



Predictive Analytics Software/Services – Technical Proposal (CRFP_0506_MIS23000000001)

State of West Virginia
Department of Health and Human Resources

28 September 2022

Submitted by:

SAS Institute Inc.
100 SAS Campus Drive
Cary, NC 27513
Phone: 1-919-677-8000
Fax: 1-919-677-4444
Colleen Weldon
Senior Account Executive
717-439-4474

colleen.weldon@sas.com

09/28/22 10:43:46
WV Purchasing Division

Vendor signature: Colleen Weldon

This proposal is the confidential and proprietary property of SAS Institute Inc. It may contain approaches, techniques, and other information proprietary to SAS, and shall not be disclosed in whole or in part to third parties without the prior written consent of SAS.

Copyright 2021 SAS Institute Inc. All Rights Reserved

Contents

Contents	iii
Cover Letter	i
Executive Summary	1
Company Overview	1
SAS in West Virginia	2
Solution Overview	4
SAS' Behavioral Health Predictive Analytics	5
Flexibility in Modeling	6
SAS Technical Proposal [Section 4.0]	7
Project Goals and Proposed Approach [4.2; 6.2]	7
<i>Approach & Methodology to Goals/Objectives [4.2.1; 6.2]</i>	7
Cleansing and Transformation of State Datasets for Use in Data Modeling [4.2.1.1]	7
Hosted, Secure Cloud Data Repository [4.2.1.2]	8
18 Projects over 12 Months [4.2.1.3]	9
Technical Support [4.2.1.4]	9
Licensed Users [4.2.1.5]	10
<i>Approach & Methodology to Compliance with Mandatory Project Requirements [4.2.2; 6.2]</i>	10
Data Repository/Secure File Transfer [4.2.2.2]	11
Data Modeling Projects [4.2.2.3]	15
Required Software [4.2.2.4]	16
Qualifications and Experience [4.3; 6.2]	20
<i>Qualifications and Experience Generally [4.3.1; 6.2]</i>	20
SAS' Five Years' Experience Providing Predictive SW, Including Machine Learning and Artificial Intelligence, to Companies and Agencies in the United States [4.3.1.1]	20
SAS' Staffing Plan [4.3.1.2]	25
Staffing Substitutions [4.3.1.3]	25
<i>Exceeding Mandatory Qualification/Experience Requirements [4.3.2; 6.2]</i>	25
Behavioral Health Experience	26
Health and Non-Health Data Integration	28
Broader Data Integration	29
International Experience and Examples	29
SAS' Two Existing Federal, State, or Local Government Accounts with Full Range of Services Requested in this RFP for at least Two Years [4.3.2.1]	30
Account References [4.3.2.2]	35
Organization chart [4.3.2.3]	36

Appendices..... 37

 Resumes 37

Colleen M. Weldon, Sr. Account Executive, Harrisburg, PA.....38

Josh Morgan, PsyD, National Director of Behavioral Health and Whole Person Care.....39

Sarah Newton, MPH, Sr. Manager, US Government Health Policy Team.....41

Meg Schaeffer, EdD, MPA, MPH, National Public Health Advisor.....42

Sindhura Sevala, Analytical Consultant43

Matt Martell, Project Manager44

 Addendum Acknowledgement Forms 45

 Federal Funds Addendum [Attachment 1] 90

 Certification and Signature Page106

 WVDHHS RFP Terms and Conditions – SAS’ Exceptions (Redlined Version)108

 SAS’ Hosting Managed Services Addendum and Hosted Managed Services Service
 Level Agreement 124

Back Cover..... 139



September 28, 2022

Crystal G. Hustead
State of West Virginia
Department of Administration, Purchasing Division
2019 Washington Street E
Charleston, WV 25305

RE: Request for Proposal CRFP MIS2300000001, Predictive Analytics Software/Services

Dear Ms. Hustead:

SAS is grateful for the opportunity to respond to this Request for Proposal (RFP) issued by the West Virginia Department of Health and Human Resources (WVDHHR) Office of Management Information Services on behalf of the Bureau for Behavioral Health (BHH) and the Office of Drug Control Policy (ODCP).

Since its founding, SAS has been revolutionizing the operations of government customers by providing a dynamic combination of cutting-edge analytics and industry-specific expertise that together deliver innovations to improve health outcomes and build healthier, safer communities.

SAS Visual Machine Learning (SAS VML) will enable WV BHH and ODCP to realize the predictive analytical capabilities desired and requested by this RFP. The information enclosed for your consideration will demonstrate SAS' leadership in predictive analytics, particularly applied to behavioral health.

Thank you for the opportunity to share this vision with you. SAS is grateful for the 40-year long partnership with the state of West Virginia and is proud to serve the Department of Administration, the WV Fusion Center and the Department of Homeland Security, WV Department of Transportation, WV State Tax Department, WV Department of Rehabilitative Services, WV Office of Maternal, Child and Family Health, and the WV Board of Pharmacy.

Sincerely,

Colleen Weldon
Senior Account Executive
State and Local Government Practice – West Virginia
Colleen.Weldon@sas.com | 717-439-4474

Executive Summary

Company Overview

SAS empowers and inspires our customers by transforming a world of data into a world of intelligence through innovative software and services delivered and developed by AI, machine learning, and Cloud analytics experts. SAS invests approximately 26% of the annual budget in research and development (R&D), ensuring that over time, our solutions will evolve and advance with the needs of WV Department of Health and Human Resources. Through a \$1 billion investment in ethical artificial intelligence, SAS remains committed to supporting West Virginia by ensuring that our products are on the cutting edge of technology, and our people are on the cutting edge of industry education.

Founded in 1976, SAS collaborates with more than 80,000 government, university, and business sites in 150 countries. SAS provides market-leading analytics solutions used extensively by all 50 state governments, all 15 federal cabinet departments, and all major federal independent agencies.

For several decades, SAS has supported Federal and State public health agencies in establishing standard reporting, ad hoc reporting, or dashboards that strengthened epidemiological capacities for data-driven decisions. SAS solutions have been implemented into every health and life sciences company represented in the Global Fortune 500. Our continual success in instituting intelligent decisioning and optimizing healthcare resources in the public health sphere spans globally to over 70 countries. SAS has a proven track record of delivering results and we invite you to view the numerous customer success stories available at https://www.sas.com/en_us/customers.html.

For decades, SAS has been honored to provide West Virginia with rich and diverse analytic solutions that operationalize data and enable agencies to make the best decisions possible. We passionately believe that technology is an enabler of our values. The consultants and subject matter experts (SMEs) that SAS employs in a wide range of industries, including behavioral health and epidemiology, inform the development of our software and solutions – ensuring that not only are they relevant to our customers in a specific line of business, but that they are ethical.

As the leader in business analytics, SAS assists organizations in better understanding business drivers and identifying solutions to complex problems. SAS eliminates the complexity of sharing data and applications across an organization by moving beyond narrow definitions of business intelligence and offering predictive analytic capabilities that not only inform an organization of where it currently stands, but where it should go next.

SAS provides customers with the foresight and understanding that is required to meet and exceed their unique goals in an ever evolving health and behavioral health landscape, requiring quick, decisive responses from government leaders.

As a predictive analytics vendor with strong open-source integration, SAS provides technology deployed on a single flexible data platform that forms a solid foundation for more advanced programming, including the deployment of models from other vendors.

SAS in West Virginia

It is important to note that West Virginia (WV) already utilizes and has access to many SAS technologies. Therefore, using SAS to address the needs outlined in this RFP will help WV be more cost effective and efficient by building upon existing and established knowledge, workflows, and analytics processes.

SAS software tools and solutions support many of the data driven decisions made across the WV State agencies that we serve. Specifically, SAS Office Analytics, Analytics Pro, and our foundational products, including BASE SAS, are deployed at several health-related agencies, including the WV Board of Pharmacy, the WV Office of Maternal, Child and Family Health (at WVDHHR), and the WV Department of Rehabilitation Services.

These SAS tools provide health and human services agencies the capabilities to make the voluminous data sets accessible for a multitude of initiatives and users (business and programmers). SAS Office Analytics makes accessing SAS from familiar Microsoft Office applications simple so that users can view large amounts of information in Word, Excel, PowerPoint, and Outlook. SAS Analytics Pro is a consolidated portfolio of SAS' most powerful statistical analysis tools (including BASE SAS) and enables health organizations to meet regular reporting needs both internally and externally, for the federal government and public facing documents. Analytics Pro makes it possible to surface information wherever its most needed, through standard office formats (PDF, HTML, etc.) or mobile formats on tablets or phones. Data can be visualized through high impact visuals (charts, graphs, maps, etc.) surfaced by repeatable code that is verified for compliance so that valuable IT resources can spend time on data analysis as opposed to data management, which can be an administrative burden to agencies that collect as much data as health organizations.

Through implementation of a single, integrated platform that provides decision-makers with a single source of truth (synthesized via automated processes from disparate data sources), states can make better, faster decisions when it comes to behavioral health, within different programs or offices intra-agency, and across agencies.

SAS Behavioral Health Predictive Analytics for West Virginia

The request for predictive analytics software holds great promise to guide WV in its mission to improve behavioral health care, including combatting the opioid epidemic. The Agency requires a reliable, **trusted** source of data to make **fact-based** decisions and stay abreast of emerging behavioral health needs and gaps in care. The Agency needs a platform that is **adaptable** to the inevitable changes in needs and access to treatment, recovery services, and harm reduction. The platform should be **open** and **transparent**, giving the Agency staff actionable insights in a clear and easy-to-understand way. Critically, the Agency demands a **secure** platform that protects sensitive consumer and family information.

Behavioral health is increasingly becoming a core component of health and human services work globally. The COVID-19 pandemic has further emphasized behavioral health's centrality for general health as well as its role in public health and epidemiology. Using predictive analytics software and services to address modern behavioral health and drug control needs requires a unique combination of both behavioral health and public health expertise. This proposal is representative of best practices cultivated by SAS in over forty-five years of conducting work in state government procurements, including behavioral and public health, to support research, evaluation, quality improvement, epidemiology, and advanced analytics capabilities.

