2020 – 09/29/2025
Description of Relevant Services: On NPPES, RELI implements CMS Information Technology standards, such as the Technical Reference Architecture (TRA), CMS Information Security (IS) Acceptable Risk Safeguards (ARS), FISMA, and the CMS Target Life Cycle. RELI's NPPES Security Officer ensures compliance with all applicable security requirements throughout system development and delivery of operations. The NPPES Security Officer maintains the NPPES security artifacts in the CMS Governance, Risk, and Compliance (GRC) tool CFACTS. RELI developed, updated, and continues to maintain all system security artifacts, such as the System Security Plan (SSP), Privacy Impact Assessment (PIA), and Contingency Plan (CP). We perform annual drills of some of our cybersecurity capabilities, including Incident Response Tabletop Test exercises, Contingency Plan Tabletop Test (CPTT) exercises, and Disaster Recovery (DR) failover tests. We review security-related requirements with the Information System Security Officer (ISSO), Technical Review Board (TRB), and Governance Review Board (GRB) as appropriate, to ensure the system architecture is properly structured to meet all CMS Technical Reference Architecture standards and CMS security and privacy requirements.			

Kio Familiarity with open-source software and commercial software such as, but not limited to: Informatica Power Center, Oracle Enterprise Database, Oracle Golden Gate, MicroStrategy, Scripts for Data Base, and Informatica Mappings & Workflows.

Customer & Contract Name	Prime Contractor	Role of Subcontractor	Period of Performance

CMS **NPPES**	RELI Group	Our subcontractors on NPPES provide call center and systems support.	09/30/2020 – 09/29/2025
Description of Relevant Services: RELI upgraded NPPES from IBM WebSphere and MQ Commercial Off-the-Shelf (COTS) Java Web Archive files, running on a mix of Red Hat instances on Oracle and IBM mainframe servers, to a framework that uses an AWS Fargate serverless microservices system that incorporates Java Spring Boot technology. This upgrade made it possible to reduce the number of servers currently running in the legacy systems. Using the latest technology significantly decreased server costs by using AWS Fargate Serverless instances. RELI shifted from using an aging COTS IBM WebSphere suite of software that ran the Java Foundation Classes modified Model View Controller architecture to a Java Spring Boot framework, which is the de facto standard for microservices deployment. We also configured the Oracle Enterprise Edition 19C RDS Multi-AZ (Availability Zone) deployment for High Availability (HA) database with an independent read replica (database copy) for our CPI business partners to query for analytics, reducing the load on the Online Transactional Platform. A software modernization effort also incorporated other CPI initiatives, including the CMS MuleSoft Application Program Interface (API) Hub gateway and Kafka functionality. We use the following tools for our DevSecOps pipeline: CMS GitHub Source code repository and management system hosted in the CMS Cloud environment; CloudBees CI Jenkins to manage deployments of data pipelines; JFrog Artifactory/Xray as a single source of truth for all packages and container images as they move across the entire DevOps pipeline; SonarQube Platform for static application security testing tool for code analysis; Selenium Box Enterprise Selenium Grid for test execution infrastructure; and JMeter test tool from Apache as a user load testing tool. We used AWS CloudFront web service front end via the AWS Simple Storage Service (S3) with read-only access for NPPES customers located within the United States. To connect to external CPI partners and stakeholders, we deployed private containerized subnets to isolate the Fargate microservices compute engine, allowing connections via our APIs across AWS Virtual Private Cloud (VPC) endpoints.			

5. Maintaining relationships in a multi-contractor/government environment, working with data center contractors, and other systems contractors that support multi-contractual systems.

Customer & Contract Name	Prime Contractor	Role of Subcontractor	Period of Performance
CMS **NPPES**	RELI Group	Our subcontractors on NPPES provide call center and systems support.	09/30/2020 – 09/29/2025
Description of Relevant Services: RELI is the prime contractor on the NPPES program, working with our subcontractors to manage, maintain, and enhance three large and complex			

systems used for processing NPIs, maintaining user login IDs, providing usable information to the Enumerator team, and storing provider demographic data for public consumption. The NPPES team coordinates and collaborates with at least seven other contract stakeholder entities in this multi-contractor environment. We lead bi-monthly meetings and ad hoc support calls to discuss our work, document system interactions, and perform integration, load testing, and verification. We use Application Programming Interfaces (API) as a key data integration method to coordinate data exchange among other efforts to support the system and ensure our stakeholders have access to the information they need. We use Enterprise Shared Services Tools such as CMS Slack to communicate with other stakeholder teams and Cloud support. We use CMS-approved AWS Components that have been vetted through CMS Security and CMS Infrastructure Users and Services Group and approved for use within the CMS Cloud. These coordination, cooperation, and alignment efforts are critical to ensuring the continued compliance and performance of NPPES in a multi-contractor environment.

10/06/2023 - U.S. Air Force - Enterprise Security Services RFI

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available?
National Plan and Provider Enumeration System (NPPES)	Centers for Medicare & Medicaid Services (CMS)	Tressa Mauk Buschert, COR tressa.maukbuschert@cms.hhs.gov 410-786-3100	$49,977,811	09/30/20 - 09/29/25	Yes

Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply to the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a significant system upgrade of the entire NPPES.

RELI uses the Scaled Agile Framework (SAFe) approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. Our team uses a SAFe approach within our systems teams, conducting daily stand-ups, retrospectives, refinement of user stories, and system demos on a 2-week cadence with our client. In addition,

we used SAFe as part of our release management and post-implementation management support, providing more transparency and flexibility for release management activities.

Our developers worked with CMS to plan and implement the modernization of the NPPES applications to the AWS cloud. Our management support includes live dashboards to provide the status of initiatives, projects, and systems. We use the Confluence calendar for all deployments. We provide enterprise-wide release management support and deploy incrementally at the end of each sprint if the code allows for that. Program increments are ten weeks of Scope work and two weeks of Relax/prep work (preparation for the next ten weeks). For release management, we communicate with stakeholders throughout the process, and we use Kanban and Scrum boards to keep CMS aware of deployment status and schedule.

RELI Group currently holds the AWS Partner Select Tier Badge.

09/22/2023 - Department of Health & Human Services (HHS) Centers for Disease Control & Prevention (CDC) Division of HIV Prevention (DHP) IT Systems Development, Maintenance, Enhancement, and Support

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available?
National Plan and Provider Enumeration System (NPPES)	CMS Center for Program Integrity (CPI)	Mr. Erick Royle 410-786-0076 erick.royle@cms.hhs.gov	$ 49,977,811.00	09/30/20 - 09/29/25	Yes

Description of Services: On this large and complex CMS contract, RELI Group is the prime contractor on the CMS NPPES program, providing enumerator support and call center services as well as software development, maintenance, and operational support to medical professionals that submit to Medicare and Medicaid. RELI successfully implemented a help desk solution that processes over 66,000 applications for National Provider Identifier (NPI) and handles over 12,833 monthly telephone calls, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users. We implemented an automated system using ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails, and we report weekly to CMS leadership. This program includes supporting three separate systems for processing NPIs, maintaining user login IDs, providing usable information to the enumerator team, and storing data for public consumption of provider services. The program's end users include more than 4.7 million providers. By leveraging new technologies such as AWS, RELI has increased website processing time which is now seven times faster to create a more efficient user experience. RELI transformed NPPES with innovative ServiceNow capabilities including dynamic dashboards and robust integration with external services, enabling CMS to take advantage of more efficient workflows and Information Technology Infrastructure Library (ITIL) management functionalities. With the NPPES ServiceNow implementation, RELI improved customer service, enhanced data accuracy, and enabled CMS to readily access policies, documentation, records, and other critical artifacts.

08/25/2023 – CISA SED Risk management

Customer & Contract Name	Total Contract Value	Period of Performance

CMS National Plan & Provider Enumeration Services (NPPES)	$49,977,811	09/30/20 - 09/29/25

Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply to the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a significant system upgrade of the entire NPPES.

RELI uses the Scaled Agile Framework (SAFe) approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. Our team uses a SAFe approach within our systems teams, conducting daily stand-ups, retrospectives, refinement of user stories, and system demos on a 2-week cadence with our client. In addition, we used SAFe as part of our release management and post-implementation management support, providing more transparency and flexibility for release management activities.

07/27/2023 - Department of Health & Human Services Office of Inspector General ServiceNow Platform and Application Support, Systems Integration

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available, yes or no?
National Plan and Provider Enumeration System (NPPES)	CMS Center for Program Integrity (CPI)	Tressa Mauk Buschert, COR 410-786-3100 tressa.maukbuschert@cms.hhs.gov	$49,977,811	09/30/20 - 09/29/25	Yes

Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the National Provider Identifier Standard (NPI). The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. RELI Group also maintains the NPPES Call Center.

RELI successfully implemented a help desk solution that processes over 59,000 applications annually for NPI and handles over 12,700 telephone calls monthly, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users. We implemented an automated system using ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails and we report to CMS leadership weekly.

To automate, we use an ACD phone system to track Help Desk call times and wait times to achieve the Government's outcomes and meet requirements related to help desk support. The number of emails/phone calls,

length of calls, and status/resolution are recorded through ServiceNow and the ACD phone system and are reported to CMS leadership weekly to maintain transparency. As NPPES enumerator, RELI processes over 59,000 applications annually and handles on average 12,766 telephone calls monthly. In total, the call center handles over 154,000 phone calls per year. We use an automatic call distribution (ACD) phone system to track help desk calls and wait times. The number of emails and phone calls, the length of calls, and their statuses and resolutions are recorded using ServiceNow and the ACD phone system and are reported to CMS leadership on a weekly basis.

07/17/2023 - Centers for Medicare and Medicaid Services (CMS) Innovation Design, Development and Operations Contract (IDDOC)

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Prime/ Subcontractor	Is there a CPARS available, yes or no?
National Plan and Provider Enumeration System (NPPES)	Center for Program Integrity (CPI)/ Division of Provider Systems Management (DPSM)	Tressa Mauk Buschert 410-786-3100 tressa.maukbuschert@cms.hhs.gov	$49,977,811	09/30/20 - 09/29/25	Prime	Yes

Brief Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. RELI Group also maintains the NPPES Call Center.

- **Agile Delivery:** NPPES uses an Agile methodology that has daily stand ups and regular sprint planning sessions. Our sprints are 2 weeks long with a 2-day PI (Program Increment) event which allows the ART (Agile Release Train) to come together to review the program successes and goals for the upcoming 12-week increments. In our event, the roadmap and strategic objectives are discussed in collaboration with the customer to align our scope planning goals.
- Our team uses the Atlassian suite of tools, Jira and Confluence, for all tracking and metric needs. These Agile tools benefit CMS by enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution. This approach has also resulted in a more predictable and regular release to market, better stakeholder awareness and engagement, and saving over 60% annually due to system enhancements.
- **Experience in DevSecOps and Continuous Integration/ Continuous Delivery (CI/CD):** RELI strengthened the DevSecOps framework for the three major NPPES applications, transitioning them from the previous CMS Virtual Data Center (VDC) to a Cloud Services Data Center. NPPES utilizes several of the cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline. CMS GitHub is used for our source code repository and management system (SCM) hosted in the CMS Cloud environment; CloudBees CI (Continuous Integration) Jenkins manages the deployments of data pipelines; and JFrog Artifactory/Xray is our single source of truth for all packages and container images as they move across the DevSecOps pipeline. Together these tools allow our CI/CD pipeline to deploy code with less impact to users while deploying continuously in the environments. Our CI/CD tools are integrated for risk remediation allowing us to update and keep security in place.

Agile Tools Used: Atlassian Suite (Jira, Confluence), Mural, Testrail

DevOps Tools Used: GitHub, Jenkins, SonarQubue, Jfrog Artifactory

07/10/2023 - NIH Hosting and Storage Services

Contract # 2 Title: National Plan and Provider Enumeration System (NPPES) @ Centers for Medicare & Medicaid Services (CMS) Center for Program Integrity (CPI)			
Contract #:	75FCMC20F0002/ HHSM500201700045I	Role:	Prime
Company:	RELI Group, Inc.	Contract Type:	Firm Fixed Price
Period of Performance:	09/30/2020 – 09/29/2025	Contract Value:	$49,977,811
Contract Manager Details:	Tonya Anderson, Contracting Officer Address: 7500 Security Boulevard, Baltimore, MD 21244 Phone: 410-786-4087; E-mail: Tonya.Anderson@cms.hhs.gov	Program Manager Details:	Pam Geitz, PMP, SPC5, LSSGB Director, Provider Support Solutions Program Director, NPPES
Project Description/Scope of Work			

The Administrative Simplification provisions of the Health Insurance Portability and Accountability Act (HIPAA) of 1996 required the Secretary of HHS to adopt national standard identifiers for healthcare providers and health plans for use in the healthcare system. This delegation's efforts included adoption of the National Provider Identifier (NPI) and development of the NPPES. RELI provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The scope of work for NPPES included migration of the massive system to Amazon Web Services (AWS). The legacy NPPES, which was hosted on one of CMS's virtual data centers, ran on a mix of Oracle SPARC and IBM Mainframe systems storing to Oracle and Mongo databases. Since RELI began supporting the contract, we significantly changed the NPPES at every level including compute, system software, and processes to maximize the efficiencies of a modernized cloud-native platform.

Compute: RELI upgraded NPPES from IBM WebSphere and MQ Commercial Off-the-Shelf (COTS) Java Web Archive files, running on a mix of Red Hat instances on Oracle and IBM mainframe servers, to a framework that uses an AWS Fargate serverless microservices system that incorporates Java Spring Boot technology. This upgrade made it possible to reduce the number of servers currently running in the legacy systems. Using the latest technology significantly decreased server costs by using AWS Fargate Serverless instances.

Software: RELI shifted from using an aging COTS IBM WebSphere suite of software that ran the Java Foundation Classes modified Model View Controller architecture to a Java Spring Boot

framework, which is the de facto standard for microservices deployment. We also configured the Oracle Enterprise Edition 19C RDS Multi-AZ (Availability Zone) deployment for High Availability (HA) database with an independent read replica (database copy) for our CPI business partners to query for analytics, reducing the load on the Online Transactional Platform. A software modernization effort also incorporated other CPI initiatives, including the CMS MuleSoft Application Program Interface (API) Hub gateway and Kafka functionality. NPPES uses several cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline.

We use the following tools for our DevSecOps pipeline: CMS GitHub Source code repository and management system hosted in the CMS Cloud environment; CloudBees CI Jenkins to manage deployments of data pipelines; JFrog Artifactory/Xray as a single source of truth for all packages and container images as they move across the entire DevOps pipeline; SonarQube Platform for static application security testing tool for code analysis; Selenium Box Enterprise Selenium Grid for test execution infrastructure; and JMeter test tool from Apache as a user load testing tool. We used AWS CloudFront web service front end via the AWS Simple Storage Service (S3) with read-only access for NPPES customers located within the United States. To connect to external CPI partners and stakeholders, we deployed private containerized subnets to isolate the Fargate microservices compute engine, allowing connections via our APIs across AWS Virtual Private Cloud (VPC) endpoints.

Task Area 1 – Contract and Task Order Management: RELI manages cost, schedule, and performance using integrated program management processes across all aspects of performance to meet the objectives of NPPES. Using a Scaled Agile Framework (SAFe) approach for project management, we instituted key processes that include quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating in an Agile-based approach enables CPI to adhere to agency-wide Targeted Life Cycle standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions.

Task Area 2 – O&M: RELI provides support services, including Operational, Maintenance and Enhancement support, Identify and Access Management operations and enhancement support, NPI enumerator services, Health Information Technology for Economic and Clinical Health Act Support, and Data Dissemination activities. We perform the maintenance and management of four different AWS programs at CMS all of which have four AWS VPCs for the four AWS environments (Dev, Test, Implement, Prod). We maintain an Enterprise Atlassian Jira platform for all sprint work, maintenance, and management of all environments. We used AWS native tools (CloudWatch, CloudTrail Trusted Advisor) along with Splunk and Tenable instances that provide us with the proper information to apply configuration management and maintenance management.

Transition In: RELI successfully performed a smooth transition of a major national system from the prior incumbent with no major setbacks. Transition included a 3-month phased approach, with a detailed plan and timeline for work-in-progress and production cutovers. Transition activities included a transition plan with transition methodology to ensure project continuity,

joint operating agreement development, personnel transition planning, knowledge transfer, transition status meetings, risk management, and resource-planning and resource-turnover analysis. We also staffed this project quickly, bringing on 68 full-time equivalents in the first 52 days.

Security Operations: RELI securely maintains personally identifiable information (PII) data and system security artifacts within federal governance, risk, and compliance solutions (e.g., CMS's CFACTS, Trusted Agent, Archer) for over 100 federal systems. This work includes supporting the entire security lifecycle for the on-premises system and the continual security work, maintenance, and ATO adjustments as it moved into an AWS cloud. RELI developed, updated and continues to maintain these artifacts so the ATO remains in good standing. This work requires significant DevSecOps discipline and skillsets as changes are required continuously and the system must remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services.

Major Success or Accomplishments/Problems, Lessons Learned, and Solution(s) Applied:

- Modernized NPPES application logic to prepare for the cloud migration.
- Migrated to the cloud early, and within budget.
- Removed 86% of technical debt in the backlog, completed 14 deployments with zero production defects, and deployed AWS ahead of schedule.
- Program Increment 2, 54 user stories, zero defects, and 11,254 phone calls resulted in customer kudos: *"It is such a major difference when you have a consolidated team. I really love this team… one of the best I have seen since at CMS (20 plus years). On top of that you have some great personalities that truly make all the difference in the world. Thank you to your leadership!" ~ CPI Director*

One of our lessons learned from this migration was that cloud services that have comparable features to commercial products do not always produce the same functionality. We selected AWS DocumentDB for its MongoDB compatibility, but it was better to deploy MongoDB on EC2 to retain the expected functionality. That is, documentation does not always match functionality.

06/09/2023 - CMS Health Plan Management System (HPMS) - Website Maintenance and Enhancement Services

Contract Management

Contract Name	Agency	Total Contract Value	Period of Performance
National Plan & Provider Enumeration System (NPPES)	Centers for Medicare & Medicaid Services (CMS)	$49,977,811	9/30/2020 - 9/29/2025
Description of Relevance Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. RELI Group also maintains the NPPES Call Center.			

The NPPES project is a large and complex contract, comprised of 66 full time staff members, including the Program Director, Product Manager, Systems Architect and Security Officer. This program includes supporting three separate systems for processing NPIs, maintaining login IDs for users, providing usable information to the enumerator team, and storing data for public consumption of provider services. The program's end users include more than 4.7 million providers in NPPES. Our team has met all Service Level Agreement (SLA) for the NPPES program. The number of emails and phone calls, the length of calls, and their statuses and resolutions are recorded using ServiceNow and the ACD phone system and are reported to CMS leadership on a weekly basis.

Project Management

Contract Name	Agency	Total Contract Value	Period of Performance
National Plan & Provider Enumeration System (NPPES)	CMS	$49,977,811	09/30/20 - 09/29/25

Description of Relevance Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks.

RELI uses Scaled Agile Framework (SAFe) approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an Integrated Base Review (IBR) meeting. We adhere to CMS OMB 300 mandates and follow the CMS TLC standards for all deliverables. We use CMS Enterprise tools, such as JIRA, Confluence, GitHub, for tracking and maintaining documentation. We use Slack for communications related to the application support and enhancements of the NPPES system.

Infrastructure

Contract Name	Agency	Total Contract Value	Period of Performance
National Plan & Provider Enumeration System (NPPES)	CMS	$49,977,811	09/30/20 - 09/29/25

Description of Relevance Services: RELI strengthened the DevSecOps framework for the three major NPPES applications, transitioning them from the previous CMS Virtual Data Center (VDC) to a Cloud Services Data Center. NPPES utilizes several of the cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline. CMS GitHub is used for our source code repository and

management system (SCM) hosted in the CMS Cloud environment; CloudBees CI (Continuous Integration) Jenkins manages the deployments of data pipelines; and JFrog Artifactory/Xray is our single source of truth for all packages and container images as they move across the DevSecOps pipeline. Together these tools allow our CI/CD pipeline to deploy code with less impact to users while deploying continuously in the environments. Our CI/CD tools are integrated for risk remediation allowing us to update and keep security in place.

RELI supports NPPES through all stages of the system design lifecycle (SDLC) including its migration from an on-prem system to an AWS cloud-based solution ensuring that system security and NPPES' Authorization to Operate (ATO) are maintained. RELI documents system security protections and related system security artifacts within the CMS FISMA Controls Tracking System (CFACTS). RELI applies a DevSecOps approach, integrating security into development, deployments, and operations to support the compliance, risk, and resilience requirements of a system that must be continually improved and remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services.

We use CMS Enterprise tools such as GitHub, SharePoint, and the Atlassian Suite tools JIRA, Confluence, and Slack for tracking and maintaining documentation which provides end-to-end traceability related to the application support and enhancements of the NPPES system. All release documentation is stored on Confluence with user story traceability to each deployed feature. The enterprise tools provide team goals and sprint metrics broken down into Key Performance Indicators (KPI).

Operations and Maintenance (O&M) Support

Contract Name	Agency	Total Contract Value	Period of Performance
National Plan & Provider Enumeration System (NPPES)	CMS	$49,977,811	09/30/20 - 09/29/25

Description of Relevance Services: RELI Group performs software development, maintenance, and operational support across the NPPES contract. We use Scaled Agile Framework (SAFe) that ultimately provides more transparency and flexibility for our release management and post-implementation maintenance support. Our developers worked with CMS to plan and implement the modernization of the NPPES applications to the AWS cloud. We use CMS Enterprise tools, such as JIRA, Confluence, GitHub, and SharePoint for code repository, tracking and maintaining documentation related to the application support and enhancements of the NPPES system.

Our release management support includes live dashboards that provide the status of initiatives, projects, and systems. We use Confluence calendar for all deployments. We provide enterprise-wide release management support, deploying incrementally at the end of each sprint if the code allows for that. For release management, we communicate with stakeholders throughout the process, and using Kanban and Scrum boards to keep CMS aware of our deployment status and schedule.