The functionality requested through this RFP is the core of SAS' business and expertise. We have supported similar data efforts around the world and throughout West Virginia. SAS is not confined to only the behavioral health or general healthcare space. SAS has extensive expertise implementing data integrations across all industries and disciplines. For WVDHHR, this could particularly include education, homelessness, criminal justice, and employment data.

An understanding of current behavioral health needs, including mental health and substance misuse, impacts on communities (such as suicides, overdoses, criminal justice encounters, homelessness, etc.) as well as the prevalence of comorbidities, will enable WVDHHR to ensure timely, high-quality treatment services and harm reduction activities to reduce negative consequences of behavioral health conditions while promoting strengths-based programs and outcomes.

Application of these principles are particularly effective in combatting the opioid epidemic. SAS recognizes that West Virginia has been particularly impacted by this public health emergency and is prioritizing on-going overdose prevention and epidemiological insights to mitigate deaths and injury. By taking an innovative approach and applying predictive analytics to behavioral health initiatives statewide, WV will be able to eliminate data siloes and create actionable insights for making strong policy and programmatic decisions.

To fully realize the value of predictive analytics as applied to addressing the opioid epidemic, data integration from disparate reporting systems is of critical and central importance. This facilitates the creation of actionable real-time insights for effective and continuous quality improvement, program evaluation, and epidemiological activities. A unified and robust analytics platform is essential to evaluate whether behavioral health services and interventions have the intended impact on access and outcomes, for mapping treatment and preventive resources available, and informing a community's response to deploy resources and mitigate access barriers.

SAS has extensive experience breaking down health data siloes and creating robust analytic data assets that extend the value of behavioral health data (e.g., claims and clinical data, specialized reports), public health data (e.g., prescription drugs, public health registries, clinical, syndromic surveillance), and law enforcement data (e.g., naloxone deployment) for actionable insights.

Solution Overview

Advanced analytics and data management are SAS' true differentiators and the strongest elements of our solution. SAS can provide West Virginia a robust, scalable foundation for the most impactful predictive modeling that would provide a holistic understanding of community need and the impact of services.

SAS has completed more than 83,000 analytics projects in the past 40 years.

With SAS, behavioral health data sets can be integrated and linked to non-behavioral health data to guide whole person care and community programs that reduce health disparities. When analytics are applied to these integrated data sets, the quality of care and health outcomes is dramatically improved.

The foundational advantages of the SAS platform and our Whole Person Care/Behavioral Health approach to predictive analytics include:

Identifying Vulnerable Populations: The SAS solution provides the ability to create individualized risk or opportunity profiles to understand the characteristics and utilization patterns of vulnerable individuals. This analysis supports the development of targeted interventions.

Evaluating Outcomes: SAS empowers users to analyze the effectiveness of interventions, policy changes, or programmatic investments. By making analytic outputs digestible to both business users and data scientists, the SAS platform enables users to discern cost and utilization patterns, identify potential gaps in care, and monitor outcomes across time.

Other features include:

Self-Service Discovery: Interactively discover relationships, trends, and outliers via Platform-prompted visualizations auto-charting features in a no-code, drag-and-drop environment.

Interactive Reports: A deep catalog of graph objects and charts are included to create the perfect ad hoc reports, which can be distributed in a range of consumable methods.

Location Analytics: Geographic maps are enabled through Esri ArcGIS integration or OpenStreetMaps, making it easy to identify hotspots or population health trends.

In-Memory Engine: Data and analytic processing is done in memory and distributed across nodes in a cluster, ensuring exceptional performance, even with large datasets and complex queries.

Built-in Artificial Intelligence and Machine Learning: Advanced analytical concepts ensure a future-proof platform that is capable of learning and improving over time.

Model Management: Allow users to easily register, validate, track, monitor, and retrain models to ensure they are appropriately governed, transparent, and high performing.

For instance, SAS identifies statistically significant patterns of avoidable clinical events by the health system (e.g., ensure providers follow-up with mental health consumers within seven days of discharge) and tracks outcome measures across peer groups to assess for enhanced quality improvement.

This type of analytics could help drive proactive outreach and engagement as well as power AI suggestions for opportunity analysis, next best action, and policy analyses.

SAS Behavioral Health Predictive Analytics

SAS has experience building and deploying advanced machine learning models for a vast number of business purposes. Detailed examples of our behavioral health experience, including in predictive analytics, AI, and ML, is included in later sections throughout this response.

Related to the WV Office of Drug Control Policy's epidemiological efforts, SAS has helped to predict communities at risk for increases in overdose deaths. These models can identify where actual overdose deaths far exceeded predicted, indicating a substantial area of risk for overdoses. This enables behavioral health, public health, and community partners to easily understand residuals between actual and predicted overdoses, facilitates rapid detection of surges from new substances (e.g., a new fentanyl analog), and faster community response (e.g., naloxone).

The SAS solution provides a plethora of analytical models that enable decision and predictor analysis results to help overcome complexity and uncertainty. SAS analytics apply consistent and reproducible evidence-based models to improve health outcomes and will enable West Virginia to use predictive models to provide insights into health promotion/prevention programs. These models can help to elucidate drivers as well as reveal variables that need consideration when employing a health promotion/public health prevention program, such as with opioid use. These can be employed at the community or individual level based on the data available. For example, in **Figure 1**, a decision tree provides a visualization of successful drivers for treatment programs and applies them to communities at risk for overdose.



Figure 1. Sample of a decision tree that can be used to predict drivers or communities at risk for overdose.

To effectively combat the opioid crisis, public behavioral health leaders and their partners need the tools to break down data siloes and gain a secure, comprehensive view of critical data assets. The underlying substances of substance use disorders have shifted over the last 20 years from

predominantly prescription-origin to street drugs. As the opioid epidemic continues to evolve, community-based approaches, such as assessing social vulnerability factors contributing to poverty or predisposing communities to surges in addiction, must be examined. The complexity of using these data sources and metrics requires advanced yet approachable analytic methods.

SAS is experienced in applying models to public health threats, which could be translated to WVDHHR's behavioral health epidemiological needs. COVID-19 tested public health entities' response due to its' sheer size and numbers, taxing the ability to respond and adapt quickly. The SAS Platform was used by numerous public health agencies throughout the pandemic, automating data loading, merging, and cleaning processes, surveillance and analysis efforts detecting outliers, and pulling in unstructured text contained in case reports to better inform surveillance needs in addition to providing case management. SAS continues to be a statistical mainstay in public health. SAS also led an examination of unintentional deaths, where we applied advanced analytics to derive value from the literals or unstructured text for additional data-driven insights outside of a primary or secondary cause of death. When applied to situations involving opioids, this approach could help identify when multiple substances and which substances are contributing to unintentional deaths.

Flexibility in Modeling

While many predictive models are built in SAS, there is also great flexibility in building models. Those who do not want to write code can build, compete, and maintain predictive models through drag-and-drop interfaces. Further, when coding is desired, analysts are not limited to the SAS language. Our cloud-native platform seamlessly supports the use of open-source languages, such as Python, R, Java, and Lua. For example, a Python user could load a SAS integration module called SAS SWAT (Scripting Wrapper for Analytics Transfer) into their system and have the full distributed processing power of the SAS platform at their fingertips, as well as the ability to access enterprise data hosted through SAS, all from their existing development environment.

This would also allow WVDHHR to engage with vendors providing specialized pre-developed AI algorithms and frequently run them within the SAS platform, giving WVDHHR the trust and control over a single integrated data platform. Moreover, open-source platforms often lack enterprise features such as governance and control, as well as the ability to operationalize statistical models or code. By integrating open-source development environments with the SAS Platform, models can easily be deployed to production, monitored, and even retrained when needed. Due to the scalability of cloud-based solutions, our platform can adapt to changing user demand over time, reducing operational expenses when system utilization is low while providing optimal performance during peak loads.

SAS Technical Proposal [Section 4.0]

Project Goals and Proposed Approach [4.2; 6.2]

Approach & Methodology to Goals/Objectives [4.2.1; 6.2]

Using predictive analytics to detect, predict, and evaluate responses to shifts in a community's behavioral health needs and potential threats to human health requires a comprehensive enterprise strategy. An "Enterprise" approach is characterized in how it:

- Provides a statistically informed, unbiased view of critical data assets across programmatic and departmental boundaries for improved response to individual and community needs.
- Helps coordinate evidence-based treatment, prevention and recovery efforts across all department programs and stakeholders
- Focuses on predicting emerging threats (e.g., opioid fatal overdoses) and ways to mitigate morbidity and mortality
- Optimizes data architecture for data modeling by refining and scoring data systems, sources, and elements prior to epidemiologic processes
- Leverages a single platform with built-in decision intelligence analytics, including data mining and ML, and network analytics, with all foundational statistical tools and visualization objects present
- Uses advanced analytic techniques to evaluate which data is best suited to migrate over and which models are appropriate for development subsequently used for ML followed by deployment of training data.

SAS' goal is to assist West Virginia in creating strong behavioral health-focused predictive analytics capacities across the enterprise for robust data-driven intervention and prevention strategies.

Cleansing and Transformation of State Datasets for Use in Data Modeling [4.2.1.1]

SAS provides a range of training to support cleansing, transformation, and other data preparation activities. We applaud WVDHHR for recognizing this educational aspect of the project as a core part of the proposed work. SAS empowers appropriate staff to complete all data preparation tasks, and our staff can also augment WV's capacity to do these tasks, as needed.

Data preparation is a key step for the proposed platform, involving several data processing steps to profile, parse, standardize, transform, and harmonize data elements extracted from various data sources. Any entity resolution to link records across data sets requires standardized data for accurate results. In the future, WVDHHR could leverage this same architecture to develop an analytical warehouse where WVDHHR tables are integrated to ensure down data silos are removed.

The SAS Platform contains a guided, interactive data preparation tool that enables non-technical users to transform, blend, shape and standardize data in an interactive, visual environment that

guides users through the data preparation processes. The solution transforms affected results, providing visual feedback in near-real-time through the distributed, in-memory processing. The solution combines structured and unstructured data across databases, systems, agencies, and third parties, as well as sophisticated data quality techniques, including data matching and deduplication.

The SAS Platform enables data process monitoring that can be configured to execute data profiling reports from newly added data sources and on data sources that have already been incorporated into a process. This minimizes the occurrence of unexpected values, ranges, or formats in our data. Our solution provides non-technical users with insight into the data quality through reports and alerts so action can be taken to resolve data exceptions.

Once data has been verified as fit for processing, the appropriate standardization, enrichment, and integration, including matching and clustering, can be applied in processes that are also monitored for success. Matches, non-matches, standardized rows, and applied enrichment can be reported surfaced.

Through this solution, data scientists and analysts can confidently process millions of rows of data and execute complex joins. It also means that the SAS platform can perform data profiling, create stored procedures, and consume the output of data profiling near real-time using summary tables and advanced visualizations.

Hosted, Secure Cloud Data Repository [4.2.1.2]

SAS offers multiple methods for reliable, secure electronic file transfer, including secure shell file transfer protocol (SFTP). SAS will work with WVDHHR to understand the requirements and come up with a mutually acceptable solution regarding the extent and requirements associated with Extract, Transform and Load (ETL).

WVDHHR analysts may begin by uploading data or using existing data tables to create a new report or start with an existing report. Excel, CSV, and data tables can be dragged directly onto the workspace to begin analysis immediately without going through complicated manual import screens.



Figure 2. Excel, CSV, and data tables can be dragged directly onto the workspace to begin analysis immediately.

18 Projects over 12 Months [4.2.1.3]

SAS acknowledges that these projects will be completed within the set forth time frame, employing the methodology described in the SAS' Staffing Plan [4.3.1.2] section and the procured software and services described herein.

Technical Support [4.2.1.4]

SAS acknowledges Scope of Work documents will detail the amount of technical support, not to exceed 5 hours per active project per week. A key goal of our implementation and training process is to enable WVDHHR with the tools that they need to be. This includes providing tools and resources to find quick answers to issues that may arise. We do this by including a variety of self-help resources as part of our licensing agreements and by providing a full range of electronic support services.

Services are subject to the following assumptions:

- Services approach and needs will be mutually agreed upon and contracted prior to performing any work and will be based on actual customer needs.
- Services provided may be subject to higher tiered monthly minimum commitments as needs scale up or down. A minimum commitment of 20 hours per month is assumed.
- SAS will provide WVDHHR with a consultant that is knowledgeable and experienced in performing data management and data integration with SAS software.

SAS makes it seamless for our customers to obtain help by including telephone, email, chat, and online support as part of the annual licensing.

For non-urgent issues, WVDHHR is encouraged to access Technical Support via the channel of their choice to reach our 24/7/365 technical support teams. These channels include:

- ◆ **Non-Urgent Phone (9:00 am to 8:00 pm US Eastern time)**
– 1-800-727-0025 (US and Canada)
- ◆ **Chat (9:00 am to 6:00 pm US Eastern time)**
– Chat With SAS Technical Support | www.sas.com/chat-technical-support
- ◆ **Customer Support site (available 24/7/365)**
– Support | www.sas.com/support
- ◆ **Email (available 24/7/365)**
– Email SAS Technical Support | www.sas.com/email-sas-technical-support

For complete current information regarding SAS Technical Support services and policies, please refer to:

- ◆ Technical Support Policies | www.sas.com/support/techsup/support

Licensed Users [4.2.1.5]

SAS acknowledges that WVDHHR will require ten users and has proposed software usage that will meet this requirement. Additional details regarding usage of SAS VML are included in **Sections 4.2.2.4.3 and 4.2.2.4.3.1.**

Approach & Methodology to Compliance with Mandatory Project Requirements [4.2.2; 6.2]

SAS will provide WVDHHR access to our training resources and programs developed in collaboration with our customers and partners for more than four decades. SAS will develop a mutually agreed upon training plan with WVDHHR to be sure users are optimally placed in available courses.

SAS will provide 40 hours of interactive, instructor lead, virtual training for up to 10 agency staff covering the data cleansing and transformation tools and predictive analytics software. SAS recommends the following courses, which provide segments for Data Transformation, Predictive Analytics for Developers, and Predictive Analytics for Viewers:

Administrators

• Viya® Administration Fast Track

3,200 training points per student * 2 students = 6,400 training points

Users

Self-Service Data Preparation in SAS® Viya®

Private Live Web = 12,100 training points (up to 15 students)

SAS® Visual Analytics 1 for SAS® Viya®: Basics

Private Live Web = 12,100 training points (up to 15 students)

SAS® Visual Statistics in SAS® Viya®: Interactive Model Building

Private Live Web = 12,100 training points (up to 15 students)

Machine Learning Using SAS Viya

Private Live Web = 12,100 training points (up to 15 students)

Programming for SAS® Viya®

Private Live Web = 6,050 training points (up to 15 students)

Building SAS® Studio Flows in SAS® Viya®

Private Live Web = 5,400 training points (up to 15 students)

Sessions will be recorded. Details of these courses can be found at

www.sas.com/en_us/training/overview.html

SAS is also pleased to offer our SAS Viya Learning Portal with resources that are curated and delivered conveniently by accessing the online Portal. For your convenience, the recommended

private web classes will be provided during regular business hours, and will never exceed 8 hours per business day, while the portal is an on-demand resource available as you see fit.

Accessing the portal, you will find an easy-to-navigate interface, including “getting started” eLearning, documentation, blogs, and recorded webinars/tutorials. Access to the SAS Viya Learning Portal is based on the software terms. Start date, renew dates and expiration dates, as well as number of users, follow the same software terms for a seamless experience.

Data Repository/Secure File Transfer [4.2.2.2]

4.2.2.2.1.1 Vendor will provide adequate Cloud storage and compute resources for 10 Agency users and up to a total of 18 Agency projects, adding resources as necessary to avoid performance degradation.

The hosting environment will include 4 TB of raw NAS storage (approximately 2.5 TB usable storage) per environment. The right amount of storage is customizable and must take into consideration the expected size of input data, user workspaces, the volume of projected output content and the preference of the customer. The proposal includes two environments: Production and Development.

4.2.2.2.1.2 Agency staff must be able to securely transfer data and models in formats including, but not limited to those included in 4.2.2.4.2, to the Agency SFTP for use with other Agency software.

SAS offers reliable, secure electronic file transfer via secure shell file transfer protocol (SFTP).

4.2.2.2.2 Data repository shall include industry standard antivirus and antimalware protection. Vendor must name the products utilized in their response.

SAS must ensure that the operating system has in place supporting technical controls such as antivirus, host-based (personal) firewalls or port filtering tools, and logging as part of its baseline.

4.2.2.2.3 Data in the repository shall be encrypted both at rest and in transit.

SAS encrypts customer data using Advanced Encryption Standards (AES-256) encryption while in transit, and at rest. As required by customer contract and regulation and as feasible the solution, data in use may be encrypted. FIPS-140-2 validated cryptographic modules are used within the restricted hosting environment. When adequate technology solutions do not exist to accomplish full encryption as specified, other compensating security controls are employed.

SAS utilizes enterprise-level certificate and key management systems. Cryptographic keys are managed using a secure password management system, as appropriate to the technology. The password management system encrypts the keys that are stored within it. When applicable, the password management system is tied to AD to ensure only authorized users have access. The password management system is used to generate, store, and destroy encryption keys. SAS uses publicly known trusted third-party CA for external SSL certificates. SSL certificates are SHA-2 certificates with 2048-bit key lengths or higher. Trusted CA external certificates are stored in the password management system, which is a FIPS-compliant solution that uses compliant ciphers and key lengths. Customer encryption keys are used when the customer utilizes solution federation or PGP keys.

NOTE: Products will comply with FedRAMP standards to maintain our certification.

4.2.2.3.1 All mechanisms used to encrypt data shall be FIPS 140-2 compliant and operate using the FIPS 140-2 compliant module (Standards available on the National Institutes for Standards and Technology (NIST) Website – <https://csrc.nist.gov/publications/detail/fips/140/2/final>). Vendor must name any products utilized to provide encryption.

SAS encrypts customer data using Advanced Encryption Standards (AES-256) encryption while in transit, and at rest. As required by customer contract and regulation and as feasible the solution, data in use may be encrypted. FIPS-140-2 validated cryptographic modules are used within the restricted hosting environment. When adequate technology solutions do not exist to accomplish full encryption as specified, other compensating security controls are employed.

SAS utilizes enterprise-level certificate and key management systems. Cryptographic keys are managed using a secure password management system, as appropriate to the technology. The password management system encrypts the keys that are stored within it. When applicable, the password management system is tied to AD to ensure only authorized users have access. The password management system is used to generate, store, and destroy encryption keys. SAS uses publicly known trusted third-party CA for external SSL certificates. SSL certificates are SHA-2 certificates with 2048-bit key lengths or higher. Trusted CA external certificates are stored in the password management system, which is a FIPS-compliant solution that uses compliant ciphers and key lengths. Customer encryption keys are used when the customer utilizes solution federation or PGP keys.

4.2.2.3.2 Storage devices where data has resided must be securely sanitized according to MARS-E MP-6 Media Sanitization security prior to use. A guidance document is available at the Centers for Medicare and Medicaid Services website (<https://www.hhs.gov/guidance/document/minimum-acceptable-risk-standards-exchanges-mars-e-20>).

When required by contract or regulation, data is sanitized using methods consistent with guidance provided in *NIST SP 800-88 Rev. 1, Guidelines for Media Sanitization*, and higher-level sanitization, as appropriate for customer data stored in Cary Data Centers.

4.2.2.4 Data repository shall include a perimeter firewall. Vendor must identify the firewall that is used.

For third-party cloud service providers, access control lists are employed using industry standards to ensure secure, private networks within the public cloud. Third-party cloud service providers utilize a combination of security groups, subnets, virtual private networks, network ACLs, and firewall appliances, as appropriate.

Changes to third-party cloud service providers' software-defined firewall functionality is peer-reviewed by the SAS Cloud/IaaS engineers, approved by appropriate management, and recorded in the change management system.

SAS Global Information Security team performs network boundary control reviews in SAS data centers, and third-party cloud service provider environments are performed through periodic network scanning procedures and audits.

In addition, a network penetration test is conducted annually by a third-party firm coordinated by SAS GIS. A letter of attestation regarding the completion of this test is provided to hosted customers upon request.