Using a cloud-neutral microservices approach and cadence-based deployments, we reduced the number of physical systems by over 50%, reducing costs leading to over 60% annual savings. This provides greater optimization of maintenance and development of environments and provides an ongoing savings for CMS for the operational and maintenance cost of the NPPES system.

In addition, RELI Group maintains the NPPES Call Center. Our team uses ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 Help Desk cases, tickets, and emails. To automate, we use an ACD

phone system to track Help Desk call times and wait times to achieve the Government's outcomes and meet requirements related to help desk support. The number of emails/phone calls, length of calls, and status/resolution are recorded through ServiceNow and the ACD phone system and are reported to CMS leadership weekly to maintain transparency. As NPPES enumerator, RELI processes over 59,000 applications annually and handles on average 12,766 telephone calls monthly. In total, the call center handles over 154,000 phone calls per year. We use an automatic call distribution (ACD) phone system to track help desk calls and wait times. Through the implementation of ServiceNow, RELI improved customer service, enhanced data accuracy, and enabled CMS to readily access high performing metrics including access to policies, documentation, records, etc.

05/30/2023 – CMS ASETT

Contract Name	Contract Type	Customer Name	Customer POC	Total Contract Value	Period of Performance
National Plan and Provider Enumeration System (NPPES)	FFP	Centers for Medicare & Medicaid Services (CMS)	Erick Royle. 410-786-0076 erick.royle@cms.hhs.gov	$49,977,811	09/30/20 - 09/29/25

Brief Description of Services: RELI Group provides software development, maintenance, and operational support for the National Plan and Provider Enumeration System (NPPES). The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. RELI Group also maintains the NPPES Call Center.

Relevance to Capability Areas:

Experience with HIPAA adopted standards for transactions and code sets, unique identifiers, and operating rules.

RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. NPPES data is shared widely throughout CMS' operational data ecosystem, such as with CPI's API Hub, Master Data Management (MDM), Integrated Data Repository (IDR), and others.

Knowledge of HIPAA regulations

The NPPES ensures that every health care provider is uniquely identified and assigned its own identification number, the NPI, for use in the transactions stipulated by HIPAA in all their health care business. Our team manages and enhances three large and complex systems that are used

for processing NPIs, maintaining user login IDs, providing usable information to the Enumerator team, and storing provider demographic data for public consumption.

Required Fed Ramp approval.

RELI securely maintains SSI data and system security artifacts within federal Governance, Risk, and Compliance (GRC) solutions (e.g., CMS' CFACTS, Trusted Agent, Archer, etc.) for over 100 federal systems. RELI leads the security work on NPPES. This work includes supporting the entire lifecycle of security from the On-Prem system and the continual security work, maintenance and ATO adjustments as it moved into an AWS cloud. RELI developed, updated and continues to maintain these artifacts so the ATO remains in good standing. This work requires significant DevSecOps discipline and skillsets as changes are required continuously and the system must remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services.

Experience with CMS Technical Review Board and CMS System Life Cycle requirements

RELI's NPPES team moved the code to AWS, modernized, developed, and tested several solutions to mitigate these issues as we migrated from the Companion Data Services (CDS) Virtual Data Center (VDC) to the NPPES AWS environments. We designed a migration plan and strategy to include a timeline with key milestones backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed and accepted by the CMS Technical Review Board (TRB).

We follow the CMS SDLC/XLC methodologies, Technical Review Board gate reviews and any required CMS governance procedures and policies. We also work closely with the system security auditor and participate in system security testing and auditing.

05/24/2023- CMS SNF VBP SSN

The Validation contractor should be able to demonstrate their capability of operating a technical help desk support process, with call trend analysis reporting.

Contract Name	Role	Customer Name	Customer POC	Total Contract Value	Period of Performance
75FCMC20F0002 **National Plan and Provider Enumeration System (NPPES)**	Prime	CMS	Tressa Mauk Buschert, COR tressa.maukbuschert@cms.hhs.gov	$49,977,811	9/30/20 - 9/29/25
Description of Relevant Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. As part of this contract, we also provide extensive program					

management support and help desk services. RELI uses ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 Help Desk cases, tickets, and emails on the NPPES contract. To automate, we use an ACD phone system to track Help Desk call times and wait times to achieve the Government's outcomes and meet requirements related to help desk support. RELI processes over 59,000 applications annually and handles on average 12,766 telephone calls monthly. In total, the call center handles over 154,000 phone calls per year. We use an automatic call distribution (ACD) phone system to track help desk calls and wait times.

05/8/2023 – CMS Eligibility Appeals Operations Support (EAOS) – Digital Services Support (DSS) – Phase I

1.1 AGILE DEVELOPMENT/HUMAN-CENTERED DESIGN (ITIL)

Centers for Medicare & Medicaid Services (CMS) National Plan and Provider Enumeration System (NPPES)
RELI Group, Inc. (RELI) is the Prime contractor on the CMS NPPES program providing software development, maintenance, operational support, enumerator services, and contact center services that all use Agile development and human-centered design (HCD) practices. NPPES retains millions of healthcare providers' information that is passed to the public and to critical downstream systems at CMS. **Our Agile and HCD practices have resulted in more predictable and regular releases to market, better stakeholder awareness and engagement, and an annual cost savings of over 60% due to system enhancements**. We foster a **program culture built on an Agile framework and a development management plan that uses proven and effective strategies such as stakeholder inclusion and customer and end user management**. Consistent with EAOS, RELI uses the SAFe methodology with daily stand ups and regular sprint planning sessions. Our sprint cadence is 2 weeks long with a 2-day program increment event which allows the Agile Release Train to review program successes and goals for the upcoming sprints. In this event, we discuss the strategic roadmap and objectives in collaboration with the customer to align on scope planning goals. We use a variety of agile tools including **Miro for program management planning** and the **Atlassian suite (e.g., Jira and Confluence) for developing and tracking program roadmaps** which benefit CMS by **enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution**. These tools also help us provide live reporting to the Contract Officer's Representative with statuses on program activities that are closely monitored by the Product Manager. RELI has established a backlog of features that ties to the strategic roadmap and pertains to the scope required to meet CMS's objectives. In a joint effort from the NPPES team and CMS, the backlog gets prioritized to determine which features have the highest priority. **By prioritizing significance, stability, and sustainability during these Agile ceremonies, we ensure the effective development and quality assurance (QA) of sustainable customer solutions.** Features are split into user stories and further defined by acceptance criteria prior to being pulled into active sprints. **Our agile process has eliminated over 86% of the technical debt that was previously reserved on the backlog, allowing system enhancements to be implemented in a timelier fashion and providing quicker results to market for end users.** RELI applies an HCD approach to all aspects of our product delivery, incorporating end user feedback early and often to ensure we are designing solutions that ease the burden on end user reporting and streamline the application submission process. Through engaging with end users early, RELI is able to ensure our solution is user friendly while meeting requirements and optimizing the design, development, and delivery process. **We hold a Provider Focus Group every quarter, where practitioners can share their experiences and ideas and discuss any pain points within the system**. This allows for the design and collaboration teams to coordinate and understand end user needs. Once the product is designed and developed, selected providers give feedback on new enhancements without guidance, except for User Stories with Acceptance Criteria and the on-screen design. This testing emphasizes how real users use the system, uncovering any challenges, and allows the team to address the design and usability of the product prior to a production release.

Exhibit 4: DevSecOps Corporate Experience

CMS National Plan and Provider Enumeration System (NPPES)
RELI has strengthened the DevSecOps framework for the three major NPPES applications, transitioning them from the CMS Virtual Data Center to the CMS Amazon Web Services (AWS) Cloud. We use Infrastructure as Code (IaC) alongside our continuous integration and continuous delivery (CI/CD) pipeline to manage infrastructure such as networks, containers, and virtual machines; to control and test installations; and ensure deployment processes align with security best practices. **These practices, along with our automated deployment models, help manage and orchestrate deployment activities, control variability, and reduce errors.** NPPES uses several cloud.cms.gov tools to support AWS deployments via our DevSecOps code pipeline which integrates security testing into our workflows using code analysis tools as a best practice. We use CMS GitHub as a source code repository and management system hosted in the CMS Cloud environment; CloudBees CI Jenkins manages the deployments of data pipelines; and JFrog Artifactory/Xray is our single source of truth to ensure packages and container images are free from vulnerabilities as they move across the DevSecOps pipeline to our SonarQube Static Application Security Testing code review tool that systematically helps deliver clean code. **Together these tools allow our CI/CD deployment pipeline to deploy code with less impact to users while deploying continuously in the environments.** CI/CD tools are integrated for risk remediation allowing us to update and keep security in place throughout the process which benefits the program's success. Code is deployed using immutable infrastructure provisioning with Terraform creating AWS Elastic Container Service (ECS) Fargate microservices containers that are documented for reuse. **They are also not modified after deployment providing a consistent, reliable, predictable, and simpler deployment as a best practice**, as opposed to traditional mutable infrastructures which are continually modified exposing the infrastructure to potential vulnerabilities. Once our code is clean and deployed, it goes through performance and load testing with Apache JMeter and Distributed Load Testing Automation after which we provide the results to our stakeholders for review. RELI's DevSecOps **embraces a "shift left" philosophy, prioritizing early testing and prompt fixes in the software development pipeline.** This aligns with the Agile principle of conducting frequent and early tests. By adopting this approach, **we ensure that security testing and remediation occur throughout every stage of the delivery chain**, starting from requirements and planning and extending to development, testing, deployment, and release. Our objective is to **enhance the scope and efficiency of security processes, documenting them to enhance software quality, shorten test cycles, and minimize security debt**. Our integrated and automated testing is built into the CI/CD pipeline so that when we identify a security finding, we are able to remediate it with a clear, concise plan that is deployed immediately. RELI has experience, with NPPES and other CMS applications, in the creation of documentation and technical reference guide manuals required by CMS and CPI. We have several engineers that teach, create, and explain technical documentation (e.g., preliminary design reviews, detailed design reviews, architecture diagrams, and technical review board design sessions) in support of CMS DevSecOps guidelines and Technical Reference Architecture.

Automation (APIs/Configuring Low-Code or No-Code Platforms)

Exhibit 5: APIs Corporate Experience

CMS National Plan and Provider Enumeration System (NPPES)
The NPPES team supplies and **supports multiple application program interfaces (APIs)** as part of the NPPES modernization effort. **Our team follows industry standards for API design and development** as we view APIs as not just pieces of software but as a complete product that is consumed by clients to perform or inform a set of tasks. **These APIs enable faster efficient and secure information transfer between databases** (i.e., our replica database and other databases such as PECOS). RELI modernized NPPES as we shifted from using an aging commercial off-the-shelf IBM WebSphere suite of software to a Java Spring Boot framework, which is the de facto standard for microservices deployment. We also configured the Oracle Enterprise Edition 19C (Primary) database with an independent database copy for our CPI business partners to query for analytics, reducing the load on the Online Transactional Platform. One of the most important APIs we developed and implemented as part of the NPPES 2.9 release is the *NPI Write API Service*. We used Representational State Transfer (REST) APIs that accept and respond **using Java Script Object Notation (JSON) files resulting in easier information ingestion and use by providing data in a common format**. We used RAML, the RESTful API modeling language, during design which ensures platform independence, **enabling any client to call the API, regardless of its implementation, resulting in a concise and useable API and leading to increased adoption**. The API allows approved applications to inspect and modify certain data fields for an existing, "Active" NPPES NPI, and provides on-demand access to critical NPI information and data. It is currently limited to type 1 (Individual Provider) NPIs. The API runs on the NPPES APPWAS, and the web service itself is implemented in the NPPES web WAR (Web Application Archive) file as a servlet. The NPPES Write API is synchronous meaning the service client (e.g., PECOS) waits for a response after sending the data update information notification request. NPPES processes each request immediately and returns a response as soon as processing

completes. The API validates all data, rejecting the entire NPI update if any validation fails or if the update request includes non-modifiable data returning an error status code (e.g., 400 Bad Request) to inform consumers of their error and assist with testing and debugging. **We follow API security best practices by using the most current and secure Transport Layer Security (TLS) protocol** to protect information sent by the API. We also maintain version control and documentation as part of our API Governance process.

04/28/2023 –NIH National Cancer Institute (NCI) Chief Information Officer and Department of the Director Support Services (CIOOD)

- **CMS National Plan and Provider Enumeration System (NPPES)**: RELI uses a SAFe approach for project management and our team institutes key processes that include quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating an agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an IBR meeting and at every contract modification, establishing the Performance Management Baseline (PMB). RELI will use this experience to perform portfolio management and reporting.

04/28/2023 - CMS Medicare Exclusion Database (MED) – Phase 1

National Plan and Provider Enumeration System (NPPES)
Client Organization CMS/CPI **Period of Performance** 09/30/2020 – 09/29/2025
Project Description: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record for unique identifiers assigned to healthcare providers and health plans that apply for the National Provider Identifier (NPI). The data from NPPES is disseminated to multiple downstream CMS systems, including data for MED to ingest from OIG, and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of all NPPES applications. On this large and complex CMS contract, RELI also maintains the NPPES Call Center. **Contractor Performance Assessment Reporting System (CPARS)/Customer Accolade** "It is such a major difference when you have a consolidated team. I really love this team… one of the best I have seen since at CMS (20 plus years). On top of that you have some great personalities that truly make all the difference in the world. Thank you to your leadership!" ~Center for Program Integrity (CPI) Director
Relevant Experience and Expertise Executing on the SOO Requirements: • ***Experience analyzing legislative and regulatory requirements and translating them into specific business and technical requirements:*** The Administrative Simplification provisions of the Health Insurance Portability and Accountability Act

(HIPAA) of 1996 required the Secretary of Health and Human Services to adopt national standard identifiers to include the adoption of the NPI and development of the NPPES. RELI has analyzed the business and technical requests to comply with legislative, regulatory, or policy changes, as they present themselves.

- ***Experience implementing and maintaining robust requirements and change management systems and processes with end-to-end traceability and transparency to the client:*** RELI leverages a Scaled Agile Framework (SAFe) approach and CMS Enterprise shared services to manage NPPES requirements and changes. We store all release documentation on Confluence with user story traceability to each deployed feature, providing end-to-end traceability for application support and NPPES enhancements. We break down sprint goals and metrics into Key Performance Indicators, allowing us to track our progress and meet objectives efficiently while maximizing value for CMS. Our SAFe approach, coupled with effective requirements and change management practices, enables us to consistently deliver high-quality solutions for NPPES while minimizing risks associated with software development. This approach provides the necessary flexibility to adapt to changes as they arise, while also ensuring that our solutions are compliant with CMS requirements.
- ***Experience migrating IT systems to a Cloud environment; experience with modernization of IT systems and designing solutions using latest technology that is best fit in Cloud environment:*** Our NPPES migration strategy used a phased approach. We built an application blueprint identifying DevSecOps dependencies and integration points. We conducted an architecture review with business and technical staff to understand the CPI directive to migrate to the cloud. Our approach was later approved by the CMS Technical Review Board. We collected, documented, and identified all external interface components to understand the required security policies that allowed team members to properly engage with AWS and datacenter partners. During our migration process, we also identified and included enhancements that made the new NPPES design portable and cloud neutral by modernizing the NPPES code to Java SpringBoot, which allowed us to uncouple the prior IBM WebSphere Java code and deploy SpringBoot-based microservices. RELI used a hybrid migration strategy that combined a lift and shift approach, along with code conversions using newer technologies. The new NPPES architecture uses four environments—development (DEV), testing (TEST), implementation (IMPL), and production (PROD)—distributed among three US-EAST 1 region availability zones.
  NPPES is now built using Open Data Standards, which allows CMS to view system code via GitHub and see all historical information. This also creates a more robust application that is scalable at any time and provides stability during high-peak utilization based on the needs of the provider community.
- ***Experience operating in a multi-contractor environment which includes shared areas of responsibility requiring continuous coordination, cooperation, alignment of schedules and resources, documentation of requirements and testing and verification support:*** RELI is the prime contractor on the NPPES program, working with our subcontractors to manage, maintain, and enhance three large and complex systems used for processing NPIs, maintaining user login IDs, providing usable information to the Enumerator team, and storing provider demographic data for public consumption. The NPPES team coordinates and collaborates with at least seven other contract stakeholder entities in this multi-contractor environment. We lead bi-monthly meetings and ad hoc support calls to discuss our work, document system interactions, and perform integration, load testing, and verification. We use Application Programming Interfaces (API) as a key data integration method to coordinate data exchange among other efforts to support the system and ensure our stakeholders have access to the information they need. These coordination, cooperation, and alignment efforts are critical to ensuring the continued compliance and performance of NPPES in a multi-contractor environment. RELI does its part, collaborating with other contractors, to ensure all CPI contractors can continue high-quality operations.
- ***Experience in managing system scalability including ongoing data growth in size and complexity without impacting system performance:*** NPPES is a growing system and is monitored for indicators that require adjusting data processing power, purge protocols, and parameters. While this growth is continual, there are predictable periods of peak system use. We can increase size and compute power in real-time without disruption to the users while all NPPES systems are deployed across three availability zones providing definitive system stability. To accommodate growth and account for scaling requirements, the NPPES infrastructure is built using serverless computing which allows us to run at no greater than 40% to 50% utilization at any time. By leveraging AWS Cloud, we provide high availability and durability for business-critical data while reducing cost. We have deployed our own multi-zone Oracle instances, with data abstracts, hosted in a MongoDB cluster housing approximately 1.2 terabytes of data. This provides redundancy, faster performance, scalability, and improved security for the searchable, public-facing NPPES Registry database.
- ***Experience with application and infrastructure monitoring tools and capabilities:*** The NPPES team applied CMS' broad portfolio of approved managed technologies, tools, and services and has deployed Splunk as a centralized logging software for managing and analyzing incident response data with a >99.5% uptime since migrating to the Cloud in August 2022. This allows us to search and analyze system data across multiple log sources in near real-time by ingesting logs automatically from several AWS monitoring services into our Splunk Dashboards. To have the best data quality, we also use several manual and automated data quality inquiries.
- ***Experience in DevSecOps and Continuous Integration/Continuous Delivery (CI/CD):*** NPPES uses several cloud.cms.gov tools to support AWS deployments via our DevSecOps code pipeline. We use CMS GitHub as our source code repository and management system hosted in the CMS Cloud environment; CloudBees CI Jenkins manages the deployments of data pipelines; and JFrog Artifactory/Xray is our single source of truth for all packages and container images as they move across the DevSecOps pipeline. Together, these tools allow our CI/CD pipeline to deploy code with

less impact to users while deploying continuously in the environments. Our CI/CD tools are integrated for risk remediation allowing us to update and keep security in place.

- ***Experience with healthcare provider authentication and profile resolution services and experience with authentication and profile resolution of business entities:*** NPPES architecture uses sophisticated, state-of-the-art security mechanisms leveraging encryption, role-based access control, authentication, and a granular authorization framework. Our development team works with CMS to enhance the Identity and Access (I&A) tool, including the recent initiative to implement multi-factor authentication (MFA) for better security around provider profiles. NPPES users utilize the I&A services for account creation, management, and governance of provider registrations with the NPPES system. NPPES has bridged gaps in security by implementing MFA that provides protection of the users' profile in accordance with compliance with security regulations.
- ***Experience with identifying, hiring, and retaining specialized leadership positions. In your response indicate the number of key personnel transitions per period of performance and the duration of all vacancies*:** RELI took ownership of the contract in September 2020 with a three-month transition period. In the first period of performance (POP), there were three changes to Key Personnel. It took from five to 40 days to fill the openings. In the second POP, there were no changes. In the current POP, there have been two changes. Each took less than one day to fill.

Experience in the following tools or comparable tools and services:

Large interactive user based, web and data intensive Java-based application: All our applications are Java-based, built with usability in mind.
WAS plus WSRP Producer and IBM Java JDK: WebSphere Application Server (WAS) Message Queue (MQ)/WebSphere Business Integration (WBI) – broker-to-broker communication between data centers, we have enhanced our MQ software to be compatible with Java software.
Informatica IPC: We used Informatica PowerCenter (IPC) in NPPES for a single report; however, we transitioned the report to Java-based reporting to match the other reports and save costs.
TIBCO EFT: Previously, the NPPES applications used TIBCO Electronic File Transfer (EFT) for mainframe file transfers. We are now using AWS Transfer Family, which is a Secure File Transfer Protocol solution.
Jira, Confluence, GitHub: **Jira –** Our main source of truth for program tracking; **Confluence –** NPPES uses Confluence as our program knowledge repository; **GitHub –** The NPPES team uses this as our source code repository.
Integration with Enterprise Shared Services Tools: We use CMS Slack to communicate with other stakeholder teams and Cloud support. NPPES uses the CMS Atlassian Suite for SAFe work. We use Splunk to assist with monitoring and alerting on all NPPES system activities to ensure stability and compliance. We use only CMS-approved AWS Components that have been vetted through CMS Security and CMS Infrastructure Users and Services Group and approved for use within the CMS Cloud.

04/28/2023 - Defense Health Agency (DHA) E-Commerce Operational Systems Support (EOSS)

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available, yes or no?
National Plan and Provider Enumeration System (NPPES)	Centers for Medicare & Medicaid Services	Jennifer Rushanan, COR 410-786-9690 jennifer.rushanan@cms.hhs.gov	$49,977,811	09/30/20 - 09/29/25	Yes

Description of Services: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. NPPES data are shared widely throughout CMS' operational data ecosystem, such as with the CMS Center for Program Integrity (CPI)'s API Hub, Master Data Management, Integrated Repository, and others.

On NPPES, RELI uses an Agile methodology that has daily stand ups and regular sprint planning sessions. Our sprints are 2 weeks long with a 2-day PI (Program Increment) event which allows the ART (Agile Release Train) to come together to review the program successes and goals for the upcoming 12-week increments. In our event, the roadmap and strategic objectives are discussed in collaboration with the customer to align our scope planning goals.