NOTE: The solution will be IP allowlisted, in alignment with SAS' current implementation model.

4.2.2.2.5 Data will be stored in at least two geo redundant locations making it improbable that a single event, whether naturally occurring or manmade, will impact both locations. In the event operations are interrupted at the primary data center, Agency operations will be shifted to the secondary location within 4 hours.

Disaster Recovery options typically have a significant impact on hosting costs due to the need for additional hardware up to and including provisioning of an identical parallel production environment. The combination of increased hosting costs and our customer's comfort level with SAS' Continuity of Business and data backup plan makes it so the vast majority of SAS' customer do not purchase additional Disaster Recovery service. SAS welcomes the opportunity to discuss these requirements further so that we can mutually arrive at a solution that best fits your needs.

SAS' standard offering includes data backups with a 2-month retention period. During this rolling period, SAS performs daily incremental, weekly, and monthly full backups. SAS uses commercially reasonable best efforts to restore all environments should they become unavailable. In addition, SAS guarantees the uptime SLA of 99% as the amount of time (excluding scheduled maintenance) that hosting services are available as defined in the applicable customer agreement.

Policy	Type	Description	Volumes	Day	Start	Stop	Retention
UNIX / Windows	Daily Incremental	Daily differential incremental backup	OS and non-replicated volumes on all UNIX / Windows servers	Sunday through Thursday (five (5) days)	6pm	6am	14 days
UNIX / Windows	Weekly full	Full	OS and non-replicated volumes on all UNIX / Windows servers	1st, 3rd, 4th, and 5th Friday of month	Friday @ 6pm	Sunday @ 6pm	2 months
UNIX / Windows	Synthetic full	Full (every 28 days)	OS and non-replicated volumes on all UNIX / Windows servers	2nd Friday of month	Friday @ 6pm	Sunday @ 6pm	2 months

SAS Business Continuity Management Program Whitepaper:

https://www.sas.com/content/dam/SAS/en_us/doc/other1/continuity-of-business.pdf

4.2.2.2.6 Vendor shall scan incoming data for fields that appear to contain Personally Identifiable Information (PII) or other sensitive data types and reject flagged files back to the Agency to verify no sensitive data is included.

SAS is able to scan incoming data for pre-determined characteristics as established by WVDHHR. To assist with this process, SAS provides a structure for classification of incoming data called the

SAS Data Classification and Handling Standard (DCHS). SAS would work with WVDHHR, as the owner of the data, to review, modify, and approve the use of the DCHS to determine the appropriate classifications. Once the data is classified, the assigned SAS resource will handle the incoming data according to those classifications. This functionality must be performed manually; therefore, this step must be factored into the scope and cost estimate for each project.

4.2.2.2.7 Vendor shall acknowledge that all data in the repository is the property of the Agency and will be provided to the agency upon request. Data in the repository at the end of the contract period will be provided to the Agency in a mutually agreeable format and upon written notice by the Agency, all copies in the possession of the vendor will be destroyed with a certificate of data destruction provided to the agency.

WVDHHR retains ownership to Customer Materials and any data that is derived from using an Offering.

4.2.2.2.8 Agency will upload cleansed and transformed data to the Agency SFTP Server and notify the vendor by email when it is available. Vendor will move the data from the SFTP server to the data repository.

SAS offers multiple methods for reliable, secure electronic file transfer, including secure shell file transfer protocol (SFTP). All data received from WVDHHR is automatically moved from the SFTP server to the customer's hosted environment. No data is ever stored outside of the customer's equipment.

4.2.2.2.9 Vendor will certify that the hosted cloud environment satisfies MARS-E privacy controls (available at <https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/3-MARS-E-v2-0-Catalog-of-Security-and-Privacy-Controls-11102015.pdf>), including privacy training and awareness, and rules of behavior.

SAS monitors external standards and best practices, as well as industry and regulatory requirements that may be applicable to its customers. As such, SAS may benchmark its policies, processes, and standards against relevant laws, third-party frameworks, and government or regulatory frameworks. The laws, third-party and regulatory frameworks, and standards that SAS may consider for a given customer implementation include, but are not limited to, Minimum Acceptable Risk Standards for Exchanges (MARS-E) and Federal Risk and Authorization Management Program (FedRAMP) Moderate Baseline Security Controls for Moderate Impact Cloud Systems.

The proposed solution will be hosted in SAS' FedRAMP certified Tenant to the moderate baseline (PaaS) in Azure Commercial Cloud, currently expected to be available in Q2 of 2023, and pending approval by our Authorizing Agency.

SAS will participate in West Virginia's applicable security assessment and authorization process and work with their internal auditors or other third-party assessor to verify the solution against MARS-E controls, as mutually agreed and required. Alternatively, consideration may be made to leverage SAS' FedRAMP System Security Plan (SSP), Security Assessment Report (SAR) baseline Moderate/PaaS, associated Plan of Actions and Milestones (PoAM) and Continuous Monitoring artifacts. FedRAMP standardizes the security assessment and authorization process for cloud products and services used by U.S. federal agencies. The goal is to establish confidence in the security of the cloud service so that SAS' customers can trust the solution we are providing. This important certification mitigates risk, ensures consistency, and requires constant review (controls are tested annually by an external, accredited, third-party assessment organization).

4.2.2.10 Vendor agrees that the hosted cloud environment will be available to Agency staff for data transfer and data modeling 99% of the time, 24 hours per day, 7 days per week, with the exception of scheduled downtime.

Yes, SAS measures monthly service-level availability (SLA) as the amount of time (excluding scheduled maintenance) that hosting services are available as defined in the applicable customer agreement. Defined SLAs, which are typically 99% or higher, are documented in the applicable customer agreements.

4.2.2.2.10.1 Vendor proposal shall include maintenance windows and scheduled downtime which shall occur in off-peak hours, between 8:00 p.m. and 6:00 a.m., Eastern Time (ET) Monday through Friday or on Saturday, Sunday or State Holidays.

Yes, as part of its ongoing effort to provide reliability, security, and availability for its customers, SAS performs regular maintenance on most of its hosted environments over the third weekend of each calendar month. Activities generally include the application of patches and updates, as well as maintenance to leveraged systems and infrastructure. By contract, SAS reserves the entire third weekend to perform maintenance. The SAS project owner uses the ticketing system to notify customers and provide details about the scheduled maintenance. Due to the nature of the maintenance, SAS project owners advise that customers take appropriate precautions for the duration of the window, as the hosted system should be considered unavailable.

4.2.2.2.10.2 Vendor shall provide a system downtime report delineating both scheduled and unscheduled downtime for the month, with each monthly invoice for cloud services.

SAS' hosting service level warranty, including the calculation of System Availability, is fully explained in SAS' Hosted Managed Services Service Level Warranty Addendum, attached to this response.

4.2.2.2.10.3 Vendor agrees that for any month unscheduled downtime is greater than 1% but less than 2.51%, Agency may deduct 2.5% from the total due on the monthly invoice. If unscheduled downtime is equal to, or greater than 2.51%, Agency may deduct 5% from the total due.

SAS' Service Level Warranty is fully explained in SAS' Hosted Managed Services Service Level Warranty Addendum attached to this response. When availability is 98.99% - 98.5%, customer may request a service credit of 4% of the monthly Hosted Managed Services Fees; when availability is < 98.49%, customer may request a service credit of 7% of the monthly Hosted Managed Services Fees.

Data Modeling Projects [4.2.2.3]

4.2.2.3 Data Modeling Projects	SAS Acknowledgment and Compliance
<i>4.2.2.3.1 Agency will initiate project requests by preparing a data set and uploading to the SFTP server. Vendor shall move the dataset to the hosted cloud repository. Agency staff will perform preliminary data modeling in the cloud before initiating a project with the vendor.</i>	SAS understands this requirement and will make available the dataset within the hosted Solution.
<i>4.2.2.3.2 Within 2 business days of a request to initiate a project, Vendor shall schedule a meeting with Agency staff to occur within 5 business days. Agency and vendor will determine the project scope including desired outcomes, number of models desired, and a not to exceed estimate of project duration (expressed in hours of support required per week). Within 2 business days after</i>	SAS understands this requirement and will comply with the set forth meeting timeline unless otherwise mutually agreed upon.

<i>the meeting, the vendor will provide a draft project scope for Agency approval.</i>	
<i>4.2.2.3.3 Upon receipt from the Agency of an approved project scope vendor shall begin providing up to 5 hours of data scientist support per week to the Agency project staff at the data scientist billable rate proposed in the RFP response until the scope of work is satisfactorily completed. Vendor or Agency may request fewer support hours per week, spreading the total hours over a longer period of time but any such modification shall require mutual agreement of the parties in the project scope.</i>	SAS understands this requirement and will comply.
<i>4.2.2.3.4 Vendor agrees that the project duration in the scope of work is a not to exceed estimate and the hours billed shall represent actual hours worked.</i>	SAS understands this requirement and will comply.
<i>4.2.2.3.5 Agency may request changes to the scope of work resulting in a modified scope of work. Vendor shall prepare a new estimate of required support for the modified Statement of Work. Changes in scope that add no more than 25% to the project duration shall be considered a project change and added to the maximum billable hours for the project. A scope change that adds greater than 25% shall be considered a new project.</i>	SAS understands this requirement and will comply.
<i>4.2.2.3.6 Vendor shall support up to 18 total projects during the 12 month life of the contract including up to 6 projects concurrently.</i>	SAS understands this requirement and will comply.
<i>4.2.2.3.7 Agency may adjust the priority of projects, placing a lower priority project on hold to keep the number of concurrent projects to six or fewer. Vendor shall accommodate the Agency priorities.</i>	SAS understands this requirement and will comply.
<i>4.2.2.3.8 Upon contract award, the Vendor shall designate one primary contact and at least one backup that will be the initial point of contact for all project engagements under this contract. Only projects properly initiated with the Vendor point of contact are valid projects under the contract.</i>	SAS understands this requirement and will assign a consultant to work in a staff augmentation manner at the direction of the Customer per the description in Section 4.2.1.4 . SAS will also identify a backup contact.