Our team uses the Atlassian suite of tools, Jira and Confluence, for all tracking and metric needs. These agile tools benefit CMS by enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution. This approach has also resulted in a more predictable and regular release to market, better stakeholder awareness and engagement, and saving over 60% annually due to system enhancements.

04/14/2023 - Centers for Medicare & Medicaid Services (CMS) Chronic Conditions Warehouse (CCW) Virtual Research Data Center (VRDC)

Demonstrate your knowledge & past experience with Medicare, Medicaid, or Healthcare data.

▪ **National Plan and Provider Enumeration System (NPPES)**	
▪ **Contract Name**	▪ National Plan and Provider Enumeration System (NPPES)
▪ **Contract #**	▪ 75FCMC20F0002
▪ **Contracting Organization**	▪ Centers for Medicare & Medicaid Services (CMS)
▪ **Funding Amount**	▪ $49,977,811
▪ **Prime Contractor**	▪ RELI Group, Inc.
▪ **Highlights of our work**: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. On this large and complex CMS contract, RELI Group also maintains the NPPES Call Center.	

Detailed Description of Services:

- As NPPES enumerator, RELI processes over 5,000 applications for NPI and handles over 13,000 telephone calls monthly. Strengthened the DevOps framework for three major applications across NPPES.
- Successful end-to-end systems migration to Cloud-native services to optimize cost savings and operational efficiency.
- Smooth transition of a major national system from prior incumbent with no major setbacks.
- Meets the NPPES database service level agreements (SLAs), operational, quality assurance, and security requirements.
- Successfully supports data-sharing and dissemination services to multiple downstream internal and external systems.

Demonstrate your knowledge of the privacy legislation surrounding the maintenance, use and dissemination of Medicare, Medicaid or Healthcare data. Include examples of how you complied with federal and/or state privacy legislation in the maintenance and dissemination of healthcare data files.

National Plan and Provider Enumeration System (NPPES)	
Contract Name	National Plan and Provider Enumeration System (NPPES)
Contract #	75FCMC20F0002
Contracting Organization	Centers for Medicare & Medicaid Services (CMS)
Funding Amount	$49,977,811
Prime Contractor	RELI Group, Inc.
Highlights of our work: RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES.	
Detailed Description of Services: ▪ One of the major objectives of the NPPES contract is Data dissemination services. RELI Group is responsible for maintenance of a large provider NPI database (1.2 TB) and dissemination of the finalized data, ▪ RELI provides support services, including Operational, Maintenance and Enhancement support, I&A Management operations and enhancement support, NPI enumerator services, HITECH Support, and Data Dissemination activities. These systems used to run in one of CMS Virtual Data Centers and ran on a mix of Oracle Sparc and IBM Mainframe systems. ▪ RELI is building an architecture that refactors the older legacy environment and deploys 24 microservices spanning four AWS Availability Zones for a high availability and fault tolerance environment. Our goal was to utilize as many AWS services as we could to replace older legacy products. We are using AWS RDS Oracle for our backend data store, AWS DocumentDB as our MongoDB replacement, AWS Event Bridge as a serverless event bus for our event driven processes, and AWS Step Functions to coordinate our session-based processes.	

Demonstrate your knowledge of and past experience with maintaining a secure FISMA compliant cloud infrastructure (in Amazon Web Services and/or Microsoft Azure) and meeting federal security requirements for operating and maintaining a large data warehouse.

National Plan and Provider Enumeration System (NPPES)

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Funding Amount	$49,977,811
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Detailed Description of Services

- RELI's NPPES team moved the code to AWS, modernized, developed, and tested several solutions to mitigate these issues as we migrated from the Companion Data Services (CDS) Virtual Data Center (VDC) to the NPPES AWS environments. We designed a migration plan and strategy to include a timeline with key milestones backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed and accepted by the CMS Technical Review Board (TRB). In order to connect to our external CPI partners and stakeholders, we deploy private containerized subnets to isolate the Fargate microservices compute engine, allowing connections via APIs across AWS Virtual Private Cloud (VPC) peering.
- The NPPES Database houses information for over 40 million provider accounts that range from demographic information to specialized services provided. NPPES has enhanced the existing legacy database by incorporating an Oracle Read-Only Replica database. The NPI Registry is a query-only database which is updated daily to enable users to query it (e.g., search by NPI, provider name, etc.) and retrieve the FOIA-disclosable data from the search results. This is done to provide information to our partner Application Development Organizations (ADOs) to analyze NPPES data with no impact to processing or performance of our Master database (1.2TB of data).
- We deployed Splunk as a centralized logging software to manage and analyze incident response data with a >99.5% uptime service level objective (SLO). This allows us to search and analyze system data across multiple log sources in near real-time by ingesting logs automatically from several AWS monitoring services into our Splunk Dashboards.

7. Demonstrate your knowledge of the federal Authority to Operate (ATO) process. The response should provide specific ATOs that you have been a part of and your role in the ATO process.

National Plan and Provider Enumeration System (NPPES)

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Detailed Description of Services:

- NPPES utilizes several of the cloud.cms.gov tools to support AWS deployments via our DevSecOps code pipeline. We use a combination CMS GitHub, CloudBees CI, and JFrog Artifactory/Xray that allows our CI/CD pipeline to deploy code with less impact to users while deploying continuously in the environments. Our CI/CD tools are integrated for risk remediation allowing us to update and keep security in place.
- Our team ensures that system security and NPPES' Authorization to Operate (ATO) are maintained throughout all stages of the system design lifecycle (SDLC). We document system security protections and related system security artifacts within the CMS FISMA Controls Tracking System (CFACTS). RELI applies a DevSecOps approach, integrating security into development, deployments, and operations to support the compliance, risk, and resilience requirements of a system that must be continually improved and remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services.

16. Describe your knowledge and experience with development and maintenance of a data request tracking systems to record and manage user requests for data.

▪ **National Plan and Provider Enumeration System (NPPES)**	
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Prime Contractor	RELI Group, Inc.

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and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. On this large and complex CMS contract, RELI Group also maintains the NPPES Call Center.

Detailed Description of Services:

RELI supports NPPES through all stages of the system design lifecycle (SDLC) including its migration from an on-prem system to an AWS cloud-based solution ensuring that system security and NPPES' Authorization to Operate (ATO) are maintained.

RELI documents system security protections and related system security artifacts within the CMS FISMA Controls Tracking System (CFACTS).

RELI applies a DevSecOps approach, integrating security into development, deployments, and operations to support the compliance, risk, and resilience requirements of a system that must be continually improved and remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services.

17. Describe your knowledge and experience operating a help desk to assist users with technical questions regarding data content, data access, technical environment uses and access.

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Detailed Description of Services:

RELI uses ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 Help Desk cases, tickets, and emails on the NPPES contract. To automate, we use an ACD phone system to track Help Desk call times and wait times to achieve the Government's outcomes and meet requirements related to help desk support.

As NPPES enumerator, RELI processes over 59,000 applications annually and handles on average 12,766 telephone calls monthly. In total, the call center handles over 154,000 phone calls per year. We use an automatic call distribution (ACD) phone system to track help desk calls and wait times.

RELI meets all Service Level Agreement (SLA). The number of emails and phone calls, the length of calls, and their statuses and resolutions are recorded using ServiceNow and the ACD phone system and are reported to CMS leadership on a weekly basis.

20. Demonstrate your experience managing complex multi-facets ecosystems in hybrid cloud environments.

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and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. Our developers worked with CMS to plan and implement the modernization of the NPPES applications to the AWS cloud.

Detailed Description of Services:

Utilizing the AWS Cloud, we were able to host the NPI Registry by building database infrastructure across 3 availability zones within the US-East-1 region. This allows us to provide high availability and durability for mission critical data while reducing cost by leveraging the AWS Cloud.

During our migration process we included enhancements that made the new NPPES design portable and cloud neutral to allow it to be moved to a different cloud environment if necessary.

RELI used a hybrid migration strategy that combined a lift and shift (i.e., copy and paste from CDS to AWS) and code conversions into newer technologies such Spring Boot. The new NPPES architecture uses 4 environments (e.g., development, test, implementation, and production) distributed between 3 US-EAST 1 region availability zones.

25. Demonstrate your experience establishing and executing software using Agile Product Management methodologies.

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Prime Contractor	RELI Group, Inc.

Highlights of our work: As a prime on the CMS National Plan and Provider Enumeration System (NPPES) program, RELI provides Enumerator support and call center services as well as software development, maintenance, and operational support to medical professionals that submit to Medicare and/or Medicaid. RELI successfully implemented a help desk solution that processes over 59,000 applications for NPI and handles over 12,700 telephone calls monthly, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users. We implemented an automated system using ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails and we report to CMS leadership weekly.

Detailed Description of Services:

We use Scaled Agile Framework (SAFe) approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards.

We use an Agile methodology with daily stand ups and regular sprint planning sessions. Our sprints are 2 weeks long with a 2-day PI (Program Increment) event which allows the ART (Agile Release Train) to review the program successes and goals for the upcoming 12-week increments.

Our team uses the Atlassian suite of tools, Jira and Confluence, for all tracking and metric needs. These agile tools benefit CMS by enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution. This approach has also resulted in a more predictable and regular release to market, better stakeholder awareness and engagement, and saving over 60% annually due to system enhancements.

Our team used Agile methodology to migrate the NPPES application to the cloud. We designed a migration plan and strategy to include a timeline backed by a Scaled Agile process that includes a DevSecOps pipeline that was reviewed by the CMS Technical Review Board (TRB).

03/31/2023- FDA National Milk Drug Residue Data Collection and Reporting

Relevant Experience: Centers for Medicare & Medicaid Services (CMS), National Plan and Provider Enumeration System (NPPES)

RELI uses Scaled Agile Framework (SAFe) approach for project management on the NPPES project. Our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables the CMS Center for Program Integrity (CPI) to adhere to the agency-wide Targeted Life Cycle (TLC) standards.

For this project, our team successfully performed a smooth transition of a major national system from the prior incumbent with no major setbacks. The transition included a 3-month phased approach, with a detailed plan and timeline for work-in-progress and production cutovers. Transition activities included a transition plan with transition methodology to ensure project continuity; joint operating agreement (JOA) development; personnel transition planning; knowledge transfer, transition status meetings, risk management, and resource-planning/resource-turnover analysis. We also staffed this project quickly, bringing on 73 FTEs in the first 52 days.

During transition, we collaborate with our clients and stakeholders to perform risk analysis, identifying risks and developing mitigation strategies to minimize the impact of transition. We identify quality measures and draft a Quality Management Plan (QMP). As part of the transition, all staff onboarding procedures and needs are identified and approved by the Project Manager (PM), who will also act as Transition Manager. As part of FedPath's internal controls, the PM is responsible for making sure the correct levels and skills are met for all the functional areas. To ensure a smooth transition, FedPath management collaborates with the contracting officer's representative (COR) and specified government staff to review facilities, policies, and procedures and to develop an implementation plan to provide all required services.

Operations & Maintenance (O&M)

FedPath is often trusted with maintaining the solution after enhancing or developing it. Our team of experts have a catalog of lessons learned for maintenance and support of software systems, including for preventive and corrective activities. We deploy a standard set of tools that allows our team to act immediately or before a problem may occur during software maintenance.

Relevant Experience: Centers for Medicare & Medicaid Services (CMS), National Plan and Provider Enumeration System (NPPES)

On the NPPES contract, FedPath is responsible for the entire system life cycle from requirements, design, development, integration, user acceptance testing, deployment, and production support to subsequent system enhancements. Our team ensures continued operations of NPPES, and the development of enhancements that meet CMS' requirements and specifications. We develop and deliver a Systems Operations Maintenance Plan that covers areas such as system release plans, software configuration management maintenance procedures, quality assurance plans, software process improvement plans, and a communication plan & approach.

FedPath provides support services including operational maintenance and enhancement support, Identity & Access (I&A) Management operations and enhancement support, NPI enumerator services, Health Information Technology for Economic and Clinical Health Act (HITECH) Support, and Data Dissemination activities.

Help Desk

Relevant Experience: Centers for Medicare & Medicaid Services (CMS), National Plan and Provider Enumeration System (NPPES)

FedPath provides extensive help desk support through our CMS NPPES prime contract. Our team successfully implemented a help desk solution that processes over 59,000 applications for National Provider Identifier (NPI) and handles over 12,700 telephone calls monthly, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users.

FedPath uses ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 Help Desk cases, tickets, and emails. To automate, we use an ACD phone system to track Help Desk call times and wait times to achieve the Government's outcomes and meet requirements related to help desk support. The number of emails/phone calls, length of calls, and status/resolution are recorded through ServiceNow and the ACD phone system and are reported to CMS leadership weekly to maintain transparency. As NPPES enumerator, RELI processes over 59,000 applications annually and handles on average 12,766 telephone calls monthly. In total, the call center handles over 154,000 phone calls per year.

With the NPPES ServiceNow implementation, our team improved customer service, enhanced data accuracy, and enabled CMS to readily access high performing metrics including access to policies, documentation, records, etc.

System & Software Development

Relevant Experience: Centers for Medicare & Medicaid Services (CMS), National Plan and Provider Enumeration System (NPPES)

FedPath provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. NPPES data are shared widely throughout CMS' operational data ecosystem, such as with CPI's API Hub, Master Data Management, Integrated Repository, and others. The data from NPPES is also shared externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES.

In support of the NPPES contract, we use Scaled Agile Framework (SAFe), providing more transparency and flexibility for release management activities. We use CMS Enterprise tools, such as JIRA, Confluence, GitHub, and SharePoint for code repository, tracking and maintaining documentation related to the application support and enhancements of the NPPES system. Currently our developers are working with CMS to plan and implement the modernization of the NPPES applications to the AWS cloud. We use Confluence calendar for all deployments. We provide enterprise-wide release management support and deploy incrementally at the end of

each sprint if the code allows for that. Program increments are 10 weeks of Scope work, 2 weeks of Relax/prep work (preparation for next 10 weeks). For release management, we communicate with stakeholders throughout the process, and we use Kanban and Scrum boards to keep CMS aware of deployment status and schedule.

The NPPES team has successfully transitioned into a SAFe Agile platform following a cadence-based schedule, removing 86% of the technical debt with over 16 deployments and zero defects identified.

03/23/2022 – CMS - Medicaid and CHIP Program (MACPRO)

National Plan and Provider Enumeration System (NPPES)		
A	**Client organization name and point of contact information**	**Organization:** Centers for Medicare & Medicaid Services (CMS)/ Center for Program Integrity (CPI) **POC Name:** Ms. Ayana Chavis **Email:** Ayana.Chavis@cms.hhs.gov **Telephone Number:** 443-902-1401
B	**Period of performance**	09/30/2020 - 09/29/2025
C	**Description of the Service Provider Team Composition & Roles:** RELI Group, Inc. (RELI) is the Prime contractor on the CMS NPPES program, where we provide software development, maintenance, operational support, and enumerator services to the NPPES. NPPES retains millions of healthcare providers' information that is passed to the public user and to downstream systems in various ways. To keep the data current, medical personnel enter hundreds of thousands of updates to name, address, location, and taxonomy fields each year, for 4.7 million providers in NPPES. **Principal Tasks Performed by RELI:** ▪ Program Management support provides overall leadership and alignment to project goals, to maintain comprehensive plans, organize, and direct the completion of specific projects, and to ensure tasks are on time, on budget, and within scope. ▪ Product Management support provides strategic product vision, tactical roadmaps, and implementation of technical and business functions, to plan, implement, track report, deliver, maintain, support, and update the product lifecycle deliverables using market leading technologies. ▪ Cloud Migration tasks include all activities to provide efficient, effective, and responsive service to support production hosting requirements for the NPPES applications and Cloud Environment Program-related objectives. These tasks adhere to the modern DevSecOps workflow strategy. **Size and Composition of RELI's Staff:** RELI's team is comprised of 35 full time staff members, including the following four key personnel: Program Director, Product Manager, Systems Architect and Security Officer. ▪ The **Program Director (PD)** establishes program Objectives and Key Results (OKRs) and aligns the product teams with programmatic strategic initiatives to ensure teams adhere to the Agile framework, while leading the migration to the Amazon Web Services (AWS) environment. The PD provides deliverables and oversight to the entire program. ▪ The **Product Manager (PM)** ensures the work of the product teams are aligned to the program OKRs and strategic roadmap, while tracking the work and impact around the tasks and timelines to meet the scrum team objectives. ▪ The **System Architect (SA)** collaborates with the Program Director and Product Manager to create the technical roadmap and provides guidance to the team during the migration efforts to the AWS environment. ▪ The **Security Officer** ensures all the security regulations stay within compliance during all types of changes to the system infrastructure or delivery. **Other Labor Categories:**	

	Other roles that support the NPPES team are Test Engineers, System and Application Engineers, a Development Subject Matter Expert (SME) and a Testing SME. Our team also includes a Training Manager, Application Processors, and Help Desk Resources. **Subcontractor 1 and Principal Tasks Performed:** General Dynamics Information Technology (GDIT) is one of the subcontractors on NPPES. GDIT supports our help desk team. Our help desk receives and resolves, on average, approximately 13,000 phone calls per month. We have an average speed of answer (ASA) equaling less than 3 minutes. This is for our teletypewriter (TTY) and foreign language lines, as well. While the call volume does fluctuate per month, our results and satisfaction surveys average over a 92% satisfaction rate with our end users. GDIT provides 10 Help Desk Resolution Specialists to the team. Each specialist receives four days of training and can walk the end user through any further assistance that is needed. **Subcontractor 2 and Principal Tasks Performed:** Turning Point Global Solutions, Inc. (TPGSI) is the second subcontractor on NPPES. TPGSI provides systems support to the NPPES contract, along with minimal enumerator support. TPGSI provides application and system engineers as well as testing engineers to enhance the systems that support our program. TPGSI team is comprised of 20 full time staff members, including two key personnel. The Technical Lead is responsible for having the knowledge and skill to understand the functionality of the three NPPES applications, including database architecture and design, conversion of business requirements into design solutions with minimal risks, and assistance to system engineers with technical standards and principles. The Operations Manager works at a high-level with operation-related activities and requirements of all enumerator services within the team. The Operations Manager has oversight of system-related activities with user application and nation call center operations. Other roles that are supporting the NPPES team are Test Engineers, System and Application Engineers, Application Processors, and Bilingual Help Desk Resources.	
D	Explain whose experience is being quoted and the role of that firm	**Company Name:** RELI Group, Inc. (RELI) **Role:** Prime
E	**Description of Tasks Performed and Experience Gleaned:** **Goals:** NPPES is a mission critical CMS system of national importance having the responsibility to enumerate and maintain National Provide Identifiers (NPIs) as required by the Health Insurance Portability and Accountability Act (HIPAA) Administrative Standard. An NPI is a unique identification number for covered health care providers, created to improve the efficiency and effectiveness of electronic transmission of health information. Covered health care providers, all health plans, and health care clearinghouses must use NPIs in their administrative and financial transactions. NPPES' data are used throughout the CMS data ecosystem as important reference data. NPPES' data are used to identify providers and to link providers to other data sets in systems such as the Integrated Data Repository, Master Data Management, Medicare Claims Processing, and the Healthcare Integrated General Ledger System. The NPPES system maintains several modern data integration methods to support downstream systems NPPES is a program consisting of two major areas that, together, allow medical personnel to apply and update NPI numbers used by providers. The first area is enumeration support. Our enumerator team processes paper NPI applications sent through the mail. They also review NPI applications that are submitted via web options available on the NPPES website. On average, the NPPES enumerator teams process over 5,000 applications per month. Additionally, the enumerator team answers questions from medical personnel about their NPI applications or changes to their NPIs. The enumerator team handles over 13,000 inquiry phone calls per month, and they have received a consistently high satisfaction rating from callers. The second major area of NPPES is the system applications. The NPPES team maintains and enhances three separate systems for processing NPIs. To provide the best experience for the providers, the NPPES team implements continuous updates and process improvements. We incorporate an iterative delivery model derived from Agile best practices that includes requirements search, analysis, design, development, system integration, user acceptance testing (UAT), deployment, and production support for subsequent system enhancements. **Outcomes:** Our support services include operational, maintenance and enhancement support, identity & access management operations and enhancement support, NPI enumerator services, Health Information Technology for Economic and Clinical Health Act (HITECH) support, and data dissemination activities. We ensure quality through building an internal environment used throughout the development and Quality Assurance (QA) processes, risk, and issue solutioning, communication, configuration management,	

	deliverable management, service continuity, tools and training, and process improvements. We design the infrastructure to meet all government regulations with performance standards and requirements. The NPPES' team's agile approach for product management institutes key processes that include quarterly planning and integrating with the business team to ensure a strong understanding of upcoming objectives with consensus on all deployment activities to meet those goals. This approach allows for transparency and open lines of communication as we strive to meet the quarterly objectives through all agile ceremonies. The program has three scrum teams that apply an agile methodology framework to delivery. The Scrum Master (SM) for each team is responsible for writing the user stories, including well-defined acceptance criteria, so delivery teams have a clear *definition of done* prior to pulling stories into sprints. The SMs facilitate all scrum ceremonies and engage all stakeholders for planning, on a consistent basis. During sprint planning, the SM collaborates with the product team to align delivery with programmatic goals and the strategic roadmap. In each planning session, the SMs collaborate to understand the quarterly and sprint goals and work with the team to determine the priority of the work to be completed. Each scrum team consists of seven team members. The Delivery Manager floats between the teams, while the SM conducts daily standup meetings to track progress of stories in the active sprint. The SM works to remove any blockers that are identified and reports on progress to the PM and Product Owner. Our NPPES Program Manager reports to CMS and corporate management for an aggregate view of performance across the contract. We continually improve our processes based on retrospectives and adopt our customers' goals as our own. We also share our customers' sense of urgency in meeting mission goals. The benefit of this approach to CMS is enhanced customer coordination, improved communication that facilitates cross-team collaboration, and streamlined task execution.
F	**Understanding What People Need:** The NPPES Human-centered Design (HCD) approach is utilized to enhance system effectiveness and efficiency and improve user satisfaction, accessibility, and sustainability. We apply a HCD approach to all aspects of our product delivery, incorporating end user feedback early and often in the process to ensure we are designing solutions that are easing the burden on end user reporting and streamlining the application submission process. HCD is embedded in everything NPPES does; always keeping the end user's experience as a top priority in all solutions. Through engaging with end users early, the NPPES team designs systems that improve workflows. We ensure quality through building an internal environment used throughout the development and QA processes, risk, and issue solutioning, communication, configuration management, deliverable management, service continuity, tools and training and process improvements. Our HCD process is utilized with our end users to ensure the most efficient application flow is available in our systems. Our Community of Practice (CoP) is held every quarter, where HCD practitioners share their experiences and ideas, while collaborating to apply HCD best practices across the enterprise. This allows for the design and collaboration teams to coordinate together to understand the needs of the end user. Once the product has been designed and developed, specific providers throughout the United States give their feedback around new enhancements, via a testing environment, with no guidance except for User Stories and the on-screen design. This usability testing emphasizes how real users use the system, uncovering challenges that are experienced by observation, and enables the team to address the design and usability of the product
G	**Working towards Outcomes, Not Outputs:** We use OKRs to help plan and align our team and CMS towards a core set of goals that are outcome oriented. By collaboratively setting goals as a team, the team ensures we are delivering critical value while pushing for ambitious goals with measurable results. We use the goals set by the teams to monitor progress and performance metrics to allow us to quickly identify variances to enable timely recovery plans and effective mitigation actions, if needed. As part of our approach, RELI conducts a weekly coordination meeting to discuss team goals and sprint metrics per week to determine and identify risks and mitigation, along with successes accomplished to date. We use CMS Enterprise tools, such as GitHub, and SharePoint and Atlassian Suite tools like JIRA, Confluence and Slack for tracking and maintaining documentation related to the application support and enhancements of the NPPES system. These tools provide team goals and sprint metrics broken down into Key Performance Indicators. NPPES uses an Agile approach for project management. Our team institutes key processes that include planning and integrating with the business team to ensure a strong consensus on all team goal activities. We continually improve our processes based on retrospectives and adopt our customers' goals as our own. We also share our customers' sense of urgency in meeting mission-critical goals. Using the agile tools benefits CMS in enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution. NPPES has a backlog of features that ties to the strategic roadmap and pertains to the scope required to meet CMS' objectives. In a joint effort from the NPPES team and CMS, the backlog gets prioritized to

	determine which features have the highest priority. The features are defined by the user stories and further defined by acceptance criteria prior to being pulled into any active sprint. Once determined and work begins, if a roadblock is identified, the team and client will seek to remove the roadblock and discuss the impacts if a solution is not feasible to be completed within the active sprint. Further discussions happen to see which feature/story will be adjusted throughout the quarterly cycle and then will be reprioritized for the next quarterly planning session. RELI has extensive experience successfully managing contracts of various types, sizes, and complexities through Lean. On the Atlassian Suite, Team RELI provided live reporting to the CMS Contract Officer's Representative (COR) with an up-to-the-minute status on all program activities that are closely monitored by the Program Manager. Our performance, risks, issues, and status were visible to CMS to ensure transparency and quality. Our process is a proven methodology that maximizes the delivery of high-quality products while ensuring our customers are well informed.