Required Software [4.2.2.4]

SAS Visual Machine Learning on the Viya 4 Platform

SAS Visual Machine Learning (VML) assists agencies to access, manipulate, analyze, and present information in visual formats using a powerful combination of SAS technologies. With SAS VML, organizations can broaden their analytics capacity with machine learning and deep learning capabilities that are accessible across the organization for better visualization and reporting.

The following graphic details specific features of visual machine learning models within the SAS solution. All models include automated generation of SAS code for production scoring.



Figure 3. Features of ML Models Available in SAS Visual Machine Learning

Products included in SAS® Visual Machine Learning:

- **SAS Visual Analytics**
Visualize and discover relevant relationships in your data. Create and share interactive reports and dashboards, and use self-service analytics to quickly assess probable outcomes for smarter, more data-driven decisions.
- **SAS Visual Statistics**
Explore data and build or adjust predictive analytical models with this solution running in SAS® Viya®. Data scientists, statisticians, and analysts can collaborate and iteratively refine models for each segment or group to make decisions based on accurate insights.
- **SAS Visual Data Mining and Machine Learning**
Solve complex analytical problems with a comprehensive visual interface that handles all tasks in the analytics life cycle. SAS Visual Data Mining and Machine Learning, which runs in SAS® Viya®, combines data wrangling, exploration, feature engineering, and modern statistical, data mining, and machine learning techniques in a single, scalable in-memory processing environment.
- **SAS Studio Analyst**
Access data files, libraries and existing programs – or write new ones – with this developmental web application accessible through your browser. With SAS Studio, you can use predefined tasks to generate SAS code. When you run a program or task, the technology processes the SAS code on a SAS server, which can be a server in a cloud environment, in your local environment, or SAS installed on your local machine. After the code is processed, the results are returned to SAS Studio in your browser.
- **SAS Information Governance**
Capture and enrich metadata for files, tables and other information assets. SAS Information Catalog can be used as the repository of metadata, including information on entities, attributes, relationships and domains. It enables you to discover and document how data fits together, plus it provides a common vocabulary around data.
- **SAS for Microsoft 365**

Use the power of SAS analytics and access data directly from Microsoft Excel, Microsoft Word, Microsoft PowerPoint and Microsoft Outlook with this component object model add-in. While the functionality varies among Microsoft applications, it's generally the same among Excel, PowerPoint and Word and enables you to run analyses, generate reports and share SAS content with other users at your site.

- **Data Preparation**

This offering adds enhancements to SAS® Viya®, including advanced data profiling features, data quality transformations for SAS Data Studio and programming interfaces for data quality operations.

- **SAS/QC**

Improve products, optimize processes and increase levels of customer satisfaction with statistical process control software. SAS/QC enables you to go beyond basic process control to incorporate more advanced statistical analyses for additional insights into processes and product improvements.

- **SAS/CONNECT**

This client/server toolset establishes connections between networked computers with different operating systems and offers scalability through parallel SAS processing. By providing the ability to manage, access and process data in a distributed and parallel environment, SAS/CONNECT enables users and developers to combine computing resources across varying architectures and SAS releases.

- **SAS Model Manager**

Register, modify, track, score, publish and report on analytical models with this web-based application. SAS Model Manager enables you to store models within folders or projects, develop and validate candidate models, and assess candidate models for champion model selection – then publish and monitor champion models.

4.2.2.4.2 Predictive analytics software proposed in response to this RFP must have the capability to process text data via natural language processing and must handle multiple file formats including, but not limited to (.csv, .tsv, .dsv, .xls, .xlsx, .sas7bdat, .geojson, .gz, .bz2, .tar, .tgz, .zip). The software must be able to export data in formats that are compatible with popular data visualization software including, but not limited to Tableau and Microsoft Power BI.

The SAS platform provides natural language processing and text analytics, which not only ingests text data but also analyzes which phrases or words represent patterns or themes. Valuable in assessing batches of free-form text data, this analytic feature provides insight into what was previously a manual experience. Text analytics capabilities from SAS foster collaboration and information sharing through an ecosystem that integrates easily with existing systems and open-source technology. You can use SAS to:

- Get more value from your analytics investments with our open, user-friendly platform incorporating multiple techniques – NLP and text analytics, machine learning, linguistic rules, search and model-building capabilities.
- Automate and rapidly scale the traditionally manual processes of reading, organizing and extracting useful information from huge volumes of textual data.
- Increase the accuracy of text models by combining NLP methods with a rules-based approach that can be enhanced with subject-matter expertise.
- Generate models designed to help you easily extract concepts, detect common topics and effectively analyze public sentiment – with support for 33 different languages

Our solution uniquely offers the Agency's various users the ability to design, develop, and deploy actionable analytics, regardless of technical acumen interactively and effectively. Each user can leverage SAS tools and reports to quickly analyze huge amounts of diverse data to quickly identify patterns, trends and relationships within your data. Moreover, with recent college graduates being trained with open-Source tools, when considering vendors, ensure that integrating with open-Source tools are also part of the vendor offering. **Our solution also supports exporting data-driven insights into third party reporting tools, such as Tableau and Microsoft PowerBI. We can demonstrate these capabilities, if requested.**

4.2.2.4.3 Vendor will clearly identify any software that is proprietary and will explain the basis for software licenses including whether the licenses are named user licenses or concurrent user licenses; whether licenses are annual or perpetual; any requirements requiring software to be under vendor support contracts; etc.

The solution proposed by SAS includes hosted access to the SAS software product SAS VML on an annual basis. For the five authorized users requiring full unlimited predictive analytics and modeling capabilities as required by this RFP, access would be concurrent.

4.2.2.4.3.1 Vendor proposal shall indicate whether licenses are transferable (from an Agency staff member leaving the project to a new staff member) and whether and, how a license might be upgraded during the license term, for instance from a view only license to a license with full access to SW features.

Per WVDHHR requirements outlined in this RFP, software access for the five authorized SAS VML users would be transferrable in the event of staffing changes at the agency over the course of the project. Access for visualizations/viewing only can be upgraded at the request of the agency at any time to authorized user access, thereby granting the user a full range of analytic capabilities.

4.2.2.4.4 Vendor will clearly identify any required third party software, if Vendor is an authorized distributor of such third party software or if the Agency will have to procure their own licenses. (NOTE: Where an existing Agency or Statewide Contract includes the required third party software, Agency reserves the right to purchase from the existing contract rather than from the Vendor.)

No third party vendor software is required.

4.2.2.4.5 Vendor will address their approach to SW version and release updates (including bug am unfixes). The response should include details regarding what updates are required vs. optional; the amount of notice the Agency will be provided for routine updates; the amount of notice the agency will be provided for bug fixes; etc.

SAS uses a continuous integration, continuous delivery (CI/CD) process that allows agencies to choose their release intervals, so they gain access to the latest product innovations the moment they're ready or can incorporate updates into their own change-management schedules.

Releases and Versions:

SAS offers the following release cadences for SAS Viya:

- For the Stable cadence, software is released monthly. The latest release for the Stable cadence contains the most up-to-date software, which can include new features, enhancements to features, bug fixes, and security patches. The version numbers for a Stable release follow this pattern: yyyy.n.n (example: 2021.1.1).

- For the Long-Term Support cadence, software is released once every six months and is based on a recent prior Stable release. The version numbers for a Long-Term Support release follow this pattern: yyyy.n (example: 2021.1).

The following table provides the typical schedule for the release cadences and versions. Use the table for guidance when updating the software to a new version.

Releases by Month

Month	Stable Version	Long-Term Support Version
May ¹	yyyy.1.1	yyyy.1
June	yyyy.1.2	
July	yyyy.1.3	
August	yyyy.1.4	
September	yyyy.1.5	
October	yyyy.1.6	
November	yyyy.2.1	yyyy.2
December	yyyy.2.2	
January ²	yyyy.2.3	
February	yyyy.2.4	
March	yyyy.2.5	
April	yyyy.2.6	

¹ Each May, the year is reset to the current year and the version numbers are also reset: to 1.1. for the Stable version and .1 for the Long-Term Support version.

² For the January through April releases, the previous year is used in the version numbers.

Note: SAS delivers patch updates as soon as critical fixes are available rather than waiting for the next scheduled software release.

Qualifications and Experience [4.3; 6.2]

Qualifications and Experience Generally [4.3.1; 6.2]

SAS' Five Years' Experience Providing Predictive SW, Including Machine Learning and Artificial Intelligence, to Companies and Agencies in the United States [4.3.1.1]

As the leader in predictive analytics, SAS has been providing services related to this RFP within the United States for over 45 years across all industries. While our company began in working with local, state, and federal agencies, we also have decades of experience working with private sector and non-profit agencies, bringing depth of experience to make recommendations to WV DHHR. Predictive analytics, including AI and ML, tends to be more advanced in non-health (especially non-behavioral health) industries. However, the processes and methodologies are similar, and we can take lessons learned from these other industries and use cases to apply to the WV DHHR context, so some non-health examples are included below. International examples are included in the exceeds requirements section of this response.

Opportunity Analysis/Risk Stratification

A common use case for predictive analytics is opportunity analysis/risk stratification to help proactively identify who needs to be engaged for prevention and early intervention in addition to suggesting next best actions. A free on-demand webinar by Dr. Josh Morgan and Jay King, showcases increasingly advanced ways to use technology in developing tailored risk stratification for your community and initiatives is available at https://www.sas.com/en_us/webinars/analytics-support-whole-person-care.html.