03/16/2023 - CMS Marketplace Independent Testing

Relevant Experience

CMS National Plan and Provider Enumeration System (NPPES)

- RELI Group is the primary system maintainer and call center support contractor for the National Plan and Provider Enumeration System (NPPES), a mission-critical system that allows more than one million American doctors and healthcare providers to more effectively serve 45 million Medicare patients every day.
- The NPPES team has successfully transitioned into a SAFe Agile platform following a cadence-based schedule, removing 86% of the technical debt with over 16 deployments and zero defects identified.

3/10/2023 - CMS HIM FMO

National Plan and Provider Enumeration System (NPPES) [RELI]	
Name of Company or Agency	Centers for Medicare & Medicaid Services (CMS)
Project title and contract number (for subcontracts, provide the prime contract number and the subcontract number)	National Plan and Provider Enumeration System (NPPES) Contract Number: 75FCMC20F0002 / HHSM500201700045I
Dollar value per contract year and period of performance	Base: 9/30/20-9/29/21 / Dollar Value: $9,089,476.00 O1: 9/30/21-9/29/22 / Dollar Value: $10,348,014.00 O2: 9/30/22-9/29/23 / Dollar Value: $10,549,016.00 O3: 9/30/23-9/29/24 / Dollar Value: $10,602,121.00 O4: 9/30/24-6/29/25 / Dollar Value: $8,185,785.00 O5: 6/30/25-9/29/25 / Dollar Value: $1,203,399.00
Insert narrative that describes how this corporate experience relates to specific OA tasks: RELI provides software development, maintenance, and operational data support for a major data intensive system for CMS. RELI successfully maintained operations—providing stability—while at the same time migrating to the cloud and then carrying out a series of cloud optimizations. The main data engineering layer of NPPES is Oracle, similar to OA. Incrementally, with no hiccups, RELI migrated legacy Oracle to more efficient and dynamic common cloud services. RELI complemented the AWS system with innovative ServiceNow capabilities including dynamic dashboards and robust integration with external services, enabling CMS to take advantage of more efficient workflows and ITIL management functionalities.	
How this experience will benefit the Government and the outcomes of the OA contract: RELI understands OA is the nerve center for CCIIO and needs a steady hand to ensure technical operations run smoothly first and foremost. RELI will ensure stable operations while optimizing and building new capabilities to meet CMS needs. RELI will monitor operations to ensure cost efficiency while building in scalability to meet demand surges.	

Description of difficulties or constraints encountered and how they were overcome: The Oracle database running at AWS was consuming excessive compute resources and not meeting SLAs. RELI recommended, designed, and built an analytic data mart to take the load off the OLTP Oracle database. CMS wanted more insights into the operations of NPPES and better integration with other CPI services. RELI quickly stood up a ServiceNow capability to give CMS more insights into NPPES operations and workflows.

02/10/2023 - EVOLVE Attachment J-14

REP PROJECT EXPERIENCE #: 1	
Project Title: National Plan and Provider Enumeration System (NPPES)	**Offeror Name:** RELI Group, Inc.
Contract Number: HHSM5000201700045	**Order Number(s) (if applicable):** 75FCMC20F0002
Agency or Customer: Centers for Medicare & Medicaid Services (CMS)	
Name of Contracting Officer or Corporate Representative: Jennifer Rushanan	**Title:** Contracting Officer's Representative (COR)
Phone: 410-786-9690	**E-Mail:** Jennifer.rushanan@cms.hhs.gov
City(ies) and State(s), or Countries if International, Where On-Site Performance Occurred. *Does not include TDY, remote or teleworking employees* (list all): Windsor Mill, MD	**List Each Distinct Federal Agency Supported for this Project *(Name and Funding Agency ID)*** Center for Medicaid & Medicare Services (CMS)/Center for Program Integrity (CPI)/Data Analytics and System Group (DASG)/Division of Provider Systems Management (DPSM), and CMS/CPI/Provider Enrollment and Oversight Group (PEOG); 7530
Countries Where On-Site Performance Occurred in a High Threat Area *Does not include TDY, remote or teleworking employees* (list all): USA	**List Each Agency-Wide support effort included and/or work across more than one Bureau, Program Office, or Organization within an Agency/Customer Entity** Center for Program Integrity (CPI)
Do you have a Contractor Performance Assessment Reporting System (CPARS) Report for this project? ☒ Yes	

☐ No

01/30/2023 – CMS FSSE

Demonstrated ability to generate, print, and distribute Demand/Dunning Letters, application of receipts to appropriate debts and referral, data validation and accounts receivable/payable processes as it relates to audit activities;

National Plan and Provider Enumeration System (NPPES): On our NPPES prime contract, RELI Group operates in a secure physical mailroom to process and distribute NPI applications and letters. On average, our enumeration team processes over 8,000 applications per year and accepts and distributes applications digitally and via mail. These applications are thoroughly reviewed for accuracy before being processed. The processed applications are entered into our system and validated using a matching algorithm to ensure there are no duplicates in the database. This happens prior to the NPI number being assigned and closing out the case. Our team provides written customer service for applicants who have submitted written applications and provide written responses to inquiries regarding the NPI applications, the status of their application, or any application processing questions. Our team also creates and mails letters for development letters and returned application letters.

Demonstrated the ability to interface with a variety of data and CMS systems in a secure environment such as HIGLAS Pay.gov, Amazon Work Spaces (AWS) Environment and other system related activities;

National Plan & Provider Enumeration System (NPPES): RELI Group was awarded the National Plan & Provider Enumeration System (NPPES) contract to perform a major system upgrade to include migration to AWS using modern compute, adoption of Agile, and new data architectures. RELI transformed NPPES by complementing the system with innovative ServiceNow capabilities including dynamic dashboards and robust integration with external services, enabling CMS to take advantage of more efficient workflows and ITIL management functionalities. Modern CI/CD architectures now provide greater flexibility for maintenance and development of environments as well as ongoing cost savings for CMS for operation and maintenance.

The legacy NPPES was hosted on an outdated mainframe at a CMS Virtual Data Center. The new NPPES AWS environment now runs on an AWS Fargate serverless compute engine, running decoupled microservices modernized for Java Spring Boot technology through a DevSecOps pipeline. Fargate significantly decreased server costs. We complemented the Oracle Enterprise Edition 19C Online Transactional Platform (OLTP) database, which spans three AWS availability zones, with an additional independent read replica database for CPI business analytics. The NPPES system modernization integrates with other CPI system modernization initiatives, including the MuleSoft Application Program Interface (API) Hub Gateway and the Kafka Event Driven Architecture. Modern cloud native data analytics and integration methods make NPPES data available to its many downstream data consumers efficiently, securely and at scale.

RELI currently maintains eight secure external connections within the NPPES AWS environment. The connections consist of Provider Enrollment Chain Ownership System (PECOS) at both the VDC and AWS, Health Information Technology for Economic and Clinical Health (HITECH), Medicare Exclusion Database (MED), Master Data Management (MDM), Application Program Interface (API) Gateway, Lightweight Directory Access Protocol, and Cloud Content Manager. Most of these connections are configured for VPC Peering which enables our business partners to reach and query our NPPES read-only Oracle Analytics DataMart. Other connections are established to support various Application Development Organizations (ADOs) connectivity for NPPES business integration functionality.

01/17/2023 - CMS CCSQ Service Center - Phase I

National Plan and Provider Enumeration System (NPPES) [RELI]			
Agency	CMS/ CPI	**Contract Number**	HHSM500201700045I/ 75FCMC20F0002
Annual Funded Value/ Total Contract Value	$9,995,502/ $49,977,811	**Period of Performance**	9/30/20-9/29/25

Contract Description: On this large and complex CMS contract, RELI Group is the prime contractor on the CMS NPPES program, providing enumerator support and call center services as well as software development, maintenance, and operational support to medical professionals that submit to Medicare and Medicaid. RELI successfully implemented a help desk solution that processes over 66,000 applications for National Provider Identifier (NPI) and handles over 12,833 monthly telephone calls, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users. We implemented an automated system using ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails, and we report weekly to CMS leadership. This program includes supporting three separate systems for processing NPIs, maintaining user login IDs, providing usable information to the enumerator team, and storing data for public consumption of provider services. The program's end users include more than 4.7 million providers. By leveraging new technologies such as AWS, RELI has increased website processing time which is now seven times faster to create a more efficient user experience. RELI transformed NPPES with innovative ServiceNow capabilities including dynamic dashboards and robust integration with external services, enabling CMS to take advantage of more efficient workflows and Information Technology Infrastructure Library (ITIL) management functionalities. With the NPPES ServiceNow implementation, RELI improved customer service, enhanced data accuracy, and enabled CMS to readily access critical artifacts including access to policies, documentation, records, etc.

Average Annual Contacts = 278,000

- 66,000+ applications
- 154,000+ phone calls
- 58,000+ emails

Demonstrated Experience that Meets and/or Exceeds the Government Criteria and RFQ Attachments

Planning and implementation of SURGE support: RELI's support on NPPES provides NPI numbers which allows medical personnel access to the Medicare program to support the beneficiaries' medical needs. RELI has a proven track record of providing experienced, qualified, and knowledgeable support for outstanding customer service, the ability to scale up or down to meet unexpected surges or forecasted peaks and perform quality monitoring and related training to ensure process improvement. We cross train staff to intake and process NPI applications. In addition to other surge periods, each spring there is a surge in applications and emails by new providers who have graduated and need NPI numbers. To handle this influx, we scale up by bringing in up to 10 additional staff from other parts of the enumerator team (application processors, Error Resolution (ER) processors, etc.) that have been cross trained to perform surge tasks. This strategy ensures that we maintain SLAs.

Disaster preparedness and redundant services for ensuring geographic diversity and continuity of operations: RELI resources, systems, and support mechanisms (workflows and routing) are structured in a geographically distributed manner to ensure continuity of operations and to prevent disruption to services. Our team has established Standard Operating Procedures (SOPs) which are updated and practiced intermittently to enable a proactive mindset regarding disaster recovery.

Ticketing using ServiceNow: RELI uses ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 cases, tickets, and emails. Cases are managed by skill set, and all Tier 1 calls are resolved prior to them ending, unless the caller needs advanced assistance requiring tier elevation. Completed cases are then closed in ServiceNow. Tier 2 or Tier 3 cases that have an exception to their NPI remain open until further guidance is provided from the business or program lead.

Management of call center operations and workforce utilizing NICE CXOne: RELI handles, tracks, and monitors an average of 12,833 telephone calls per month using the NICE CXOne tool. NICE CXOne allows SLAs to be monitored for the month while tracking skill level availability, the number of phone calls, length of calls, and status and resolution. This

information is reported to CMS weekly and can be found on live dashboards which are provided for transparency. RELI meets or exceeds all contractual SLAs, as all requests are handled within the stipulated wait time of three minutes. The email request response and activation times are two to three days, which exceeds the Government requirement for a response within five days. The number of emails and phone calls, the length of calls, and their statuses and resolutions are recorded using ServiceNow and the automated call distribution (ACD) phone system and are reported to CMS leadership on a weekly basis.

Internal healthcare helpdesk training, refreshing agent knowledge and standards to maintain high quality standards and staff proficiency to manage variable volumes of services and program changes: RELI has implemented a detailed training plan that spans five key training areas within the Project Life Cycle: 1) New Hire Orientation, 2) Compliance Related Trainings, 3) Contract Specific Training, 4) Proficiency Assessment, and 5) Quality Audits. We provide a five-day training curriculum for Customer Service Representatives (CSRs), Application Processors, ER Helpers, and additional tasks that are completed by select individuals within the NPI Enumerator project. We also analyze provider inquiries to identify specific areas of concern and use information gathered to improve customer service. We provide bilingual CSRs to accommodate telephone or written inquiries from Spanish-speaking providers, and we use an ACD phone system to track help desk calls and wait times.

Performing agent quality assurance: RELI performs quality monitoring for the NPPES contact center. Our quality analysts are assigned each month to a random resource where monthly required audits are performed. They use a scorecard to provide a percentage score. Formulas are used to calculate points earned versus points available to determine the overall score. Score results are Pass (P), Pass with Improvement (PIR) and Improvement Required (IR). Our team creates audit forms and audit schedules, detailing the quality analyst's name and who they are assigned to for the month. From these scores, we create status reports to assist and ensure process improvement. Our training manager works with CSRs who have received a low score, coaching and training those specialists to ensure increased results and better scores. We perform weekly trending and analysis reports of quality monitoring activities, scores, and key findings to ensure we are meeting requirements and identify areas for additional training. Our team provides mentoring or training to correct problems if there is a low score and assistance is needed.

Lessons learned and best practices to include unique differentiators: Our lessons learned (retrospective) process is done on a two-week cadence at the end of every sprint. The teams talk through what went well, what didn't, anything we want to continue to do, and we add a shout out of congratulations to the team. This is then reviewed weekly, and a plan of action is put into place to improve the things that didn't go so well as well as maintain the things that did. This approach has allowed defects to be found before production, development to focus on smaller pieces of work with design included, and for user stories and acceptance criteria to be refined even more and include relevant details to be accurately sized.

Use of Agile to achieve Program Goals and drive process improvement: RELI uses a Scaled Agile Framework (SAFe) approach for project management, and our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables the Center for Program Integrity (CPI) to adhere to agency-wide Targeted Life Cycle (TLC) standards. We adhere to CMS Office of Management and Budget 300 mandates and follow the CMS TLC standards for all deliverables. RELI conducts a weekly coordination meeting to discuss team goals and sprint metrics, review and identify risks and mitigations, and cover successes accomplished to date. This call promotes the transparency of the project health and status, as well as team and client communication. The team discusses any change management decisions that have occurred, and, if any have, how they will impact the sprints or if they will be placed into the backlog. We use CMS Enterprise tools such as GitHub, SharePoint, and the Atlassian Suite tools JIRA, Confluence, and Slack for tracking and maintaining documentation which provides end-to-end traceability related to the application support and enhancements of the NPPES system. The enterprise tools provide team goals and sprint metrics broken down into key performance indicators. Our management is sprint-focused, so our development and deliverables are supported in a two-week cadence without delays. We review overall objectives and perform program analysis every 12 weeks to ensure SAFe ceremonies are meeting business work needs. This approach allows the guidelines to lead into the stable development of tools, processes, SOPs, status reporting, and to help communicate with stakeholders in a timelier fashion. Ultimately, we designed and implemented these approaches to improve the change management methodology that brings our client closer to decision-making activities while understanding impacts to business objectives and requirements.

PHI/PII Handling Process: RELI processes over 124,000 applications and emails annually and handles over 154,000 telephone calls annually using the NICE CXOne tool while maintaining the integrity of personally identifiable information (PII) and protected health information (PHI). Because we handle PII, our communications adhere to strict requirements and do not extend to webchats. In addition to the required annual Department of Health and Human Services' training, NPPES implemented additional security training during onboarding that is required prior to allowing account access. This additional security training requires each caller to provide identifying information and correctly answer security questions to proceed with the call. Since implementing these additional security measures, no security breaches have taken place.

Use of technology and data to drive process improvement: RELI uses NICE CXOne and ServiceNow to drive process improvement. We perform quality monitoring for the contact center using audit forms and audit schedules. From these scores, we create status reports to assist and ensure process improvement. If a specialist's new hire quality assessments score below the required rating, it is at the team manager's discretion to determine the amount of additional new hire assessments that should be completed. If a specialist is completing a task that is not part of their primary job responsibilities, it is at the team manager's discretion how many quality assurance (QA) audits should be completed. RELI maintains a culture of continuous improvement through an industry-proven continuous process improvement cycle. Our Plan, Do, Check, Act (PDCA) methodology fosters consistent evaluation and optimization of processes, tasks, and technology, while ensuring quality and increasing efficiency.

Customer satisfaction surveys (including sampling rate) to improve processes: Our customer satisfaction surveys are performed once a month and offered on 100% of applicable calls with each CSR specialist. We report that score monthly to CMS and stakeholders. We analyze provider surveys to identify specific areas of concern and use the information gathered from such analyses to improve customer service. Based on the feedback gathered in the surveys, we adjust the user interface tool to resolve common problems for the customer thereby reducing the number of calls.

Risk Identified in the Quoter Corporate Experience and Mitigation Strategy(ies)

Risks	Mitigation Strategy(ies)
ServiceNow is a new tool for the NPPES Call center to handle incidents in one location	Pre-production testing environments; writing new requirements for improved efficiencies and customizable fields; on the job exposure to the tool in lower environments to detect any defects and work out workflow errors.
New phone system and set up	Workgroup to determine skill set levels and create SOP/tutorial; phone number transition testing; tested functionality to ensure prepared for live production; discovered and composed dashboards and reports from phone system to be automated
New staff for contract	Prior to go live, we received additional training and access to lower environments to prepare new resources. Consistently trained on tools. Systems changed, but our scope remained consistent.

Potential Benefits and/or Innovations in the Quoter Corporate Experience

Innovations	Benefits
Training efficiencies	Over 14 days of classroom training has been compressed into 6 days with less than 1% retraining needed.
Security enhancements	Implemented stronger verification requirements for protected PHI/PII data. Implemented a secure portal for end users to send PII/PHI documentation in an encrypted and secure way to process and assist with NPI calls/applications.

12/05/2022 - Centers for Medicare & Medicaid Services (CMS) Center for Medicare (CM) Part B Drug Technical Support Contract

Capability 1

Team RELI provides software development, maintenance, and operational support for NPPES, a mission critical national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers that apply for the NPI. RELI was awarded the contract to perform a major system upgrade of all NPPES applications. On this large and complex CMS Prime contract, Team RELI also maintains the NPPES Call Center.

Team RELI uses Scaled Agile Framework (SAFe) approach for project management on the NPPES contract. Our team has instituted processes such as quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables the CMS Center for Program Integrity (CPI) to adhere to the agency-wide Targeted Life Cycle (TLC) standards. Our team uses an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. We adhere to CMS OMB 300 mandates and follow the CMS TLC standards for all deliverables. We use CMS Enterprise tools, such as JIRA, Confluence, GitHub, for tracking and maintaining documentation. We use Slack for communications related to the application support and enhancements of the NPPES system.

Our NPPES Program Manager reports quality assurance (QA) activities (e.g., peer reviews and audits, test, certification, metrics reporting/ analysis) to CMS and corporate management for an aggregate view of performance across the contract. We continually improve our processes based on retrospectives and adopt our customers' goals as our own. The benefit of this approach to CMS is enhanced customer coordination, improved communication that facilitates cross-team collaboration, and streamlines task execution.