Some examples of SAS-powered opportunity analysis/risk stratification, including gaining a more holistic view, include:

- The **San Bernardino County Department of Behavioral Health** integrated data from behavioral health, the public hospital, public health, Sheriff health, and the Homeless Management Information System to create a custom heuristic scoring risk stratification to drive outreach and engagement under the 1115 Whole Person Care Waiver. For the full customer success story, please visit: https://www.sas.com/en_be/customers/san-bernardino-county-health.html
- In partnership with **Canada Health Infoway (Infoway)**, a not-for-profit organization funded by the Canadian government to help improve health by accelerating the development, adoption, and effective use of digital health across Canada, SAS used text analytics to predict suicide risk with publicly available Twitter data, informing public health prevention efforts in Canada. For the full customer success story, please visit: https://www.sas.com/en_us/insights/articles/analytics/using-big-data-to-predict-suicide-risk-canada.html
- The **Virginia Commonwealth University (VCU) Massey Cancer Center** is working with SAS Health to use health analytics to power vital research into higher cancer and mortality rates among low-income and vulnerable populations. Integrating data is helping identify risk factors associated with cancer such as aging, weight, tobacco and alcohol use, sun exposure, air and water quality, family history, diet, and physical activity. For the full customer success story, please visit: https://www.sas.com/en_us/news/press-releases/2022/january/sas-and-vcu-massey-cancer-center-to-explore-disparities-in-cancer.html
- **Wake County** and SAS engaged in a project to better identify “familiar faces,” high utilizers of multiple county health and non-health systems, in order to better inform policy, funding, and interventions. For the full customer success story, please visit: <http://www.wakegov.com/humanservices/behavioralhealth/Pages/innovation.aspx>
- The **Economic Roundtable** used SAS and created the Silicon Valley Triage Tool for Santa Clara County, identifying high cost homeless residents, integrating a range of health and non-health data sets. This is a weighted scoring risk stratification model. The lead analyst for this model is now a data scientist at SAS and regularly consults on similar projects to what WVDHHR is proposing. For the full customer success story, please visit: <https://economicrt.org/publication/silicon-valley-triage-tool/>

Health Providers and Plans

Non-profit health systems and health plans are frequent users of SAS, conducting epidemiological assessments and predictive modeling. These agencies also often collaborate with federal, state, and local governments.

A prime example of this public-private partnership is Healthy Nevada. Leading the analytics is the academic Desert Research Institute, partnering with locally governed not-for-profit healthcare network, Renown Institute for Health Innovation (Renown IHI), and government agencies, including the Governor's Office and the Environmental Protection Agency. By combining genetic data, environmental data and individual health information, researchers and physicians are gaining new insight into population health, creating 10-year health predictions, which enable personalized health care while improving the health and well-being of entire communities in Nevada. **"We're working to understand how environmental factors can help predict who may be at risk, allow for quicker diagnoses, and encourage the development of more precise treatments," says Jim Metcalf, Chief Data Scientist of the Healthy Nevada Project. "The modern statistical and machine learning methods, along with the intuitive data visualizations made possible by SAS, have been critical elements of our success to date."** For the full customer success story, please visit: https://www.sas.com/en_us/customers/healthy-nevada-project.html.

In the non-profit provider space, Cleveland Clinic and SAS have long been partners to develop analytics that not only benefit Cleveland Clinic, but also the nation and world. Together, our teams developed COVID-19 predictive models to help hospitals plan for current and future needs and provided these models freely via GitHub. More information about this initiative is available at https://www.sas.com/en_us/news/press-releases/2020/april/cleveland-clinic-and-sas-share-covid19-predictive-models.html. Cleveland Clinic's Lead Data Scientist explained more about their predictive analytics efforts during COVID-19 in a free webinar: https://www.sas.com/en_us/webinars/cleveland-clinic.html.

In the managed care space, Cigna Healthcare has been using SAS to integrate and analyze data across medical, pharmacy, and behavioral health sources. Predictive modeling has helped identify those at risk of chronic diseases or an acute health event. This identification can alert a case manager or health coach when a member needs intervention, increasing member engagement, improving outcomes, and reducing total medical costs while making complex condition management easier and more affordable.

Non-Healthcare Government

Two successful examples of SAS partnering with state government on predictive AI and ML initiatives include our work at the Iowa Department of Transportation and the Alcoholic Beverages Division. The projects provide a strong methodological foundation for the scope of work requested by WVDHHR in this RFP:

SAS developed an approach with the Iowa Department of Transportation for predicting winter road conditions to enhance operations and inform where to expend resources (plows and materials) across the interstate system. Iowa and SAS worked to use data to provide faster and more accurate warnings for drivers of poor road conditions to improve safety. Accomplishments of this work have included predicting real time and forecasting road conditions, producing a user

interface for reviewing road data at 15-minute intervals and with data from bordering states, actively monitoring equipment, and making the road condition model available via RESTful API.

The Iowa Alcoholic Beverages Division (ABD) selected SAS to completely transform its business operations. Thanks to the SAS implementation of predictive analytics and forecasting, ABD has eliminated many manual processes and now has a strong comprehension of current and look-ahead demand and inventory. The SAS platform at ABD is fully hosted by SAS and includes a case management system for agency investigators.

University

Similarly, SAS has partnered with universities on predictive modeling, including:

The University of Oklahoma worked with SAS to implement predictive recruiting, increasing the quality and quantity of their applications, especially identifying those most likely to enroll at the University. This helped them be more efficient and effective with their limited resources for recruitment. Similar activities could benefit WVDHHR by identifying those in the community of greatest need of particular types of engagement and supporting next best actions. More information on the University's work is available at <https://blogs.sas.com/content/sascom/2018/07/09/30272/>.

Using SAS predictive analytics, George Mason University's Office of Institutional Research and Effectiveness (OIRE) sought to gain greater insight into its key strategic areas – digital learning, resource allocation, new program development, student success and institutional effectiveness. This kind of work provided surprising findings, which is a significant benefit of predictive analytics, AI, and ML. Specifically, the University learned that experiences a student has at the school, such as internships and part-time work, make a bigger difference in determining employment after graduation than anything on their high school or college transcripts, as was previously thought. Further, they were able to implement their cloud-based predictive analytics services rapidly and effectively. Dr. Thulasi Kumar, George Mason's Associate Provost, stated, "We were expecting it would take a couple of months to establish cloud-based analytical services. We were pleasantly surprised; it only took a few weeks. Once we have that initial cloud-based platform, we could add additional capabilities within a matter of days." WVDHHR could find similar insights, especially around social drivers/determinants of health and other contextual data.

Private Industry

The National Basketball Association team Orlando Magic has also partnered with SAS to harness the power of predictive analytics. The Orlando Magic uses mobile app data and machine learning to personalize marketing campaigns and analyze game data. This solution uses mobile app information, proximity sensors, historical data, and more to personalize recommendations in real-time, from pregame analyses to seating to best directions through the arena based on lines and crowds. They also use SAS to model the data and predict what products and services fans are likely to purchase. Personalized offers are then automatically sent to fans via push notifications, website banners and emails. More details are available at https://www.sas.com/en_us/customers/orlando-magic.html.

This is a strong example of how predictive analytics, AI, and ML are generally more advanced in non-healthcare contexts. Work similar to this example is powered by SAS across many private agencies. While it may not appear to be relevant to healthcare or the mission of WVDHHR, identifying what kinds of services people may engage with at what point and determining the right way to engage them is increasingly a core mission of modern behavioral healthcare. With SAS, WVDHHR could lead the way in using predictive analytics to activate consumers and families into appropriate care.

SAS' Current Release of SW [4.3.1.1.1]

SAS Viya 2022.1.5

SAS uses a continuous integration, continuous delivery (CI/CD) process that allows agencies to choose their release intervals, so they gain access to the latest product innovations the moment they're ready or can incorporate updates into their own change-management schedules.

Releases and Versions:

SAS offers the following release cadences for SAS Viya:

- For the Stable cadence, software is released monthly. The latest release for the Stable cadence contains the most up-to-date software, which can include new features, enhancements to features, bug fixes, and security patches. The version numbers for a Stable release follow this pattern: yyyy.n.n (example: 2021.1.1).
- For the Long-Term Support cadence, software is released once every six months and is based on a recent prior Stable release. The version numbers for a Long-Term Support release follow this pattern: yyyy.n (example: 2021.1).

The following table provides the typical schedule for the release cadences and versions. Use the table for guidance when updating the software to a new version.

Releases by Month

Month	Stable Version	Long-Term Support Version
May ¹	yyyy.1.1	yyyy.1
June	yyyy.1.2	
July	yyyy.1.3	
August	yyyy.1.4	
September	yyyy.1.5	
October	yyyy.1.6	
November	yyyy.2.1	yyyy.2
December	yyyy.2.2	
January ²	yyyy.2.3	
February	yyyy.2.4	
March	yyyy.2.5	
April	yyyy.2.6	

¹ Each May, the year is reset to the current year and the version numbers are also reset: to 1.1. for the Stable version and .1 for the Long-Term Support version.

² For the January through April releases, the previous year is used in the version numbers.

Note: SAS delivers patch updates as soon as critical fixes are available rather than waiting for the next scheduled software release.

SAS' Staffing Plan [4.3.1.2]

SAS has several methodologies that have been developed globally to expedite project life cycles, enhance project life cycles, enhance project quality, and facilitate knowledge transfer (information sharing).

Implementation of the SAS Expert Consulting Model would meet WV DHHR's need for professional support services as outlined in this RFP. This model focuses on providing highly skilled, cost-effective resources for your SAS support needs. SAS will provide WV DHHS with a consultant that is knowledgeable and experienced in performing data management and data integration with SAS software at a minimum of 5 hours per month sourced either internally or from our partner network.

This consultant will work in a staff augmentation manner at the direction of the Customer and act as the main point of contact for SAS resource needs

Staffing Substitutions [4.3.1.3]

SAS and its partners have a large staff of experienced technical and analytical representatives. Resumes that are exemplary of qualified personnel are attached in the appendix for WVDHHR's review. These resumes are representative of the personnel that would be assigned upon contract award. Staff assignments will be made based on availability within the time frame required for the completion of the project. In the event that personnel leave the project, SAS will identify resources to assume the previous resource's responsibilities.

Exceeding Mandatory Qualification/Experience Requirements [4.3.2; 6.2]

While we discussed a range of predictive analytics, AI, and ML experience throughout this response, we also wanted to highlight our additional expertise and experience that exceeds the mandatory requirements and provides important context and value. In the following sections, we will highlight in greater detail our **deep expertise in applying these skills in the behavioral health space**, demonstrating our ability to support WV DHHR with specific use cases. We also have significant experience with **broader healthcare data integration as well as integrating non-health data**. These experiences can provide WV DHHR many examples of how to continue to expand and grow the value of your predictive analytics platform. Finally, we also highlight our **international experience**. The focus of this RFP's requirements has been on the United States, which continues to be the predominance of our work, but our international experience further helps keep our subject matter and technical resources up to date on the latest trends, including influencing those trends.