Capability 7

For our National Plan and Provider Enumeration System (NPPES) contract, Team RELI developed a Communications Plan that describes the methods, tools, timing, and levels of communications among Team RELI and with the various CMS organizations involved. The Plan includes a matrix showing how our team reviews and approves deliverables; identifies a variety of media for program communications, including email and teleconference; describes process for facilitating/leading NPPES meetings, including technology; details process for scheduling/conducting weekly and ad hoc meetings; and includes a RACI matrix for all deliverables. We update the Communication Management Plan before every IBR.

For optimal Communications and Engagement, our team uses Confluence and Jira to track and report project performance. The platform provides real-time access, with monthly grading and analysis of crucial project and task performance indicators, keeps management informed of critical performance issues, and facilitates quality improvement discussions. We use this model to focus on IBRs, variance analyses, and value-added contributions. Monthly assessments lead to continuous quality improvement and eliminate the information gap between the project and CMS.

11/29/2022 - NIH National Cancer Institute (NCI) Chief Information Officer and Department of the Director Support Services (CIOOD)

Task 2 –Program and Project Management Support and Consultation

- **CMS National Plan and Provider Enumeration System (NPPES)**: RELI uses a SAFe approach for project management and our team institutes key processes that include quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating an agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an IBR meeting and at every contract modification, establishing the Performance Management Baseline (PMB). RELI will use this experience to perform portfolio management and reporting.

10/19/2022 – CMS - Data Exchange 2.0 (DEX)

<table>
<tr><th colspan="4">National Plan and Provider Enumeration System (NPPES)</th></tr>
<tr><td>A. Client organization name and point of contact information</td><td colspan="3">Organization Name: CMS/ Center for Program Integrity (CPI)
POC Name: Mr. Erick Royle; Email: erick.royle@cms.hhs.gov; Phone: 410-786-0076</td></tr>
<tr><td>B. Period of Performance</td><td colspan="3">09/30/2020 – 09/29/2025</td></tr>
<tr><td colspan="4">C. Description of the Service Provider Team Competition & Roles</td></tr>
<tr><td>Team Member / Role / Size</td><td>Principal Tasks</td><td colspan="2">Team Composition</td></tr>
<tr><td>RELI Group (Prime) – 35 FTEs</td><td>▪ Program Management
▪ Enumeration Support
▪ Cloud Migration</td><td>Key Resources:
▪ Program Director (PD)</td><td>Other Labor Categories:
▪ Test Engineers</td></tr>
</table>

National Plan and Provider Enumeration System (NPPES)			
	▪ Product Management ▪ Customer Training ▪ System Development Support ▪ Help Desk Support Team	▪ Product Manager (PM) ▪ System Architect (SA) ▪ Security Officer	▪ System and Application Engineers ▪ Development Subject Matter Expert (SME) ▪ Testing SME ▪ Training Manager ▪ Application Processors ▪ Help Desk Resources
General Dynamics Information Technology (GDIT) (Subcontractor) – 10 FTEs	▪ Help Desk Support Team	**Key Resources:** ▪ Help Desk Resolution Specialists	
Turning Point Global Solutions, Inc. (TPGSI) (Subcontractor) – 20 FTEs	▪ System Development Support ▪ Quality Assurance ▪ Enumeration Support ▪ Help Desk Support Team	**Key Resources:** ▪ Technical Lead	**Other Labor Categories:** ▪ Application Engineers ▪ System Engineers ▪ Testing Engineers

D. Explain whose experience is being quoted and the role of that firm or individual in performance of the work envisioned under this solicitation.

The corporate experience that is being quoted here refers to RELI Group, Inc., who is acting as the prime contractor for NPPES. RELI plans to execute all aspects of the contract envisioned under this DEX solicitation, by itself, without any assistance from other subcontractors. RELI has access to several key personnel who would play a critical role on this contract.

E. Description of the project including goals, outcomes, descriptions of tasks performance & experience gleaned from that performance, along with any other pertinent, retrospective information.

Project Description: The Administrative Simplification provisions of the Health Insurance Portability and Accountability Act (HIPAA) of 1996 required the Secretary of Health and Human Services (HHS) to adopt national standard identifiers for healthcare providers and health plans for use in the healthcare system. This regulation mandated the adoption of the National Provider Identifier (NPI) and development of the NPPES. RELI Group provides software development, maintenance, and operational support for NPPES, a mission critical national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers that apply for the NPI. RELI was awarded the contract to perform a major system upgrade of all NPPES applications. On this large and complex CMS contract, RELI Group also maintains the NPPES Call Center. Per the NPPES Data Dissemination Notice, CMS-6060-N, posted on the Federal Register on May 30, 2007, FOIA-disclosable NPPES health care

Notable Contract Highlights Relevant to DEX SOO

- Successfully supports data-sharing and dissemination services to multiple downstream internal and external systems.
- Meets the NPPES database service level agreements (SLAs), operational, quality assurance, and security requirements.
- Successful end-to-end systems migration to Cloud-native services to optimize cost savings and operational efficiency. (USDS Play # 13)
- Smooth transition of a major national system from prior incumbent with no major setbacks.
- Implemented a detailed training plan that spans five key training areas within the Project Life Cycle.

provider data will be provided in a downloadable file format. This data file is provided in a ZIP archive to compress the size and facilitate easier downloading.

Tools, Technologies & Cloud-based Architecture: The legacy NPPES, which was hosted on one of CMS' virtual data centers (VDCs), ran on a mix of Oracle SPARC and IBM Mainframe systems. In 2020, RELI group started supporting the contract and made significant changes at every level—compute, system software, and processes—to maximize the efficiencies of a modernized cloud-native platform. Team RELI developed a cloud-native Java and Spring Boot microservices framework through a DevSecOps pipeline.

Compute: RELI continues to upgrade NPPES systems from IBM WebSphere/MQ Commercial Off-the-Shelf (COTS) Java Web Application Resource WAR files, running on a mix of Red Hat instances on Oracle and IBM mainframe servers, to a framework that uses an Amazon Web Services (AWS) Fargate serverless microservices system that incorporates Java Spring Boot technology. This upgrade reduced the number of servers which were then running in the legacy systems. Using the latest technology also significantly decreased server costs by using AWS Elastic Compute Cloud (EC2) instances (*USDS Play # 9*). Throughout our response, we have included similar references to indicate where an element of our approach is directly aligned to one of the plays from the United States Digital Services (USDS) Playbook.

Software: RELI shifted from using an aging COTS IBM WebSphere suite of software that ran the Java Foundation Classes (JFC) modified Model View Controller (MVC) architecture to a Java Spring Boot framework, which is the de facto standard for microservices deployment. We also configured the Oracle Enterprise Edition 19C (Primary) database with an independent read replica (database copy) for our CPI business partners to query for analytics, reducing the load on the Online Transactional Platform (OLTP). The software modernization effort also incorporated other CPI initiatives, including the CMS MuleSoft Application Program Interface (API) Hub gateway and Kafka functionality. NPPES uses several cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline *(USDS Play # 8)*.

Our team uses the following tools on NPPES:

- CMS GitHub—Source code repository and management system (SCM) hosted in the CMS Cloud environment.
- CloudBees CI (Continuous Integration) Jenkins—Manages deployments of data pipelines.
- JFrog Artifactory/Xray—Single source of truth for all packages and container images as they move across the entire DevOps pipeline.
- SonarQube—Platform for static code analysis.
- Selenium Box—Enterprise Selenium Grid, a cross-browser test execution infrastructure that enables NPPES to execute tests on multiple browsers in parallel, reducing test suite execution time for application user interface (UI) testing.
- JMeter—Test tool from Apache used to analyze and measure the performance of applications and different software services and products. For NPPES, we use JMeter as our user load testing tool.
- AWS CloudFront web service front end will serve as our static content via the AWS Simple Storage Service (S3) with read-only access for NPPES customers located within the United States of America.
- To connect to our external CPI partners and stakeholders, we deployed private containerized subnets to isolate our external connections (non-AWS connections) using Private Application Subnets, which would then connect via CMS AWS Transit Gateways to our APIs.

Stakeholder Engagement (clients, users, etc.): NPPES is a nationwide system for creation and management of NPI. As an NPPES enumerator, RELI provides support to the provider community. The data from NPPES is disseminated to multiple downstream CMS systems and

externally to the nation's healthcare delivery and payment networks. Since 2020, RELI has successfully engaged NPPES users by providing support, training, delivery, gathering feedback, and process optimization.

Goals: Transition of the NPPES application from the current CMS VDC to a Cloud Services Data Center will provide greater flexibility for maintenance and development of environments as well as an ongoing cost savings for operation and maintenance of the NPPES system, NPPES replication database (NPPES-R), NPI Registry, Identity and Access (I&A) Management, and Administrator Interface (AI); Health Information Technology for Economic and Clinical Health Act (HITECH) Support; NPI Enumerator Services; and Data Dissemination.

Outcomes: As the NPPES enumerator, RELI processes over 5,000 applications for NPI and handles over 13,000 monthly telephone calls using the NICE In-Contact supported tool while maintaining the integrity of personally identifiable information (PII) and protected health information (PHI).

Strengthened the DevOps framework for three major applications across NPPES.

- Successful end-to-end systems migration to Cloud-native services to optimize cost savings and operational efficiency.
- Smooth transition of a major national system from prior incumbent with no major setbacks.
- Meets the NPPES database service level agreements (SLAs), operational, quality assurance, and security requirements.
- Successfully supports data-sharing and dissemination services to multiple downstream internal and external systems.
- Implemented a detailed training plan that spans five key training areas within the Project Life Cycle.
- Implemented NPPES ServiceNow which resulted in improved customer service, enhanced data accuracy, and enabled CMS to readily access high performing metrics including access to policies, documentation, records, etc.
- Implemented a one-team mindset to facilitate collaboration and capture user experience within the teams to enhance the applications for end-users.

Principal Tasks Performed by RELI:

Enumeration Support: RELI's enumerator team processes paper NPI applications sent through the mail. They also review NPI applications that are submitted via web options available on the NPPES website. On average, the NPPES enumerator teams process over 5,000 applications per month. Additionally, the enumerator team answers questions from medical personnel about their NPI applications or changes to their NPIs. The enumerator team has consistently received a high satisfaction rating from callers.

Cloud Migration: As suggested in the Tools & Technologies section, RELI has made significant changes to NPPES at every level—compute, system software, and processes—to maximize the efficiencies of a modernized cloud-native platform.

Product Management Support: RELI provides strategic product vision, tactical roadmaps, and implementation of technical and business functions, to plan, implement, track report, deliver, maintain, support, and update the product lifecycle deliverables using market leading technologies.

Customer Training: RELI has implemented a detailed training plan that spans five key training areas within the Project Life Cycle: (1) New Hire Orientation, (2) Compliance Related Trainings, (3) Contract-Specific Training, (4) Proficiency Assessments, and (5) Quality Audits. RELI provides a 12-day training curriculum for Customer Service Representatives (CSRs), Application Processors (AP), and Error Resolution (ER) Helpers, and performs additional tasks that are completed by select individuals within NPPES (*USDS Play # 2*).

National Plan and Provider Enumeration System (NPPES)

Program Management Support: RELI provides overall leadership and alignment to project goals to maintain comprehensive plans, organize and direct the completion of specific projects, and to ensure tasks are on time, on budget, and within scope.

Systems Development Support: The NPPES team maintains and enhances three separate systems for processing NPIs. To provide the best experience for the providers, the NPPES team implements continuous updates and process improvements to the IT systems. We incorporate an iterative delivery model derived from Agile best practices that includes requirements gathering, analysis, design, development, system integration, user acceptance testing (UAT), deployment, and production support for subsequent system enhancements.

> ***"It is such a major difference when you have a consolidated team. I really love this team… one of the best I have seen since at CMS (20 plus years). On top of that you have some great personalities that truly make all the difference in the world. Thank you to your leadership!"*** — **Center for Program Integrity (CPI) Director**

Subcontractors and Principal Tasks Performed by them:

1. **General Dynamics Information Technology (GDIT)** supports the help desk team. GDIT has an average speed of answer (ASA) of less than 3 minutes. This ASA holds for the teletypewriter (TTY) and foreign language lines, as well. While the call volume fluctuates per month, the results and satisfaction surveys average over a 92% satisfaction rate with NPPES end users. GDIT provides 10 Help Desk Resolution Specialists to the team. Each specialist receives four days of training and can walk the end user through any further assistance that is needed.
2. **Turning Point Global Solutions, Inc. (TPGSI)** provides systems development support to the NPPES contract, along with minimal enumerator support. TPGSI provides application and system engineers as well as testing engineers to enhance the systems that support the program. The TPGSI team is comprised of 20 full time staff members, including two key personnel. The Technical Lead is responsible for having the knowledge and skill to understand the functionality of the three NPPES applications, including database architecture and design, conversion of business requirements into design solutions with minimal risks, and assistance to system engineers with technical standards and principles.

Experience Gleaned from that Past Performance:

Task 1 – Project Management (SOO 4.1): RELI uses a Scaled Agile Framework (SAFe) approach for project management, and we institute key processes that include quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating an Agile-based methodology enables CPI to adhere to agency-wide Expedited Life Cycle (XLC) standards (*USDS Play # 4*). We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance and to quickly identify variances to enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an Integrated Baseline Review (IBR) meeting at every contract modification to establish the Performance Management Baseline (PMB). We adhere to CMS Office of Management and Budget (OMB) 300 mandates and follow CMS XLC standards for all deliverables. We use CMS Enterprise tools (e.g., JIRA, Confluence, GitHub, and SharePoint) to track and maintain documentation related to the application support and NPPES enhancements; we use Atlassian Suite for all system and issue-tracking activities.

Task 2 – System Development (SOO 4.2): RELI uses CMS Enterprise Jira and Confluence pages to track Agile processes, stories, and tasks, along with migration artifacts to inform the NPPES stakeholders of the cloud migration direction and

National Plan and Provider Enumeration System (NPPES)	
timetable. Project artifacts are updated on a weekly basis, and the approach was presented to partner Application Development Organizations (ADOs), NPPES stakeholders, and CMS CPI management during the weekly NPPES Coordination and Stakeholder calls. In addition, the NPPES AWS Migration Roadmap, NPPES AWS Physical and Logical Architecture diagrams, NPPES Cloud Migration High Level Timeline, NPPES Environment Important Dates and Milestones, as well as Sprint related activities to include Jira stories and tasks both internal and external to NPPES were added. We also included a table to track successful connectivity for all the business partners that consume NPPES services in AWS as well as within CMS VDCs. The cloud migration closely followed the procedures outlined at cloud.cms.gov and in the CPI Cloud Playbook *(USDS Play # 2)*. **Task 3 – Operations and Maintenance (SOO 4.3):** As the NPI Enumerator, RELI works in collaboration with the Provider Enrollment Operations Group (PEOG) to attend quarterly Provider Focus Groups (PFG) to gather feedback and make appropriate enhancements to the user experience (UX). Apart from enhancing the UX, they also perform a monthly customer satisfaction survey with all callers that help gauge the level of customer service they were provided from the Enumerator. Based on analysis from the feedback, they have gathered and implemented various improvements in the application interface to make the NPI process more efficient. RELI notifies the provider community of planned maintenance, issues, or emergency outages that may affect the performance of the application by using the NPPES announcements carousel on the homepage and on the help desk phone Automatic Response Unit (ARU). An NPPES Enterprise Confluence page stores the Operations and Maintenance Manual (OMM) for mappings of microservices and data stores maintenance procedures. **Task 4 – Scheduled Releases and Enhancements (SOO 4.4):** RELI maintains the NPPES application by leveraging the Agile Release Train (ART) model, which allows for continuous integrations and testing practices in place at each stage of the development life cycle. NPPES system enhancements are preceded by Program Increment planning, CI/CD pipeline developments, and periodic maintenance release cycles. **Task 5 – Hosting, Licensing & Development (SOO 4.5):** RELI has migrated the legacy NPPES application from the current CMS VDC to a Cloud Services Data Center and completed significant Cloud Modernization changes across compute, system software, and processes. **Task 6 – Transition (SOO 4.6):** The transition plan included a list of questions for each item in the transition section of the SOW to fully understand the state of the NPPES program. The main objectives of the NPPES SOW were to provide ongoing O&M support, provide identity and access management operations and enhancements, NPI enumeration support, HITECH support, and Data dissemination activities within a 90-day transition period. The RELI team discovered early on how to position ourselves for success by asking probing questions during transition that led us to a successful migration strategy to the CMS AWS Cloud.	
Experience Gleaned from NPPES for each of the Major Tasks in DEX	
DEX Major Tasks	**How NPPES experience aligns to Objectives for DEX**

National Plan and Provider Enumeration System (NPPES)	
Task 1 – Project Management (SOO 4.1)	Multi-contractor and government interactions, Agile delivery artifacts, standards and technology policy compliance, contractual financial reporting
Task 2 – System Development (SOO 4.2)	Product accountability, stakeholder expectation management, innovative product development, coordinated NPPES and PECOS integration, adherence to CMS XLC model, cloud-based hosting
Task 3 – Operations and Maintenance (SOO 4.3)	Collaborative environment, change control, operational reporting, data administration support, user support and enhancing user experience
Task 4 – Scheduled Releases and Enhancements (SOO 4.4)	Continual enhancements, scheduled maintenance, quarterly program increment planning
Task 5 – Hosting, Licensing & Development (SOO 4.5)	Cloud-First hosting, integration with CMS web platform
Task 6 – Transition (SOO 4.6)	Adherence to a transition plan, ensuring currency of system documentation

10/03/3033 – CMS - Business Operations Support Center (BOSC) – Phase I

National Plan and Provider Enumeration System (NPPES) @ CMS	
Brief Description of the Project / Contract (# a)	
RELI Group is the prime contractor on the CMS National Plan and Provider Enumeration System (NPPES) program, providing Enumerator support and call center services as well as software development, maintenance, and operational support to medical professionals that submit to Medicare and/or Medicaid. On NPPES, RELI successfully implemented a help desk solution that processes over 5,000 applications for NPI and handles over 12,700 telephone calls monthly, meeting all Service Level Agreement (SLA) requirements and receiving a 92% satisfaction rate with our end users. We implemented an automated system using ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails and we report to CMS leadership weekly.	
Relevancy of the Project / Contract to the BOSC Statement of Objectives (SOO) (# b)	
	Notable Contract Highlights Relevant to BOSC SOO ▪ Transformed NPPES with innovative ServiceNow capabilities including dynamic dashboards and robust integration with external services, enabling CMS to take advantage of more efficient workflows and ITIL management functionalities. ▪ With the NPPES ServiceNow implementation, RELI improved customer service, enhanced data accuracy, and enabled CMS to readily access high performing metrics including access to policies, documentation, records, etc. ▪ RELI processes over 5,000 applications for NPI and handles over 12,700 telephone calls monthly using the NICE In-Contact supported tool while maintaining the integrity of PII and PHI. ▪ Removed 86% of technical debt in the backlog, completed 14 deployments with zero production defects, and deployed AWS ahead of schedule.

RELEVANCY TO BOSC OBJECTIVES (SOO B): *The NPPES program demonstrates our ability to implement a ServiceNow help desk solution to integrate complex business functions including IT services management, IT operations management, security operations, risk and compliance management, and to increase organizational productivity with automation. Services we provide on NPPES that are relevant to BOSC include help desk, outreach/communication, identity management, training, and quality assurance.* Our NPPES help desk solution successfully manages and resolves customer support requests and inquiries, handling over 12,700 inbound phone calls per month. These calls are documented in our ServiceNow system and followed until completion. We meet all SLA requirements, and our help desk has an average wait time of less than 3 minutes for each caller. Help desk staff undergo mandatory PII training to ensure privacy is always protected.

- Implemented a one-team mindset to facilitate collaboration and capture user experience within the teams to enhance the applications for end-users.
- Program Increment 2, 54 user stories, zero defects, and 11,254 phone calls resulted in customer kudos: *"It is such a major difference when you have a consolidated team. I really love this team… one of the best I have seen since at CMS (20 plus years). On top of that you have some great personalities that truly make all the difference in the world. Thank you to your leadership!" ~~Center for Program Integrity (CPI) Director*

Manage and Resolve Customer Support Requests and Inquiries (Provide high-quality customer support; reduce requests and inquiries; and promote use of self-service tools). RELI has a proven record of managing and resolving Customer Support Requests and Inquiries at the NPPES call center. In total, the call center handles over 154,000 phone calls per year. Based on user feedback, we performed system enhancements to improve usability and reduce requests and inquiries by 3,500 for the period September to November 2021. With the NPPES tool, we strive to make our system user friendly with process flow, including adding navigational prompts that are well-defined and make sense to the user. In addition, all tools are 508 compliant. We also continuously review and update our user guide to ensure the latest information is available and accurate.

Communicate with Customers to Inform them of Program Announcements, system status, and other information. RELI's regularly updated Communications Plan describes the methods, tools, timing, and levels of communications, including program announcements, system status, and other information. The Plan includes a matrix showing how Team RELI reviews and approves deliverables; identifies a variety of media for program communications, including email and teleconference; describes process for facilitating/leading NPPES meetings, including technology; details process for scheduling/conducting weekly and ad hoc meetings; and includes a RACI matrix for all deliverables.

Keep CMS Informed of Customer Support Request Statuses, Trends, Volumes and Types of Requests and Inquiries, Customer Volumes, and Other Areas of Reporting. We use an ACD phone system to track help desk calls and wait times and meet all SLA requirements. The number of emails and phone calls, the length of calls, and their statuses and resolutions are recorded using ServiceNow and the ACD phone system and are reported to CMS leadership on a weekly basis using dynamic, real-time dashboards. We also provide trend data from ServiceNow based on the volume of calls and applications per week that helps CMS predict operational needs and improve overall NPPES system performance.

Implement Quality Improvements Based on Customer Support Requests and Inquiries, and Feedback from Customers Through On-Going Human Centered Design. RELI developed and implemented an Independent Quality Assurance program that supports CMS CPI in provider/contractor audits and policy reviews, identification and monitoring of program vulnerabilities, and providing support and assistance to states. RELI completes 128 quality evaluations monthly, consisting of 4 evaluations per month per Customer Service Representative (CSR), including audits on emails and communications. We perform weekly trending and analysis reports of quality monitoring activities, scores, and key findings to ensure we are meeting NPPES program requirements and identifying areas for additional training.