In particular, we also would like to note our **West Virginia experience, where the SAS Platform has been deployed for the WV Fusion Center**. The SAS platform that has been implemented is highly customizable. The modular nature of the platform makes it possible to assess officer readiness, drug trafficking, and gun violence, all from one centralized location. SAS users at the

WV health agencies and offices possess the technical skills to leverage the IIM platform housed at the Fusion Center so that together, WV law enforcement and public health organizations can work together from a centralized location to effectively address the complexities of how substance abuse impacts citizens from a safety and wellness perspective.

Behavioral Health Experience

The international publication, Tech HQ, published an article summarizing our work in behavioral health analytics across the world. Our California-based National Director of Behavioral Health and Whole Person Care, Dr. Josh Morgan, was interviewed and quoted in the article. It also highlighted the importance of this work across both public and private sectors, which is particularly relevant to the CYBHI. The article can be viewed at:

<https://techhq.com/2021/10/both-public-sector-and-enterprises-need-mental-health-analytics-to-improve-decision-making/>.

Prior to coming to SAS, Dr. Morgan was the Chief of Behavioral Health Informatics at the **San Bernardino County, the Department of Behavioral Health** (https://www.sas.com/en_be/customers/san-bernardino-county-health.html), which has long used a SAS-powered data warehouse and analytics to conduct support quality improvement and reporting efforts, including to drive program planning and funding decisions. This has been used in evaluating its County-run community health centers, community-based organization contractors, and fee for service network. Further, outcomes reinforced the benefits of field-based outreach and engagement programs as well as mobile crisis interventions, including those co-located with law enforcement. Such evaluations expanded into combining data across multiple County health and non-health departments to risk stratifying underserved groups and identifying who would be at greatest need of additional outreach and engagement.

Determining appropriate metrics and outcomes to evaluate community programs and making policy and funding decisions were central to San Bernardino's work. For instance, the outreach and engagement program is needed to evaluate re-hospitalizations and criminal justice encounters. However, they were also able to take advantage of billing codes to note how the nature of services changed in a positive way. After engagement, consumers received more routine services including treatment planning and care coordination, rather than just assessments and crisis visits. Further, this billing data demonstrated the active involvement of loved ones in care, providing concrete evidence of increases in social support, a core positive metric. Using additional data, like the Adult Needs and Strengths Assessment and Child and Adolescent Needs and Strengths Assessment, the County was able to further provide visibility into broader life impacts of intensive services and project out longer-term equitable outcomes. San Bernardino also used their Platform to conduct more detailed Medicaid penetration rate analysis and network adequacy evaluation, which led to planning for contracting with more providers in particular locations and determining where to build new community clinics.

SAS' and Dr. Morgan's experience with using billing and utilization data to also provide an positive outcomes story helped us provide recommendations to **South Carolina's Department of Health and Human Services** around metrics for community health. They wanted ways to use their existing billing data to go beyond their existing reports on utilization. Our staff partnered with their experts to develop new reports to analyze the impacts of more intensive services, including

changes in the nature of services, such increases in routine outpatient care, rather than just reduction in high levels of care.

Recognizing the need for robust community behavioral health services for the most underserved populations with serious mental illness, the Mental Health Services Act has funded Full Service Partnerships for over a decade. In addition, the **Mental Health Services Oversight and Accountability Commission** (https://www.sas.com/en_us/customers/california-mhsoac.html) has been using SAS to integrate data in its evaluation and oversight role to evaluate and demonstrate the impact of these critical community services. The initial effort focused on evaluating criminal justice recidivism via connecting mental health billing data with Department of Justice arrest data, focusing on particularly negative disparities. Demonstrating the positive impact of these intensive community services on non-health outcomes and reducing disparities has reinforced the ongoing need for this care as well as expanding the evaluation to additional metrics, such as education and employment.

Dr. Dawnté Early joined Dr. Morgan at the SAS Global Forum in 2021 to further describe their work with SAS at the MHSAOC. A mainstage fireside chat is available around the 20 minute mark in the opening session available at https://www.sas.com/en_us/events/sas-global-forum.html. Later, Drs. Early and Morgan were joined by Dr. Marleen Radigan of the **New York State Office of Mental Health** for a breakout session, entitled Whole Person Data Empowers Mental Health Services. This session is available for free and on-demand at https://www.sas.com/en_us/offers/21q3/whole-person-data.html.

As California's Mental Health and Substance Use Disorder External Quality Review Organization, **Behavioral Health Concepts, Inc. (BHC)** provides assessments of statewide and local implementation of the Mental Health Plans and Drug Medi-Cal managed care and fee for service benefits. This includes quality reviews of network adequacy, access to services, timeliness of services delivered, outcomes, and quality improvement approaches. BHC also provides consultation based on these assessments to the State and the plans on a wide range of policy and benefits implementations and decisions. BHC uses SAS for all data management and analytics. SAS augments BHC's analytic capacity, especially for the 1115 Drug Medi-Cal Organized Delivery System (DMC-ODS) Waiver, partnering with BHC to develop and build metrics to evaluate the DMC-ODS Waiver. The evaluation includes both assessment of performance outcomes as well as changes in outcomes due to the new payment methodology implemented in the waiver.

The **Black Dog Institute in Australia** partnered with SAS to support LifeSpan, a suicide prevention program. SAS helped Black Dog implement a data-driven approach to support rigorous evaluation of LifeSpan, including disparate data sets spanning myriad frontline emergency services, health services, universities and government agencies. Because impacting suicide is a long-term intervention, SAS' data solution lets them see how the implementation is going, provides results and is helping to foster engagement in the project. More information on this project is available at https://www.sas.com/en_au/customers/black-dog-institute-lifespan.html

At **Copenhagen Regional Psychiatric Centers**, management needed to find a way to ensure mental health patients' needs were being met while limiting the risk of contagion for patients and staff, both from within hospitals and from the outside. The hospital system partnered with SAS to monitor infections, driving infection control as well as staffing and operational support.

Additional information on their work is available here:

https://www.sas.com/en_us/customers/copenhagen-regional-psychiatric-centers.html

Health and Non-Health Data Integration

The **Los Angeles County Department of Health Services** relies on advanced analytics from SAS to meet contractual reporting needs, identify quality improvement opportunities, and improve cost-effectiveness, especially from a more whole person perspective. They described some of the impact of SAS-powered analytics on their services, decision-making, and evaluations in a recent story available at https://www.sas.com/en_us/customers/los-angeles-county-department-of-health-services.html.

SAS provides consultation and delivery services with **Riverside County**, primarily focusing on Medicaid data, to serve the health needs of the county's nearly 2.5 million people. The County's health agency, integrated as Riverside University Health System (RUHS), includes a 439-bed academic medical center, an inpatient psychiatric facility, and 13 federally qualified health care clinics. RUHS primarily serves the Medicaid and indigent populations as the safety net provider in Riverside County.

SAS' consultation and solution continues to enable RUHS to integrate health and non-health data from its public hospital, behavioral health system, county jail, social services systems, and homelessness systems. RUHS initially turned to SAS to integrate data from across County Departments and develop the evaluation reports for California's 1115 Medi-Cal Waiver Whole Person Care (WPC) pilot program to support continuous quality improvement and reporting needs. The Waiver emphasized coordinating health resources with the goal of improving the health and well-being of Medicaid beneficiaries, and RUHS focused specifically on the probation population.

The initial foundational goal focused on integrating data from a variety of sources to provide a more accurate, complete picture of the impact of interventions. It also helped the RUHS team facilitate and meet the requirements for the continuous quality improvement efforts through PDSA (Plan-Do-Study-Act) cycles. Evaluations of this project, both in Riverside and statewide, demonstrated enough success that these services were recently rolled into routine Medicaid benefits for all Californians.

Due to having this data integrated into a flexible data platform, RUHS also took advantage of additional functionality available that could be similarly beneficial to WV DHHR in addition to predictive analytics. One effort was monitoring and managing field engagement staff's productivity and their effort of outreach, engagement, and coordination. Further, as clinical data was brought together in a secure platform, RUHS generated what was functionally a read-only integrated care plan, surfacing the various touch points in the health system and providing an interface to community providers.

RUHS and SAS are currently expanding both data sources and use cases to take advantage of their flexible platform investment to answer new questions and provide more proactive interventions, including through AI. They have also been able to partner with universities also using SAS to conduct deeper research and additional evaluations and quality improvement efforts, providing further value from this system.

Broader Data Integration

The **New Jersey Office of Attorney General** leveraged SAS to do just that when implementing the [Integrated Drug Awareness Dashboard](#) (IDAD). The IDAD integrates and cleanses to the extent necessary, law enforcement datasets (e.g., drug seizures, arrest data), prescription data from the NJ Prescription Monitoring Program (“NJMP”) and select de-identified public health datasets. Public health and safety entities seeking to more effectively advance their respective missions are given role-based and right-to-know access to IDAD data so that they can conduct statistical and spatial analyses to bolster their understanding of the drug environment.