Meet Service Level Objectives to Address Customer Needs. For NPPES, the government requires a wait time of under 3 minutes, which RELI meets per our SLA requirement. For emails, the government requires a response within 5 days. We currently have a response and activation time of 2-3 days. The number of emails and phone calls, length of calls, and statuses and resolutions are recorded through ServiceNow and the ACD phone system and are reported to CMS leadership weekly.

Be Scalable to Handle Varying Levels of Customer Support Request and Inquiry Volume. ServiceNow helps us see trends in call volume to better prepare for times of higher call volume. We have a proven track record of providing experienced, qualified, and knowledgeable support for outstanding customer service, the ability to scale up or down to meet unexpected surges of calls in the second quarter to manage forecasted peaks and perform quality monitoring and related training to ensure customer satisfaction. NPPES staff members are cross trained to handle fluctuations in the number of calls. Our recruiting team maintains a pipeline of qualified staff that we tap into as needed.

Use Technology, Tools, Automation, and Innovation to Meet the Above Objectives. With ServiceNow implementation, RELI transformed NPPES to a customer-centric, FedRAMP-compliant system. We automated integration across the CRM and NPPES applications to reduce manual entries. We implemented a more robust and improved workflow for NPI Application processing made possible by Identity & Access (I&A) modernization that provided improved efficiencies and reduced the provider burden associated with applying for an NPI. We refined MFA to enhance security which was migrated to a more scalable solution using cloud technology reduced application burden and increased the ability to release enhancements and better serve business needs.

RELEVANCY TO BOSC CATALOG OF SERVICES (SOO II):

Tier 1 Customer Support: On NPPES, RELI provides experienced, qualified, and knowledgeable staff to resolve incoming support requests and inquiries from customers by phone and email. We use ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 help desk cases, tickets, and emails. To automate, we use an ACD phone system to track help desk call times and wait times to achieve the Government's outcomes and meet requirements related to help desk support. The number of emails/phone calls, length of calls, and status/resolution are recorded through ServiceNow and the ACD phone system and are reported to CMS leadership weekly to maintain transparency. As the NPPES enumerator, RELI processes over 5,000 applications for NPI and handles over 12,700 telephone calls monthly.

Tier 2 Customer Support: We provide Tier 2 support that includes escalated/system-level troubleshooting and UAT activities with identified staff and business partners. We perform smoke testing post-deployment of the customer-facing system to ensure functionality is working properly within the system components.

Customer Outreach and Communication: RELI conducts monthly surveys with callers to gather feedback on the level of customer service they received. CSRs are rated individually, and we send the results of the surveys to CMS on a monthly basis. For outage communications and updates, we communicate via automatic response unit (ARU) for phone calls and on the NPPES application front page. For long term outages, we also communicate via distribution lists. RELI collaborates on a bi-weekly cadence with all stakeholders within CMS CPI to ensure that NPPES information is accurately accessible. Our Agile methodologies benefit CMS by enhancing customer coordination and improving communication with cross-team collaboration. RELI implemented Agile principles result in better stakeholder awareness and engagement, and savings from system enhancements.

User Documentation: RELI maintains user documentation within the tool throughout the help section of the CMS.gov website.

Training CMS Staff and Contractors on ITSM Tools and Workflows: RELI trains on-staff team members using a highly experienced training manager with a variety of methods, including a hands-on approach and shadowing for customer service representatives in preparation for participating on live calls.

Subject Matter Expertise (SME) and Coordination for Models and Programs: RELI provides Medicare subject matter expertise to assign NPIs in this program. We bring knowledge of the NPI final rule that is published through Congress and strictly adhere to the requirements predicated through mandate 45 CFR Part 162. Additionally, the Program Director of NPPES, Pam Geitz, is a SAFe Agile 5.0 Coach, and brings process improvement, higher efficiencies, and greater collaboration through the application of her subject matter expertise in this area.

Contractual Details (# c)	
Contract Type	Firm Fixed Price
Dollar Value of Contract at Time of Award	$49,977,811.00
Dollar Value of Contract at time of Contract at Closure	$49,977,811.00
Period of Performance	9/30/20 - 9/29/25
Name, Address, Telephone Number, and Email Address of Contracting Officer (CO) and/or Comparable Official	Tonya Anderson, CO | 7500 Security Boulevard, Baltimore, MD 21244 | Email: tonya.anderson@cms.hhs.gov | Phone: 410-786-4087
Name, Address, Telephone Number, and Email Address of Government Project Officer/ Contracting Officer's Representative (COR) and/or Comparable Official	Jennifer LaBarbera, COR | 7500 Security Boulevard, Baltimore, MD 21244 | Jennifer.LaBarbera@cms.hhs.gov | Phone: 410-786-1435

07/01/2022 – CMS Website Open Data Discovery (WODD)

Case Study: National Plan and Provider Enumeration System (NPPES)	
A. Client organization name and point of contact information	**Organization**: CMS/ Center for Program Integrity (CPI) **POC details**: Ms. Ayana Chavis; 443-902-1401; Ayana.Chavis@cms.hhs.gov
B. Period of Performance	09/30/2020-09/29/2025
C. Description of the Service Provider Team Composition & Roles:	

RELI Group, Inc. (RELI) is the prime contractor on the CMS National Plan and Provider Enumeration System (NPPES), program, where we provide software development, maintenance, operational support, and enumerator services to the NPPES. NPPES holds millions of healthcare providers' information and is required by law to uniquely identify and assign NPIs. These NPIs are the source of truth for nearly every system that touches claims or providers. The information is passed to the public user and to a variety of downstream systems or can be searched by using the Registry website. To keep the data current, medical personnel enter hundreds of thousands of updates to name, address, location, and taxonomy fields each year, for 4.7 million providers in NPPES.

Principal Tasks Performed:

- The Product Manager (PM) establishes program Objectives and Key Results (OKRs) and aligns the product teams with programmatic strategic initiatives to ensure teams adhere to established best practices, while leading the migration to the Amazon Web Services (AWS) environment. The PM provides deliverables and oversight to the entire program. They ensure the work of the product teams are aligned to the program OKRs and strategic roadmap, while tracking the work and impact around the tasks and timelines to meet the scrum team objectives.
- The Technical Lead is responsible for having the knowledge and skill to understand the functionality of the three NPPES applications. Specifically, they are responsible for maintaining the Registry application/website including database architecture and design, conversion of business requirements into design solutions with minimal risks and assisting system engineers with technical principals and open standards for data by creating private registers within CMS shared tools. They also share these practices to obtain better quality data implementation solutions across the public sector.

Technologies Used: CMS GitHub; jFrog; AWS hosted environment; Java V8; Fargate V1.4.0; MongoDB; Terraform V1

Architectures: Utilizing the AWS Cloud, we were able to host the NPI Registry by building database infrastructure across 3 availability zones within the US-East-1 region. This allows us to provide high availability and durability for mission critical data while reducing cost by leveraging the AWS Cloud. This is accomplished by deploying our own hosted MongoDB within an EC2 instance that provides faster performance, scalability, and improved security over the public facing database. Additionally, we use AWS S3 to store our actual data which is automatically backed up and replicated across the 3 availability zones.

Stakeholders (clients, users, etc.): CMS, Companion Data Services (CDS), Provider Enrollment, Chain, and Ownership System 1.0 (PECOS), Health Information Technology for Economic and Clinical Health (HITECH) Act, PECOS 2.0, Medicare Exclusion Database (MED), Master Data Management (MDM), Lightweight Directory Access Protocol (LDAP), Cloud Content Management (CCM), API Gateway, medical professionals that bill to Medicare, general US population, public users, system maintainers.

Size and Composition: The program is comprised of 66 full-time staff members, including subject matter experts, that drive towards program objectives. Specific roles that support the NPPES team are Business Analysts with UI/IX experience, Test Engineers, System and Application Engineers, a Development Subject Matter Expert (SME), and a Testing SME. Our team also includes a Training Manager, Application Processors, and Help Desk Resources.

General Dynamics Information Technology (GDIT) is one of the subcontractors on NPPES. GDIT supports our help desk team. Turning Point Global Solutions, Inc. (TPGSI) is the second subcontractor on NPPES. TPGSI provides systems support to the NPPES contract.

D. Explain whose experience is being quoted and the role of that firm: Company Name: RELI; **Role:** Prime

RELI will provide program management and technical development to ensure WODD continues to meet business and technical objectives; will lead operations, maintenance, and development of technical requirements working in an Agile manner; and leverage the expertise of our partners to ensure WODDS' technical and process foundation is reliable, efficient, and secure. This includes CI/CD pipeline processes, Automation Testing, Operations and Maintenance support, Performance Stabilization, Enhanced Security, and Innovation Support.

E. Description of the project including goals, outcomes, description of tasks performed & experience gleaned from that performance, along with any other pertinent, retrospective information:

User Experience: RELI ensured that the NPPES system was adopted by understanding our user community then designing from their perspective. Our team thought deeply about how users interact with the product through every step of their engagement. This thinking ensured that the NPPES application was intuitive, and users needed little to no guidance to use the system. RELI will bring this experience to WODD by ensuring that utility is not the only essential part of a good website. We will also focus on other things such as ease of use as a fundamental component. Our HCD practices help drive what kinds of presentation formats are used. Look and feel can then complement the information design and help guide users.

Our approach adheres to HCD best practices across all product teams, including discovery, design, testing, and delivery phases performed iteratively in order tO ensure the rapid turnaround of product enhancements that have meaningful impact on the user experience and overall processing times. We meet with the provider community quarterly and ask them about current pain points they are experiencing. This information is used in the creation of user stories that are added to a product backlog after approval from the Product Owner. RELI will bring experience to the WODD effort by engaging with all stakeholders to ensure that the system is intuitive and easy to use. By engaging with users on a continuous basis, we will be able to keep pace with changing requirements and update the website accordingly.

Data Access and Usability: RELI is guided by principles stated in the Digital Services Playbook such as making the systems we develop simple and intuitive, following agile processes, and making security and privacy a priority. Of key importance is understanding what people need and how the product being developed addresses those needs. This governs our design and ensures we are providing relevant data that is useful to the users. On NPPES, RELI uses an agile approach coupled with Human-centered Design (HCD) to manage the NPPES product development process which involves multiple stakeholders from CMS and the provider community. As with WODD, communication is key in promoting transparency and collaboration among the stakeholder groups. Our team ensures that the voices of the people who use these products are incorporated into design decisions early and often through usability testing and research engagements, ensuring that we consider the users that our design decisions will impact.

Our approach for WODD will be to design a product using a comprehensive discovery phase, gathering a strong understanding of current pain points and opportunities for improvement by collecting existing research findings and conducting our own research engagements. Through our approach, we can quickly produce actionable research findings that are built into system designs. During the discovery process our product analysts ask a range of questions to ensure that all our assumptions are eliminated and turned into validated knowledge.

For example, on NPPES, the registry application contains healthcare NPI recipients' information available for the public and stakeholder consumption, therefore it is imperative that any updates to this information are disseminated throughout the NPPES website in real time. The website allows users to query data in a variety of ways. Direct queries provide results instantly for specific searches in geographical locations with specialized skills. Utilizing an HCD approach, we designed the API feature within the registry to provide a new, faster alternative to the downloadable NPPES data files. It also allows systems and system administrators to access NPPES public data in real-time, rather than through batched uploads.

Help Desk, Communication, and Stakeholder Engagement: On our CMS NPPES contract, RELI uses ServiceNow to manage and track all Tier 1, Tier 2, and Tier 3 Help Desk cases, tickets, and emails. To automate, we use an ACD phone system to track Help Desk call times and wait times to achieve the Government's outcomes and meet requirements related to help desk support. The number of emails/phone calls, length of calls, and status/resolution are recorded through ServiceNow and the ACD phone system and are reported to CMS leadership weekly to maintain transparency. As NPPES enumerator, RELI processes over 8,000 applications for NPI and handles over 17,000 telephone calls monthly. We have a proven track record of providing experienced, qualified, and knowledgeable support for outstanding customer service, the ability to scale up or down to meet unexpected surges or forecasted peaks and perform quality monitoring and related training to ensure process improvement.

Operate and maintain data.cms.gov: RELI has proven capabilities in bringing together an in-depth understanding of our customers with a strong technical expertise to create the technical architecture that allows us to build custom applications and websites that are flexible, scalable, adaptable, and secure and readily integrate with existing systems to successfully meet the needs of our customers.

We have instituted key processes that allow CPI to take advantage of an agile development methodology; ultimately providing more transparency and flexibility for release management activities. RELI is skilled in planning and implementing software and system solutions.

We ensure quality by building an internal environment used throughout the development and QA processes, risk and issue solutioning, communication, configuration management, deliverable management, service continuity, tools and training and process improvements. We design the infrastructure to meet all government regulations, performance standards, and requirements as well as any integration requirements.

RELI supports NPPES through all stages of the system design lifecycle (SDLC), including its migration from an on-prem system to an AWS cloud-based solution, ensuring that system security and NPPES' Authorization to Operate (ATO) are maintained. RELI documents system security protections and related system security artifacts within the CMS FISMA Controls Tracking System (CFACTS). RELI applies a DevSecOps approach, integrating security into development and operations to support the compliance, risk, and resilience requirements of a system that must be continually improved and remain operational 24X7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services.

By strengthening the DevOps framework for the three major NPPES applications, we have transitioned them from the current CMS Virtual Data Center (VDC) to a Cloud Services Data Center. This provides greater flexibility for maintenance and

development of environments and also provides an ongoing savings for CMS for operation and maintenance cost of the NPPES system, NPPES replication database (NPPES-R), NPI Registry, Identity and Access (I&A) Management, and Administrator Interface (AI); Health Information Technology for Economic and Clinical Health Act (HITECH) Support; NPI Enumerator Services; and Data Dissemination.

Delivery: NPPES uses an Agile methodology that has daily stand ups and regular sprint planning sessions. Our sprints are 2 weeks long with a 2-day PI (Program Increment) event which allows the ART (Agile Release Train) to come together to review the program successes and goals for the upcoming 12-week increments. In our event, the roadmap and strategic objectives are discussed in collaboration with the customer to align our scope planning goals. Our team focuses on key processes that include planning and integrating with the business team to ensure a strong consensus on all team goals and objectives. We continually improve our processes based on retrospectives and adopt our customers' goals as our own. We also share our customers' sense of urgency in meeting mission-critical goals. Our team uses the Atlassian suite of tools, Jira and Confluence, for all tracking and metric needs. These agile tools benefit CMS by enhancing customer coordination, improving communication that facilitates cross-team collaboration, and streamlining task execution. This approach has also resulted in a more predictable and regular release to market, better stakeholder awareness and engagement, and saving over 60% annually due to system enhancements.

> Creating agile-minded meetings enabled the RELI team to have increased communication within their company, and increased communication and visibility with the CMS team. Despite the many unexpected situations/changes that NPPES faced during this period, the PM was able to motivate staff to continue the project schedule successfully without negative impacts to the schedule.
>
> ~~ NPPES CPARS

Further, NPPES has a backlog of features that ties to the strategic roadmap and pertains to the scope required to meet CMS' objectives. In a joint effort from the NPPES team and CMS, the backlog gets prioritized to determine which features have the highest priority. The features are defined by the user stories and further defined by acceptance criteria prior to being pulled into any active sprint. Once determined and work begins, if a roadblock is identified, the team and client will seek to remove the roadblock and will discuss the impacts if a solution is not feasible to be completed within the active sprint. Further discussions occur to decide which feature/story will be adjusted throughout the quarterly cycle and reprioritized for the next quarterly planning session. This process has eliminated over 86% of the technical debt that was previously reserved on the backlog, allowing our system enhancements to be implemented in a timelier fashion, providing more value to our users.

RELI has extensive experience successfully managing contracts of various types, sizes, and complexities using the Atlassian suite. We have provided live reporting to the CMS Contract Officer's Representative (COR) with an up-to-the-minute status on all program activities that are closely monitored by the Product Manager thus resulting in eliminating the need for multiple status updates and reducing the number of meetings between customers. Our process maximizes the delivery of low risk, high-quality products while ensuring our customers are well informed.

"It is such a major difference when you have a consolidated team. I really love this team… one of the best I have seen since at CMS (20 plus years). On top of that you have some great personalities that truly make all the difference in the world. Thank you to your leadership!" ~~CPI Director

F. Provide the URL link to the publicly available website that is the subject of the case study.

https://npiregistry.cms.hhs.gov/

05/25/2022 – CMS CCSQ Cloud Operations - Capability Statement

Contract Name	Customer Name	Customer POC	Total Contract Value	Period of Performance	Is there a CPARS available, yes or no?
National Plan and Provider Enumeratio	CMS	Name: Ayana Chavis, COR Phone: 410-786-5361 Email:	$49,977,811	Base: 9/30/20-9/29/21 O1:	Yes

n System (NPPES)		ayana.chavis@cms.hhs.gov		9/30/21-9/29/22 O2: 9/30/22-9/29/23 O3: 9/30/23-9/29/24 O4: 9/30/24-6/29/25 O5: 6/30/25-9/29/25	

Description of Services: : RELI Group provides software development, maintenance, operational support and Enumerator services for the National Plan and Provider Enumeration System (NPPES). The NPPES retains millions of healthcare providers' information that passes to the public user and downstream systems in various ways. To keep NPPES data current, providers enter hundreds of thousands of updates to name, address, location, and taxonomy fields each year, with updates to about 2-8% of the 4.7 million providers in NPPES. On this large and complex CMS contract, RELI Group also staffed and currently maintains the NPPES Call Center.

In addition to providing O&M services for the legacy CDS NPPES system, RELI is migrating NPPES to the CMS AWS Cloud by modernizing the application with a mix of Oracle and IBM Mainframe hardware and IBM COTS products to run on the AWS Fargate compute engine using AWS ECS and running a Java Spring Boot framework, including Lambda functionality, to replace the current monolithic systems. Our approach is not a lift and shift, it is a software modernization effort incorporating other CPI initiatives to include the CMS MuleSoft Application Program Interface (API) gateway and Kafka functionality. Our redesign will allow the NPPES system to optimally operate within the AWS Cloud environment and enhance our multiple APIs to allow a positive data flow from our NPPES Datamart to systems such as the Integrated Data Repository (IDR) for our stakeholders to consume without a hindrance on the day-to-day processing of the NPPES Enumeration system, National Provider Identifier lookup, as well as our Identity and Authorization (I&A) systems. These modifications will enhance our compliance with the Health Insurance Portability and Accountability Act (HIPAA) Administrative Standard.

NPPES utilizes several of the cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline. Our team has used the following tools on NPPES:

- CMS GitHub – a source code repository and management system (SCM) hosted in the CMS Cloud environment. This service functions as the NPPES git code repository and is more secure and integrated with CMS services than github.com.

- CloudBees CI (Continuous Integration) Jenkins – a common enterprise version of CloudBees where NPPES utilizes the CMS implementation of CloudBees into our multi-branch pipelines.
- JFrog Artifactory/XRAY – an enterprise version of the JFrog repository used for storing NPPES images, NPPES built, or downloaded code, such as Docker images and JAR files. JFrog XRAY scans the content for malware or other threats.
- SonarQube – a platform for static code analysis. It is a highly configurable system for continuous inspection of code quality and security, which empowers application developers to write cleaner and safer code.
- Selenium box – an enterprise Selenium Grid, a cross-browser test execution infrastructure. It allows NPPES to execute tests on multiple browsers in parallel and helps in reducing test suite execution time. It is used for application user interface (UI) testing.
- JMeter – a test tool from Apache used to analyze and measure the performance of applications, different software services and products, NPPES using JMeter as our user load testing tool.

Our deployment consists of an AWS CloudFront web service front end which will serve our static content via the AWS Simple Storage Service (S3) with read-only access for our NPPES customers located within the United States of America. CloudFront will utilize the Unites States edge locations only, which will provide the lowest latency to the NPPES community. All other traffic for our application will pass through the AWS Web Application Firewall (WAF) service to protect our NPPES application and APIs by filtering, monitoring (SOO 5.3.6), and blocking any malicious HTTPS (Hypertext Transfer Protocol Secure) traffic to our applications.

05/09/2022 – CMS - Multidimensional Information Data Analytics System (MIDAS)

Project Title	National Plan and Provider Enumeration System (NPPES)		
Client Organization Name	Centers for Medicare & Medicaid Services (CMS)/ Center for Program Integrity (CPI)		
Contract and Order Number	75FCMC20F0002/HHSM500201700045I	**Contract Type**	Firm Fixed Price
Dollar Value	At Award: $49,977,811 At Completion /Present: $49,977,811	**Period of Performance**	09/30/2020 – 09/29/2025
Point of Contact Details	Tonya Anderson, Contracting Officer Address: 7500 Security Boulevard, Baltimore, MD 21244 Phone: 410-786-4087; E-mail: Tonya.Anderson@cms.hhs.gov		
Brief Description of the Project/Contract			

The Administrative Simplification provisions of the Health Insurance Portability and Accountability Act (HIPAA) of 1996 required the Secretary of Health and Human Services (HHS) to adopt national standard identifiers for healthcare providers and health plans for use in the healthcare system. This delegation's efforts included adoption of the National Provider Identifier (NPI) and development of the NPPES. RELI Group provides software development, maintenance, and operational support for NPPES, a national system serving as a System of Record (SOR) for unique identifiers assigned to healthcare providers and health plans that apply for the NPI. The data from NPPES is disseminated to multiple downstream CMS systems and externally to the nation's healthcare delivery and payment networks. RELI was awarded the contract to perform a major system upgrade of the entire NPPES. On this large and complex CMS contract, RELI Group also maintains the NPPES Call Center.

Goals, Outcomes, Tasks Performed & Experience Gleaned, along with any other Retrospective Information

Goals: Transition of the NPPES application from the current CMS Virtual Data Center (VDC) to a Cloud Services Data Center will provide greater flexibility for maintenance and development of environments as well as an ongoing cost savings for CMS for operation and maintenance of the NPPES system, NPPES replication database (NPPES-R), NPI Registry, Identity and Access (I&A) Management, and Administrator Interface (AI); Health Information Technology for Economic and Clinical Health Act (HITECH) Support; NPI Enumerator Services; and Data Dissemination.

Outcomes:

- As NPPES enumerator, RELI processes over 5,000 applications for NPI and handles over 13,000 telephone calls monthly. Strengthened the DevOps framework for three major applications across NPPES.
- Successful end-to-end systems migration to Cloud-native services to optimize cost savings and operational efficiency.
- Smooth transition of a major national system from prior incumbent with no major setbacks.
- Meets the NPPES database service level agreements (SLAs), operational, quality assurance, and security requirements.
- Successfully supports data-sharing and dissemination services to multiple downstream internal and external systems.
- Implemented a detailed training plan that spans five key training areas within the Project Life Cycle: (1) New Hire Orientation, (2) Compliance Related Trainings, (3) Contract-Specific Training, (4) Proficiency Assessments, and (5) Quality Audits. RELI provides a 12-day training curriculum for Customer Service Representatives (CSRs), Application Processors (AP), and Error Resolution (ER) Helpers, and performs additional tasks that are completed by select individuals within NPPES.

Description of Tasks Performed: The legacy NPPES, which was hosted on one of CMS' VDCs, ran on a mix of Oracle SPARC and IBM Mainframe systems. Since RELI Group began supporting the contract, we have significantly changed the NPPES at every level—compute, system software, and processes—to maximize the efficiencies of a modernized cloud-native platform.

Compute: RELI continues to upgrade NPPES systems from IBM WebSphere/MQ Commercial Off-the-Shelf (COTS) Java WAR files, running on a mix of Red Hat instances on Oracle and IBM mainframe servers, to a framework that uses an AWS Fargate serverless microservices system that incorporates Java Spring Boot technology. This upgrade made it possible to reduce the number of servers currently running in the legacy systems. Using the latest technology also significantly decreased server costs by using AWS Elastic Compute Cloud (EC2) instances.

Software: RELI shifted from using an aging COTS IBM WebSphere suite of software that ran the Java Foundation Classes (JFC) modified Model View Controller (MVC) architecture to a Java Spring Boot framework, which is the de facto standard for microservices deployment. We also configured the Oracle Enterprise Edition 19C (Primary) database with an independent read replica (database copy) for our CPI business partners to query for analytics, reducing the load on the Online Transactional Platform (OLTP). A software modernization effort also incorporated other CPI initiatives, including the CMS MuleSoft Application Program Interface (API) Hub gateway and Kafka functionality. NPPES uses several cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline.

Our team used the following tools on NPPES:

- CMS GitHub—Source code repository and management system (SCM) hosted in the CMS Cloud environment.
- CloudBees CI (Continuous Integration) Jenkins—Manages deployments of data pipelines.
- JFrog Artifactory/Xray—Single source of truth for all packages and container images as they move across the entire DevOps pipeline.
- SonarQube—Platform for static code analysis.
- Selenium box—Enterprise Selenium Grid, a cross-browser test execution infrastructure that enables NPPES to execute tests on multiple browsers in parallel, thus reducing test suite execution time for application user interface (UI) testing.
- JMeter—Test tool from Apache used to analyze and measure the performance of applications and different software services and products. For NPPES, we use JMeter as our user load testing tool.
- AWS CloudFront web service front end will serve as our static content via the AWS Simple Storage Service (S3) with read-only access for NPPES customers located within the United States of America.
- To connect to our external CPI partners and stakeholders, we deployed private containerized subnets to isolate the Fargate microservices compute engine, allowing connections via our APIs across AWS Virtual Private Cloud (VPC) endpoints.

Process: RELI introduced the SAFe process into NPPES delivery. Our Agile methodology for software delivery, combined with quarterly deployments to our Continuous Integration/Continuous Deployment (CI/CD) pipeline, led to process efficiencies across NPPES.

Technology Management: RELI Group's AWS engineering staff includes seven Application Systems Engineers, three Development and Operations (DevOps) engineers, and two AWS Solutions Architects. Our engineers' certifications include AWS Cloud Practitioner, AWS Developer Associate, AWS SysOps Administrator Associate, and AWS Solution Architect Associate.

Program Management: RELI uses a SAFe approach for project management, and we institute key processes that include quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. Integrating in an Agile-based approach enables CPI to adhere to agency-wide Targeted Life Cycle (TLC) standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an Integrated Baseline Review (IBR) meeting at every contract modification to establish the Performance Management Baseline (PMB). We adhere to CMS Office of Management and Budget (OMB) 300 mandates and follow CMS TLC standards for all deliverables. We use CMS Enterprise tools (e.g., JIRA, Confluence, GitHub, and SharePoint) to track and maintain

documentation related to the application support and enhancements of the NPPES; we use Atlassian Suite for all system and issue-tracking activities.

Experience Gleaned from Performance: RELI gained valuable experience managing CMS' highly visible, mission-critical NPI data SOR. NPPES data are shared widely throughout CMS' operational data ecosystem, such as with CPI's API Hub, Master Data Management, Integrated Repository, and others. RELI has experience as a trusted data partner, disseminating data to many downstream systems using a variety of data exchange patterns.

05/11/2022 – CMS - Transformed-Medicaid Statistical Information System (T-MSIS)

CMS National Plan and Provider Enumeration System	
A. Client organization name and point of contact information	**Organization:** CMS/Center for Program Integrity (CPI) **POC Name:** Ms. Ayana Chavis **Email:** Ayana.Chavis@cms.hhs.gov **Telephone Number:** 443-902-1401
B. Period of performance	09/30/2020–09/29/2025

C. Description of the Service Provider Team Composition & Roles:

RELI Group, Inc. (RELI) is Prime contractor on the CMS NPPES program, providing software development, maintenance, operational support, and enumerator services to NPPES. NPPES retains millions of healthcare providers' information that is passed to the public user and to downstream systems in various ways. To ensure the data is current, medical personnel enter hundreds of thousands of updates to the name, address, location, and taxonomy fields each year, for 4.7 million providers in NPPES.

Principal Tasks Performed by RELI:

- Program Management support includes overall leadership and alignment with project goals, maintaining comprehensive plans, organizing and directing the completion of specific projects, and ensuring tasks are on time, on budget, and within scope.
- Project Management support includes strategic product vision, tactical roadmaps, and implementation of technical and business functions to plan, implement, track, report, deliver, maintain, support, and update the product lifecycle deliverables using market-leading technologies.
- Cloud Migration, modernization, and development tasks include all activities required to provide efficient, effective, and responsive service to support operations with full lifecycle production hosting requirements for the NPPES applications and Cloud Environment Program–related objectives. These tasks adhere to the modern DevSecOps workflow strategy.

Size and Composition of RELI's Staff:

RELI's entire team comprises 65 full-time staff members. RELI has 35 full-time staff members, including the following four key personnel: Program Director, Project Manager, Systems Architect, and Security Officer.

- The **Program Director** (PD) establishes program Objectives and Key Results (OKRs) and aligns the product teams with strategic programmatic initiatives to ensure the teams adhere to the Agile framework, while leading the migration to the Amazon Web Services (AWS) environment. The PD provides deliverables and oversight to the entire program.
- The **Project Manager** (PM) ensures the work of the product teams aligns with the program OKRs and strategic roadmap, while tracking the work and impact of the tasks and the timelines to meet the scrum team's objectives.
- The **System Architect** (SA) collaborates with the PD and PM to create the technical roadmap and provides guidance to the team during the migration to the AWS environment.
- The **Security Officer** ensures all security regulations remain in compliance during any changes to the system infrastructure or delivery.

Other Labor Categories:

Other roles that support the NPPES team are Test Engineers, System and Application Engineers, a Development Subject Matter Expert (SME), and a Testing SME. Our team also includes a Training Manager, Application Processors, and Help Desk Resources.

Subcontractor 1 and Principal Tasks Performed: Turning Point Global Solutions, Inc. (TPGSI) is a subcontractor on NPPES. TPGSI provides systems support to the NPPES contract, along with minimal enumerator support. TPGSI provides application and systems engineers as well as testing engineers to enhance the systems that support our program. The TPGSI team comprises 20 full-time members, including the following two key personnel:

- The **Technical Lead** is responsible for having the knowledge and skills necessary to understand the functionality of the three NPPES applications: (1) database architecture and design, (2) conversion of business requirements into design solutions with minimal risks, and (3) assistance to systems engineers on technical standards and principles.
- The **Operations Manager** plans operations-related activities and requirements of all enumerator services within the team. The Operations Manager has oversight responsibility for system-related activities related to user application and national call center operations.
- Other roles that support the NPPES team include: Test Engineers, System and Application Engineers, Application Processors, and Bilingual Help Desk Resources.

Subcontractor 2 and Principal Tasks Performed: General Dynamics Information Technology (GDIT), a subcontractor on NPPES, supports our help desk team. Our help desk receives and resolves, on average,

approximately 13,000 phone calls per month, with an average speed of answer (ASA) of less than 3 minutes; this includes for our teletypewriter (TTY) and foreign language lines as well. The call volume fluctuates from month to month, but our results and satisfaction surveys average over a 92% satisfaction rate from end users. GDIT provides 10 Help Desk Resolution Specialists to the team. Each specialist receives 4 days of training and can walk the end user through the process if further assistance is needed.

E. Explain whose experience is being quoted and the role of that firm	**Company Name:** RELI **Role:** Prime

F. Description of the Project: NPPES is a mission-critical nationwide CMS system because it has responsibility for processing new National Provider Identifier (NPI) applications and for processing changes of information for previously enumerated providers, as required by the Health Insurance Portability and Accountability Act (HIPAA) Administrative Standard supporting all 50 states and U.S. territories. The NPI, a unique identification number for covered healthcare providers, was created to improve the efficiency and effectiveness of electronic transmission of health information. Covered healthcare providers and all health plans and healthcare clearinghouses must use the NPIs in the administrative and financial transactions required under HIPAA and must also share their NPI with other providers, health plans, clearinghouses, and any entity that may need it for billing purposes. NPPES' data is used throughout the CMS data ecosystem as important reference data. NPPES' data is used to identify providers and to link providers to other systems' datasets such as the Integrated Data Repository (IDR), Master Data Management (MDM), Medicare Claims Processing, and Healthcare Integrated General Ledger Accounting System (HIGLAS). The NPPES maintains several modern data integration methods to support downstream systems.

NPPES is a program consisting of two key areas that, together, allow health care providers and health plans to apply and update the National Provider Identifier (NPI) number used by providers and organizations. One area is Enumeration support. Our Enumerator support team processes mailed paper NPI applications and reviews online NPI applications submitted via the NPPES website. On average, the NPPES Enumerator team processes over 5,000 paper and web applications for NPI per month. The enumerator team also answers questions from medical personnel about their NPI applications or changes to their NPIs. The Enumerator team also handles over 13,000 phone calls per month, and has received a consistently high satisfaction rating from callers.

In the area of maintaining system applications, the NPPES system team supports and enhances multiple separate systems for processing NPIs, maintaining login IDs for users, providing usable information to the Enumerator team via an admin interface, and storing data for public consumption of provider services. To supply the best experience for providers, the NPPES system team implements continuous updates and process improvements. We oversee the entire system lifecycle, from requirements, analysis, design, development, integration, user acceptance testing, deployment, and production support to subsequent system enhancements.

Technology Stack: CMS GitHub; CloudBees CI; JFrog; SonarQube; Selenium; JMeter

Goals: One primary goal of the NPPES program is to become more efficient with our processes and to deliver to market more rapidly. We implemented the SAFe Agile approach to promote communication, transparency, and business alignment.

Outcomes: Within the past 18 months, the NPPES team has transitioned to a SAFe Agile cadence-based schedule, removing 86% of the technical debt with over 16 deployments and zero defects identified. This approach resulted in survey scores averaging 4.9 out of 5.0. Using a cloud-neutral microservices approach, we reduced the number of physical systems by over 50%, reducing costs leading to over 60% savings annually.

Relevance to SOO 4.1 Task Area 1 – Systems Development and Architecture: Previously the NPPES was in a traditional data center with a single instance of Oracle and Mongo serving our clients. Since migrating the system to AWS, we now have three AWS availability zones for NPPES in the US-East region (US-East1a-b-c). We also upgraded the previous single instance of Mongo running in the legacy system to DocDB which is a Mongo-compatible database, clustered with three instances for high availability. We upgraded the previous legacy system single instance of Oracle 12c to Oracle 19c using AWS RDS Multi-AZ deployment for high availability; we now have two writable Oracle Databases and Master and Standby and two Oracle Read-only Replicas in a failover configuration. All databases are spread across our three-availability zone to support high availability. The objective of our modernization effort was to transform NPPES' systems from an IBM WebSphere and MQ suite of tools COTS product by deploying the service interface Web archive (WAR) files running on Red Hat instances running on Oracle and IBM mainframe servers. Our modernization goals were to transform the code to a cloud open framework incorporating Java Spring Boot technology, which enabled us to decouple the code into smaller more manageable microservices and to deploy them on the AWS Fargate technology used with Amazon ECS (Elastic Container Store), thus reducing server costs and administrative burden. In addition, the AWS Relational Database Service (RDS) technology enabled us to enhance the previous single-instance Oracle Enterprise Edition 19C deployment into a Multi-Availability Zone Highly Available database configuration with an independent primary database and a read replica (database copy) with failover instances for our CPI business partners to query, thus reducing the load on our writable transactional database.

Relevance to SOO 4.1.4. CMS Security and Partnership with OIT: NPPES is a large national sensitive PII data repository that RELI securely maintains. The NPPES Security Officer applies a security-first approach to ensure compliance with all applicable security requirements throughout system development and delivery of operations. The NPPES Security Officer maintains the NPPES security artifacts in the CMS Governance, Risk, and Compliance (GRC) tool CFACTS. RELI developed, updated, and continues to maintain all system security artifacts, such as the System Security Plan (SSP), Privacy Impact Assessment (PIA), and Contingency Plan (CP). We perform annual drills of some of our cybersecurity capabilities, including Incident Response Tabletop Test exercises, Contingency Plan Tabletop Test (CPTT) exercises, and Disaster Recovery (DR) failover tests. We review security-related requirements with the Information System Security Officer (ISSO), Technical Review Board (TRB), and Governance Review Board (GRB) as appropriate, to ensure the system architecture is properly structured to meet all CMS Technical Reference Architecture standards and CMS security and privacy requirements.

RELI supports security throughout the System Design Life Cycle (SDLC) and has supported its migration from an on-premises solution to a cloud-based solution. To reduce user burden, limit technical debt, and support modernization of NPPES, RELI migrated NPPES to a cloud environment and replaced some of the legacy technology stack with new, innovative state-of-the-art software. Ongoing assessments include Security Impact Analyses (SIA), which are completed for all system changes to identify impacts on security control implementations and risk to the system. The NPPES Security Officer oversees all security assessments to ensure appropriate security controls are in place and functioning as intended. To support system security, compliance, and Authorization to Operate (ATO), we work with the System Security Auditor for security testing and auditing during Security Control Assessments (SCA) and Adaptive Capability Testing (ACT). RELI is prepared to support CMS' current move toward ongoing security authorization as the opportunity is made available to us.

NPPES support requires significant DevSecOps discipline and skillsets because changes are required continually and the system must remain operational 24x7 to ensure over 40 million citizens have access to providers and payment plans for healthcare services. We provide DevSecOps-based operations and maintenance support, proactively monitoring NPPES to detect performance and cybersecurity issues, and perform error/threat/vulnerability management to reduce service outages. The NPPES architecture uses sophisticated, state-of-the-art security mechanisms that leverage encryption, role-based access control, authentication, and granular authorization framework. NPPES' recent migration to the cloud has provided us with the opportunity to take advantage of implementing a more Continuous Diagnostics and Mitigation (CDM) approach to vulnerability and patch management, applying the CMS Security Automation Framework (SAF) to support a true DevSecOps approach, integrating functionality and security testing in both the development and the production environments. We continue to mature our cybersecurity and development practices in an effort to include threat modeling and security chaos engineering practices in our DevSecOps program. NPPES uses several cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline. Our team has used the following tools on NPPES:

- CMS GitHub—Source code repository and management system (SCM) hosted in the CMS Cloud environment. This service functions as the NPPES Git code repository and is more secure and integrated with CMS services than github.com.
- CloudBees CI (Continuous Integration) Jenkins—Common enterprise version of CloudBees, where NPPES uses the CMS implementation of CloudBees in our multi-branch pipelines.
- JFrog Artifactory/XRAY—Enterprise version of the JFrog repository used to store NPPES images, NPPES built or downloaded code (e.g., Docker images, JAR files). JFrog XRAY scans the content for malware or other threats.
- SonarQube—Platform for static code analysis. Highly configurable system for continuous inspection of code quality and security, which empowers application developers to write cleaner and safer code.
- Selenium box—Enterprise Selenium Grid, a cross-browser test execution infrastructure. Enables NPPES to execute tests on multiple browsers in parallel and reduces test suite execution time. It is used to test application user interfaces (UI).
- JMeter—Test tool from Apache used to analyze and measure the performance of applications and other software services and products. For NPPES, we use JMeter as our user load-testing tool.

Relevance to SOO4.2 Task Area 2 – Technical Assistance and Data Science: NPPES provides a range of IT services to support software development, identity and access, operations and maintenance support, and enumerator services as required to maintain NPPES operations. Our mission is to continue to modernize our systems while adopting legislative policy and administrative changes. NPPES system architects and software developers analyzed the NPPES to modernize NPPES applications with microservices. We accomplished this by exploring informational data, holding planning sessions to produce application blueprints to uncover avenues and to enhance the systems data and quality. Our system has multiple partners who depend on the quality of our datasets; implementing the principle of least privilege and the Confidentiality, Integrity, and Availability (CIA) triad enabled us to review systems access and system dependencies, review connective security policies, and assign the proper access rights to increase data quality. We built a strategy that enabled us to analyze, adjust, monitor, and improve the systems' data quality based on our technical findings to support our stakeholders' mission. Our processes

included multiple data science reviews and technical sessions with our business partners to view our data quality to increase the accuracy of the NPPES data where applicable. The primary goal is to provide the most accurate NPI datasets possible to enhance our application consumers' experience and to provide repeatable processes to modularize our approach for success. During this time, we maintained technical oversight of the legacy systems, operations, and maintenance, enabling the team to discover additional strategies for improving system performance and data quality.

Relevance to SOO 4.3 Task Area 3 – Data Content Creation and User Support: Over the past 18 months, NPPES has published notices for users on our tools information page to enhance effectiveness and efficiency and to improve user satisfaction, accessibility, and awareness of our tools. We continue to ensure quality around our internal environments used throughout the development and QA processes, risk, and issue solutioning, communication, configuration management, deliverable management, service continuity tools and training and process improvements. We design the infrastructure to meet all Government regulations based on performance standards and requirements. NPPES has successfully integrated multiple exports of databases and imported three backlogs into Jira as our source of truth, while increasing the visibility to current and future stakeholders. This effort provided for complete transparency and collaboration with our program stakeholders, allowing for the collection of program requirements while also identifying and mitigating risks to business initiatives.

Relevance to SOO 4.4 Optional Task Area 4 – Interoperability Deployment: The NPPES Provider NPI is the most widely captured, used, and exchanged data element by Electronic Healthcare Records (EHR) and Health Information Technology (HIT) systems. CMS publicly reports on providers that do not list or update their digital contact information in the NPPES. This effort includes providing digital contact information such as secure digital endpoints (e.g., Direct Address and/or Fast Healthcare Interoperability Resource [FHIR] API endpoint).

The NPPES Endpoints provide a simple, secure, scalable, and standards-based way for participants to send authenticated, encrypted health information directly to known, trusted recipients over the Internet. In the NPPES, providers can enter their Endpoint information when they request new NPIs or when they update their NPI information. The Endpoint details can be entered on both Individual (Type 1) and Organization (Type 2) NPI applications. This information is then made available on NPI Registry, APIs, and Data Dissemination Files for users to receive and consume.

Our experience in adopting Health Level 7 (HL7) and FHIR-based APIs enables third parties to develop applications that, in turn, enable consumers and providers to query the participants in a payer's network that will provide services that address their healthcare needs. Understanding these standards will help the T-MSIS Federal and State systems to modernize future development efforts with an updated secure data exchange. NPPES engineers have experience in modernization: developing proof of concepts in our sandbox environment for deployment to our higher-level environments, which aid in developing a minimum viable product (MVP) that is tested and analyzed to incorporate the interoperability FHIR rules that will be beneficial to Federal and State systems.

Our process is a proven methodology that maximizes the delivery of high-quality products while also ensuring our customers are well informed. Similar to T-MSIS, the NPPES architecture from a Traditional Data Center environment runs IBM WebSphere Suite of applications on a mixture of Oracle Sparc servers and IBM System Z Integrated Facility for Linux (IFL) systems. These systems were deployed on Red Hat Enterprise Linux (RHEL) and Solaris 11 operating systems. Some of our business partners that we needed to communicate with were deployed into the three other availability zones (AZ). For these partners in different AZs to consume our services, we would need to incorporate VPC Peering. A VPC Peering connection is a networking connection between two Virtual Private Clouds (VPC) that makes it possible to route traffic between them privately.

Relevance to SOO 4.5 Optional Task Area 5 – Migrate Communications to CMS Enterprise: The NPPES Program Director (PD) has extensive experience using Lean to manage contracts of various types, sizes, and complexities. The PD is familiar with setting up workflows within Jira, and with setting up the dashboards for live reporting and up-to-the-minute status on all activities, which are closely monitored. Our performance, risks, issues, and status are visible to CMS to ensure transparency and quality.

NPPES uses Atlassian tools to maintain the multiple backlogs needed to maintain the program. The different backlogs have multiple workflows that are set up to address all needs of the program. For each sprint team, our team backlog is connected to our feature backlog. The NPPES has a backlog of features that ties to the strategic roadmap and pertains to the scope required to meet CMS' objectives. In a joint effort by the NPPES team and CMS, the backlog is prioritized to identify the features with the highest priority. The features are defined by the user stories, further defined by acceptance criteria, and then discussed during the program increment (PI) event. Following business approval, the work begins. If a roadblock is identified, the team and business seek to remove the roadblock, and discuss the potential impacts if it is not feasible to implement and complete the solution within the active sprint. Further discussions are held to determine which feature or story will be adjusted throughout the PI and then will be reprioritized for the next PI planning session.

03/18/2022 – CMS COMET

National Plan and Provider Enumeration System (NPPES)		
A	Client organization name and point of contact information	**Organization:** Centers for Medicare & Medicaid Services (CMS) **POC Name:** Ms. Tonya Anderson (CO) **Email:** Tonya.Anderson@cms.hhs.gov **Telephone Number:** 410-786-4087
B	Period of performance	09/30/2021 – 09/29/2025
C	**Description of the Service Provider Team Composition & Roles:** RELI Group, a member of Amazon Web Services (AWS) Federal Partner Network (FPN) for 4+ years, is the prime contractor on the National Plan and Provider Enumeration System (NPPES) program where we provide application Operation and Maintenance (O&M) of the existing legacy NPPES environment hosted in the Companion Data Service (CDS) Virtual Data Center (VDC). RELI's subcontractors on this project include Turning Point Global Solutions (TPGSI) and General Dynamics Information Technology (GDIT). The subcontractors provide application engineers and support the CDS implementation of the NPPES systems. RELI Group's AWS engineering staff consists of seven application system engineers, three Development and Operations (DevOps) engineers, and two AWS Solutions Architects. Our engineers' certifications consist of AWS Cloud Practitioner certifications, AWS Developer Associate certifications, AWS SysOps Administrator Associate Certifications and AWS Solution Architect Associate certifications. Our engineers have over 12 years of combined experience working in the AWS Cloud space and have a significant amount of research and knowledge in the Cloud First and Cloud Smart government initiatives. Our team is comprised of 65 full-time staff members including six key personnel members: Program Director, Project Manager, Solutions Architect, Systems Security Officer, Technical Lead, and NPI Enumerator Operation Manager. On this contract, we support the NPPES Legacy system at the CMS CDS Data Center and the AWS NPPES application with enhancements to the AWS Cloud **(SOO 5.1.1.1.2)**. The NPPES AWS system consists of four availability zones in the US-East-1 region. RELI's key personnel are as follows: ▪ The **Program Director** is responsible for the delivery of the established Objectives and Key Results (OKRs) and the transition to the Agile framework while overseeing the migration (**SOO 5.2.4**) to the AWS environment. Program Director provides deliverables to CMS and oversight to the entire program. ▪ The **Project Manager** is responsible for the schedule (**SOO 5.2.2.2**) and assessing impact around the tasks and timelines to meet the objectives as expected. ▪ The **AWS System Architect** conducts an architectural evaluation of the existing VDC environment, analyzes the technical and business requirements, and designs the new cloud platform. The architect defines a collaboration framework and the roadmap (**SOO 5.2.4**) with the Program Director and Project manager and leads the teams during the migration (**SOO 5.1.1.1.2**) efforts to the AWS environment. ▪ The **Security Officer** ensures all the security regulations stay within compliance during any type of change to the system infrastructure or delivery GDIT's role as a subcontractor on NPPES is focused on the call center tasks (**SOO 5.1.2)**. The call center manager, along with 10 additional staff members, is an integral part of the program's successes. TPGSI is our second subcontractor on NPPES, and they provide systems support to the NPPES contract (**SOO 5.1.2**). This team supplies two Key personnel, the Technical Lead and the Operations Manager, along with 20 staff members. The TPGSI team provides development and testing support for the systems that support our program, as well as minimal enumerator support. Two KPs for TPGSI are discussed below: ▪ The **Technical Lead** assists all aspects of the team administration and enhancements with the legacy system as well as provides information and advice to the AWS System Architect to deploy viable alternative solutions targeted for the AWS NPPES Cloud environment.	

National Plan and Provider Enumeration System (NPPES)		
	▪ The **NPI Enumerator Operation Manager** produces daily, weekly, and monthly reports for the NPPES Program Manager and CMS and utilize the ServiceNow Customer Relationship Management (CRM) tool to manage all NPI enumerator activities. The manager is also responsible for managing the staff to meet and exceed our service level agreements	
D	Explain whose experience is being quoted and the role of that firm or individual in performance of the work envisioned under this solicitation	**Company Name:** RELI Group, Inc. **Role:** Prime
E	**Description of Tasks Performed and Experience Gleaned:** NPPES provides software development, maintenance, operational support, and enumerator services. The NPPES system retains millions of healthcare providers' information that passes to the public user and downstream systems in numerous ways. To keep NPPES data current, providers enter hundreds of thousands of updates to name, address, location, and taxonomy fields each year, with updates to about 2-8% of the 4.7 million providers in NPPES. NPPES is a program consisting of two major areas that, together, allow medical personnel to apply and update the National Provider Identification (NPI) numbers used by providers. The first area is enumeration support. Our enumerator team processes paper NPI applications sent through the mail, and they also review NPI applications that are submitted via the web options available on the NPPES website. On average, the NPPES enumerator teams process over 5,000 applications for NPI per month. Additionally, the enumerator team answers questions from medical personnel about their NPI applications or changes to their NPIs. The enumerator team handles over 13,000 phone calls monthly, and they have received a consistently high satisfaction rating from callers The second area is the system applications The NPPES team maintains and enhances three separate systems for processing NPIs, maintaining login IDs for users, providing usable information to the enumerator team, and storing data for public consumption of provider services. To provide the best experience for providers, the NPPES team implements continuous updates and process improvements. We are responsible for the entire system life cycle from requirements, analysis, design, development, integration, user acceptance testing, deployment, and production support to subsequent system enhancements. In addition to providing O&M services for the legacy CDS NPPES system, RELI is migrating NPPES to the CMS AWS Cloud by modernizing the application with a mix of Oracle and IBM Mainframe hardware and IBM COTS products to run on the AWS Fargate compute engine using AWS ECS and running a Java Spring Boot framework, including Lambda functionality, to replace the current monolithic systems. Our approach is not a lift and shift, it is a software modernization effort incorporating other CPI initiatives to include the CMS MuleSoft Application Program Interface (API) gateway and Kafka functionality. Our redesign will allow the NPPES system to optimally operate within the AWS Cloud environment and enhance our multiple APIs to allow a positive data flow from our NPPES Datamart to systems such as the Integrated Data Repository (IDR) for our stakeholders to consume without a hindrance on the day-to-day processing of the NPPES Enumeration system, National Provider Identifier lookup, as well as our Identity and Authorization (I&A) systems. These modifications will enhance our compliance with the Health Insurance Portability and Accountability Act (HIPAA) Administrative Standard. NPPES utilizes several of the cloud.cms.gov tools to support our AWS deployments via our DevSecOps code pipeline. Our team has used the following tools on NPPES: ▪ CMS GitHub – a source code repository and management system (SCM) hosted in the CMS Cloud environment. This service functions as the NPPES git code repository and is more secure and integrated with CMS services than github.com. ▪ CloudBees CI (Continuous Integration) Jenkins – a common enterprise version of CloudBees where NPPES utilizes the CMS implementation of CloudBees into our multi-branch pipelines. ▪ JFrog Artifactory/XRAY – an enterprise version of the JFrog repository used for storing NPPES images, NPPES built, or downloaded code, such as Docker images and JAR files. JFrog XRAY scans the content for malware or other threats. ▪ SonarQube – a platform for static code analysis. It is a highly configurable system for continuous inspection of code quality and security, which empowers application developers to write cleaner and safer code.	

- Selenium box – an enterprise Selenium Grid, a cross-browser test execution infrastructure. It allows NPPES to execute tests on multiple browsers in parallel and helps in reducing test suite execution time. It is used for application user interface (UI) testing.
- JMeter – a test tool from Apache used to analyze and measure the performance of applications, different software services and products, NPPES using JMeter as our user load testing tool.

Our deployment consists of an AWS CloudFront web service front end which will serve our static content via the AWS Simple Storage Service (S3) with read-only access for our NPPES customers located within the United States of America. CloudFront will utilize the Unites States edge locations only, which will provide the lowest latency to the NPPES community. All other traffic for our application will pass through the AWS Web Application Firewall (WAF) service to protect our NPPES application and APIs by filtering, monitoring (**SOO 5.3.6**), and blocking any malicious HTTPS (Hypertext Transfer Protocol Secure) traffic to our applications.

The AWS WAF also protects our applications against web exploits and bots that may affect availability, compromise security, input SQL injection, or implement cross-site scripting that may consume excessive resources by incorporating a security system rule set. After passing through our WAF, our application will direct our customer to our services via an Application Load Balancer. We have four microservice containers running in four availability zones in an auto scalable configuration to support our Fargate Elastic Container Service. The clusters, protected by our AWS Security Groups, are as follows:

- NPPES Registry ECS Cluster for Web, Enumeration, Demographics, Separation Services, Subscription Services, Shared Services, Social Security Validations.
- Identity and Access ECS Cluster manage access to PECOS, NPPES and EHR incentive programs.
- NPPES Service Cluster for our Administration and Providers platform; and

  NPPES Batch Cluster, which is Lambda based, is used for email notification.

AWS Fargate is a serverless pay-as-you-go 'compute' engine that runs the several NPPES microservices that support the application. This serverless compute engine will allow our developers and administrators to focus on building and maintaining our environment without the overhead of managing a fleet of EC2 instances. Our ECS containers, backed by Docker images, are configured with the Terraform modularized Infrastructure-as-Code (IaC) tool that allows NPPES to define cloud resources in human-readable configuration files that can be versioned and reused. Our microservices incorporate the AWS autoscaling feature to scale resources up and down, when required, to concentrate on DevSecOps (**SOO 5.3.7**). Within our Fargate container configurations, we have configured the CPU and Memory capacity based on our quantified customer traffic load to maximize our services throughput. Meanwhile, the AWS service handles the AWS Amazon Machine Image (AMI) that runs the microservices, reducing our operational overhead to allow us to concentrate on applying a strong security foundation.

To connect to our external CPI partners and stakeholders, we have deployed several private containerized subnets to isolate our Fargate microservices compute engine, allowing connections via our APIs via AWS Virtual Private Cloud (VPC) endpoints. These endpoints only allow one incoming internet private address per NPPES partner to access our APIs, further securing our environment. We use a private Application subnet to access external connections for our microservices to utilize external calls, like the CMS Messaging Queue Social Security verification tool, the Enterprise Content Manager (ECM/CCM) for file storage of NPPES NPI application, and lightweight directory access protocol (LDAP) calls. The backend consists of two databases, DocumentDB (MongoDB replacement) for NPI lookups, and Oracle Enterprise DB master and replica instance, which stores our NPPES writable data on the master DB node and a read only replica instance for our business partners to query our data mart, relieving the load off our master Oracle Database node to process writable tasks.

The experience we had gleaned from this program is in relationship to how the CMS Cloud team had deployed our environments. In the six-availability zone (AZ's) available in the US-East region our NPPES application was deployed into three AZ's. Some of our business partners that we needed to communicate with were deployed into the three other availability zones. Since our partners were in different AZs for those partners to consume our services, we would need to incorporate VPC Peering, a VPC Peering connection is a networking connection between two VPCs (Virtual Private Clouds) that enables you to route traffic between them privately. The issue that arises from this connection is that the system will need to Peer at the subnet level or expose an entire subnet for them to connect to each other. This level of exposure increases the risk of compromising other components within that subnet. Our solution is to utilize VPC Endpoints; with VPC Endpoints, if the business partners are within the same AZs, you can build the Endpoint with a single private internet address instead of an entire subnet, eliminating any risks of compromising situations. We have mitigated the risk by attaching

additional AZs to our application to use the more secure VPC Endpoint option, eliminating risks to our other components within our subnet.

Goals: The goal of the system was to transform the NPPES systems from an IBM WebSphere and MQ COTS Java WAR files running on a mix of Red Hat instances on Oracle and IBM mainframe servers to a framework utilizing an AWS Fargate serverless microservices system incorporating the Java Spring Boot technology, which will reduce the number of servers currently running in the legacy systems. This technology will significantly decrease server costs by using compute engine vice individual EC2 instances. We have also configured our Oracle Enterprise Edition 19C (Primary) database with an independent read replica (database copy) for our CPI business partners to query, reducing the load on our transactional primary database.

Outcomes: RELI provides software development, maintenance, operational support and enumerator services for the National Plan and Provider Enumeration System (NPPES). On average, the NPPES enumerator teams process over 5,000 applications for NPI and handle over 13,000 phone calls. The NPPES program has 3 applications that we maintain for continuous updates and process improvements. We are responsible for the entire system life cycle from requirements, analysis, design, development, integration, user acceptance testing, deployment, and production support to subsequent system enhancements.

Our support services include operational, maintenance and enhancement support, identity & access (I&A) management operations and enhancement support, NPI enumerator services, Health Information Technology for Economic and Clinical Health Act (HITECH) Support, and Data Dissemination activities. We adhere to Human Centered Design (HCD) approach to enhance effectiveness and efficiency and to improve user satisfaction, accessibility, and sustainability. We ensure quality by building an internal environment used throughout the development and QA processes, risk, and issue solutioning, communication (**SOO 5.2.1.4**), configuration management, deliverable management, service continuity (**SOO 5.3.3**), tools and training (**SOO 5.1.3**) and process improvements. We design the infrastructure to meet all government regulations with performance standards and requirements.

Development/O&M: RELI provides support services, including Operational, Maintenance and Enhancement support, I&A Management operations and enhancement support, NPI enumerator services, Health Information Technology for Economic and Clinical Health Act (HITECH) Support, and Data Dissemination activities. These systems used to run in one of CMS Virtual Data Centers and ran on a mix of Oracle Sparc and IBM Mainframe systems. Since RELI Group began supporting the contract, we have radically changed every aspect of the legacy system. We have moved our development methodology from Waterfall to Agile, allowing our development cycles to become more efficient utilizing 2-week sprints (**SOO 5.2.1.1**) and quarterly deployment, allowing for the continuous integration and continuous deployment of our programming code. We have shifted from using an aging COTS IBM WebSphere suite of software that ran the Java Foundation Classes (JFC) modified Model View Controller (MVC) architecture to a Java Spring Boot framework, which is the de facto standard for microservices deployment.

Our cloud experience with NPPES is building an architecture that refactors the older legacy environment and deploys 24 microservices spanning four AWS Availability Zones for a high availability and fault tolerance environment. Our goal was to utilize as many AWS services as we could to replace older legacy products. We are using AWS RDS Oracle for our backend data store, AWS DocumentDB as our MongoDB replacement, AWS Event Bridge as a serverless event bus for our event driven processes, and AWS Step Functions to coordinate our session-based processes. We have Docker images for our microservices ECS containers with the Fargate serverless compute engine running our workloads in a private container subnet to reduce our system administration. AWS Application and Network Load Balancers across our 4 availability zones with security groups protect access, and AWS WAF (Web Application Firewall) protects our front end. We also use CloudFront to serve our static web pages and S3 for our Object store. Our DevSecOps pipeline consists of CloudBees Jenkins CI to build, test, and deploy applications to all environments utilizing continuous delivery practices. JFrog antifactory provides our end-to-end automation and management of artifacts and binaries, with JFrog Xray to scan those artifacts to detect any security vulnerabilities while checking licenses for our software, and SonarQube quality assurance tool that will analyze the source code and report on code quality

Project Management: RELI uses Scaled Agile Framework (SAFe) approach for project management, and our team institutes key processes that include quarterly planning and integrating (**SOO 5.1.1.1)** with the business team to ensure a strong consensus on all deployment activities. Integrating a more agile-based approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance, and to quickly identify variances to enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an Integrated Base Review (IBR) meeting and at every contract modification, establishing the Performance Management Baseline (PMB). We adhere to CMS OMB 300 mandates and follow the CMS TLC standards for all deliverables. We use CMS Enterprise tools, such as JIRA, Confluence (**SOO 5.1.2.1)**, GitHub (**SOO 5.1.2.3)**, and SharePoint for tracking and

National Plan and Provider Enumeration System (NPPES)	
	maintaining documentation related to the application support and enhancements of the NPPES system; we use Atlassian Suite (**SOO 5.1.2)** for all system and issue tracking activities.

01/31/2022 – CMS Financial Management Systems Group (FMSG) Technical Support Contractor (TSC)

Exhibit 6: RELI's Project Management Framework

- We have direct experience with management of highly complex programs, including a track record of successfully managing contracts of various types, sizes, and complexities, spanning 83 prime projects to date with 34 of these prime projects at CMS. Examples of this work are provided below.
- **CMS National Plan and Provider Enumeration System (NPPES):**
- RELI provides software development, maintenance, operational support and Enumerator services for NPPES within the CMS Center for Program Integrity (CPI) division. NPPES retains millions of healthcare providers' information that passes to the public user and downstream systems in various ways. To keep NPPES data current, providers enter hundreds of thousands of updates to name, address, location, and taxonomy fields each year, with updates to about 2-8% of the 4.7 million providers in NPPES. On this large and complex CMS contract, RELI staffed and currently implements the NPPES call center.
- To manage this complex development project, RELI uses a Scaled Agile Foundation (SAFe) approach for project management. Our team institutes key processes that include quarterly planning and integrating with the business team to ensure a strong consensus on all deployment activities. This approach enables CPI to adhere to the agency-wide Targeted Life Cycle (TLC) standards. We use an Integrated Master Schedule (IMS) as the roadmap to drive NPPES goals and objectives. The IMS is a highly detailed plan that includes the critical path, resource allocation, priority, logic, and relationships among all tasks. We use the IMS to monitor progress and performance. This allows our team to quickly identify variances and enable timely recovery plans and effective mitigation actions. As part of our approach, RELI conducts an Integrated Baseline Review (IBR) meeting and, at every contract modification, establishing the Performance Management Baseline (PMB). We adhere to CMS OMB 300 mandates and follow the CMS TLC standards for all deliverables. RELI is skilled in planning and implementing software and system solutions. For NPPES, we use CMS Enterprise tools, such as Jira, Confluence, and GitHub, for change requests and documentation related to the operations support and enhancements of the NPPES system. RELI uses Jira for software issue tracking and Atlassian Suite for all system activities. Currently our developers are working with CMS to plan and implement the migration of the NPPES application to the AWS cloud. Our management support includes dashboards to provide the status of initiatives, projects, and systems. We use the Confluence calendar for all deployments. We provide enterprise-wide release management support and deploy incrementally at the end of each sprint if the code allows for that.

08/05/2021 - CMS SNOW BPA

Experience Supporting Federal Helpdesks Using ServiceNow (SNOW)

The National Plan and Provider Enumeration System (NPPES) assigns National Provider Identifiers (NPIs) to providers and enables them to easily update their information, building upon the national provider database, which is the national provider data repository. The NPPES ensures that every health care provider is uniquely identified and assigned its own NPI, for use in transactions stipulated by the Health Insurance Portability and Accountability Act (HIPAA). Team RELI (a partnership formed by RELI Group, Inc. and Guidehouse) is the current NPPES contractor, responsible for the NPPES Helpdesk. Our team uses SNOW for the intake and tracking of all support tickets related to the program. We service over 60 million total providers in our database. Our support includes information change requests, general questions, NPI assignments, and other support needs as required.

Team RELI's NPPES SNOW solution is integrated with our email server and scanner and is accessible via telephone. A ticket is automatically created and assigned to a resource when a request is received through email or scanner. When a request is received via phone, a representative manually creates a ticket. All information related to a request for support is captured in the ticket, which is processed through the workflow until closure. Our SNOW solution provides 7x24x365 real-time dashboards and information radiators for the Centers for Medicare & Medicaid Services (CMS) and Team RELI, where a detailed status is always available. Currently, 1,400 NPI applications and 500 paper applications are received each week and 12,000 inbound call cases and 5,800 email cases are created each month.

As part of our solution, Team RELI created a repository for all Standard Operating Procedures, pertinent program information, and other program documentation that is easily accessible and searchable when conducting research and working on tickets. Further examples of Team RELI's experience supporting federal helpdesks using SNOW is our helpdesk and licensing tool support for the Food and Drug Administration's (FDA's) Center for Food Safety and Applied Nutrition (CFSAN) and our Information Technology Service Management (ITSM) support for the National Institutes of Health (NIH) Office of the Director (OD). In support of CFSAN, we created a streamlined troubleshooting, incident, service request, and problem management process that directed users to the FDA's Employee Research & Information Center. Team RELI leveraged the SNOW ITSM platform to support tickets and service requests and assisted FDA with licensing requirements and inquiries. Our current support of NIH OD includes providing secure information channels such as ITSM, SharePoint, email, and toll-free phone numbers, allowing end users to easily report incidents and seek support for various administrative processes. Additionally, we developed FAQs, job aids, and recorded training sessions to assist users.

Migrating Helpdesk from Other Tools to SNOW

Team RELI migrated the NPPES Helpdesk from a proprietary tool used by the previous contractor to SNOW. During the migration process, we built SNOW to include all the required workflows, reporting, and functionality. We also migrated all data related to tickets logged during the transition in phase. Team RELI also has experience migrating an FDA CFSAN Oracle Apex solution into SNOW. This migration was part of an Agile development effort to review and streamline its $50M+ information technology (IT) portfolio and project reporting costs. This migration included workflow design, a data standardization of 5 fiscal years of data, and data migration import mapping to SNOW tables. Leveraging IT Business Management, Guidehouse

created a custom application within SNOW to integrate with source Health and Human Services (HHS)/FDA systems, transform and connect data points, produce over 50 interactive reports and dashboards, and immediately and automatically alert users to any critical identified variances or misaligned data. To support this system, Team RELI worked closely with SNOW teams, both internally to HHS and externally, to collect and document best practices, and create structures within FDA CFSAN to ensure ongoing success.