International Experience and Examples

While the requirements of this RFP ask for experience within the United States only, we also wanted to share some of our international experience in this area. Such experience helps bring additional consultative skills to WVDHHR. Further, predictive analytics tends to be more advanced in non-health (especially behavioral health) industries. However, the processes and methodologies are similar, and we can take lessons learned from these other industries and use cases to apply to the WVDHHR context. Some international examples include:

- Canada’s Centre for Addiction and Mental Health uses **SAS predictive analytics to improve care and streamline hospital operations**. One of their early projects included modeling population data provided by the Ministry of Health to predict future emergency department activity. By knowing how many patients to expect, CAMH officials could devise the right care models and process optimization projects to accommodate future needs. Later, they integrated social determinants/drivers data captured at admission to help predict and optimize alternative levels of care for those who may not need acute care, providing the right care setting at the appropriate time. Additional details are available at https://www.sas.com/en_us/customers/camh.html.
- In partnership with Canada Health Infoway (Infoway), a not-for-profit organization funded by the Canadian government to help improve health by accelerating the development, adoption, and effective use of digital health across Canada, **SAS used natural language process to predict suicide risk** with publicly available Twitter data, informing public health prevention efforts in Canada. Additional details are available at: https://www.sas.com/en_us/insights/articles/analytics/using-big-data-to-predict-suicide-risk-canada.html
- Emirates Health Services (EHS), Cerner, and SAS have collaborated to use **predictive analytics to provide sustainable, integrated, accessible, efficient, innovative and high-quality health care service, including predicting patient outcomes and forecasting resource use**. The solution can deliver prescriptive analysis to help clinicians prepare a

focused action approach and quality care management for at-risk patients. This leads to improved health outcomes. In addition, the financial analysis will provide health care decision makers with the insights they need to reduce overall health care costs for chronic diseases. Additional details are available at:

<https://blogs.sas.com/content/hiddeninsights/2022/03/28/ai-and-data-analytics-redefining-future-of-health-care-in-uae/>

- Amsterdam UMC is leading the way of using AI in oncology by using **computer vision and predictive analytics to better identify cancer patients** who are candidates for lifesaving surgery. More information is available at: https://www.sas.com/en_us/customers/amsterdam-umc.html and <https://podcasts.apple.com/us/podcast/amsterdam-umc-uses-sas-ai-intel-architecture-to-fight/id1445844944?i=1000452115118>.
- Belgium's Federal Public Service Health, Food Chain Safety and Environment, commonly known as FPS Public Health, oversees health care in Belgium as well as hospital funding and emergency medical care. Kurt Nys, the ICT Manager, described the use of **predictive analytics to better respond to COVID-19**, stating, "Predictive models enable us to better align the hospitals' emergency plans with the evolution of the COVID-19 figures." More details are at: https://www.sas.com/en_us/customers/fps-health-data-saving-lives.html.
- Italy's Banca Progetto has used **predictive analytics to improve risk identification**. Roberto Russo, the Chief Risk Officer stated, "It is more important than ever to modify the approach to risk management by focusing on advanced simulations and modeling of reality, **moving away from the deterministic approach toward more sophisticated and effective predictive analytics**." Similar approaches are increasingly being desired in health care. More information can be found at: https://www.sas.com/en_us/customers/banca-progetto-eng.html.
- OTP Bank Group, one of the largest financial groups in Central and Eastern Europe, uses SAS **predictive analytics to improve accuracy of business and risk outcome predictions**. In particular, business users and subject matter experts with limited statistical skills can generate their own models using SAS Rapid Predictive Modeler, a component of SAS Enterprise Miner. A guided, user-friendly interface directs users through a workflow of data mining tasks in a familiar environment. This capability empowered OTP Bank Romania's team because it covered business needs and was easy to learn. Additional details are available at: https://www.sas.com/en_us/customers/otp-bank-romania.html.

SAS' Two Existing Federal, State, or Local Government Accounts with Full Range of Services Requested in this RFP for at least Two Years [4.3.2.1]

The full range of services requested in this RFP and delivered to federal, state, or local government customers that have agreed to be publicly identified and speak as references are best represented by:

1. The Indiana Department of Corrections
2. The Town of Cary, North Carolina

While these are two non-healthcare SAS customers, the processes, methodologies, and delivery for these projects were similar to those requested by WVDHHR, and we can take lessons learned from these use cases to apply to WVDHHR's vision as expressed in this RFP.

Account 1: Indiana Department of Corrections, Assault Prediction

Violence within incarcerated populations is a continuous problem for justice involved organizations. The Indiana Department of Correction (IDOC) wanted to use predictive analytics to reduce assaults. The physical and physiological impact of violent behavior can have a negative effect on offenders and the workforce. Continuous violence also negates the effort of cognitive based solutions that improve offender outcomes and threaten the safety and security of institutions. The IDOC Data Science and Analytics division used SAS machine learning to create a violence risk model, aggregating data to accurately predict offender violence.

The hospitalization of a prison guard due to an attack was the turning point at which IDOC Deputy Commissioner of Operations, James Basinger, decided to harness the power of SAS machine learning to increase institutional safety and reduce the negative impact that violent incidents have on staff, taxpayers, and the state of Indiana's workers compensation program.

That is when Sarah Schelle, IDOC's Executive Director of Legislation and Analytics, and Bret Ellis, IDOC Analytics Manager, sprang into action and started doing what they do best – using data to solve complex problems.

At the height of IDOC's brutal assaults against staff members, 320 violent assaults were recorded monthly on average across the IDOC's adult facilities in an 18-month period.

The existing IDOC risk assessment tool clearly wasn't working. The Indiana Risk Assessment System (IRAS) was specifically designed to predict the likelihood of recidivism – not violence. Furthermore, IRAS uses only static information captured at intake to predict violence. Critically, it fails to incorporate ongoing changes to a prisoner's risk status during incarceration.

In other words, a low-risk prisoner on day one might become high-risk on day 100. But without a way to track and communicate these changing risk factors, prison staff were left in the dark, and an unexpected assault could be waiting just around the corner.

Predicting Violence Using Behavioral Data

Operations staff decided that IDOC needed a tool designed to detect and communicate when offenders were most volatile so assaults on guards and fellow inmates could be systematically reduced. Work began on a new risk assessment tool using predictive analytics from SAS. The tool needed to do three things: incorporate all relevant data sources, more accurately predict violence, and clearly communicate this insight to facility staff.

Using data management tools from SAS, the IDOC started aggregating data from various systems including IRAS and its offender information management systems. This introduced dozens of near-real-time risk variables into the equation. Facility staff were involved in a focus group, which helped to hone the variables within the model. Their feedback included interplays between

variables included in the first model, which, without their feedback, were operating in isolation within the model. After the inclusion of these items, the model was much more powerful. In total, more than 100 risk variables were tested as modeling inputs.

The IDOC began testing different predictive models. Using conduct violations as outcome data, model types and inputs were compared to pinpoint the most accurate model. Interestingly, many traditional risk indicators such as current age and sentence length proved to be statistically insignificant. Whereas factors like job status and recent contraband history were shown to be more effective predictors of violence.

In the end, a decision tree was chosen as the model of choice. Decision trees use automatic interaction detection, a form of machine learning, to calculate risk scores in an explainable way – an important factor when creating policies.

With its new risk assessment model designed to predict violence rather than recidivism, the IDOC was halfway to its goal. Next, it needed a way to share the insight with prison staff. The IDOC chose SAS Visual Analytics for this work. Now, every adult facility has access to dashboards containing pertinent risk data. The weekly hotlist, for example, shows which prisoners were recently recategorized as high-risk. This allows mental health, custody, and program staff members to discuss these prisoners at weekly meetings and determine the best course of action. This could involve moving the inmate to different housing or assigning an extra guard to handle the inmate.

Knowing which factors cause a prisoner to become high-risk, the IDOC is able to proactively address these issues to mitigate violence.

Staff assaults drop by 50%

Dashboards and reports are now used by staff to make decisions based on data that allows for better management and treatment for offenders. By many accounts, the new risk assessment tool is working as planned. Compared to IRAS, the new tool is four times more accurate in predicting violence. As a result, staff assaults dropped by 50% during a six-month test period. And inmate-on-inmate assaults dropped by 20%.

Time savings is another huge benefit, according to the IDOC. To rescore prisoners weekly using the IRAS model – which relied on 30-minute interviews at intake to assess risk – it would take staff members 13,500 hours a week to process 27,000 inmates. And the results wouldn't be nearly as accurate. The SAS model does this work labor-free.

Finally, the IDOC has implemented several policies and programs using the new model. For example, a mental health stepdown unit was formed to help integrate prisoners back into the general population. And new education

“By identifying where we can interrupt stressors, we can help reduce violence and put these people in a better situation long-term.”

*Sarah Schelle
Executive Director of
Legislation and Data
Science, IDOC*

programs have been created to train employees on mental health issues and management techniques.

Although the IDOC is still in the process of rolling out the model across its facilities and training staff on how to best use the information, Schelle says the project has been well-received, especially with frontline staff.

"It gives our line officers peace of mind," she says. "The tool provides a new level of situational awareness that they previously didn't have. It makes a huge difference in their day-to-day work."

Account 2: Town of Cary, Flood Prediction

The Town of Cary, NC, teamed up with SAS and Microsoft Azure to protect citizens from flooding, safeguard watersheds and support environmentally sound development. As Cary's population continues to grow, this smart city with small-town appeal has a team of people dedicated to using cutting-edge technology for the benefit of the community. This includes using the Internet of Things (IoT) to ensure that citizens are better protected from flooding events, new development projects are properly vetted so they won't lead to flooding, and local watersheds are safeguarded.

"We want the Town of Cary to be the place where everyone wants to live, work and play," says Nicole Raimundo Coughlin, Chief Information Officer for the Town of Cary. "Smart cities and IoT technology are going to drive the future of the way we operate within the municipality, and I'm excited to be part of a community that embraces data. Thanks to our integrated SAS and Microsoft Azure IoT solution, we have reliable data and the tools to easily interpret it. This empowers the town to make the best decisions possible regarding flooding, which, in turn, helps us better protect our citizens."

From Reactive to Proactive to Predictive

Traditionally, Cary's response to flooding was manual and reactive. "Before the Town of Cary had IoT sensors, the citizens were the sensors," says Terry Yates, Smart Cities and IT Project Manager. "But a town should know what's going on before a citizen calls in."

"During storm events, we didn't have visibility into river levels or how quickly water was rising—we didn't have the technology to observe those dynamics," Raimundo Coughlin adds.

"Typically, we'd receive phone calls from citizens notifying us about a flooding incident. Then the town staff would reach out to Public Works or Public Safety personnel, dispatching them to the scene to put up barricades, close roads, redirect traffic and respond to emergencies."

One of the town's goals was to improve situational awareness using analytics and IoT. Prior to implementing its flood-prediction solution, the town's data resided in multiple

"The beauty of SAS Analytics for IoT is that it helps the town council make decisions for the greater good of the community, while showing the logic behind those decisions."

*Matt Flynn
Stormwater
Development Manager
Town of Cary*

disparate systems. “We couldn’t get a clear picture,” Yates says. “We’d have to go to different places and manually coordinate a response. Nothing was automated.”

The Town of Cary wanted to eliminate data silos so departments and decision makers could benefit from a broader view of information they previously couldn’t see.

“We needed a scalable solution to move from reactive to proactive and ultimately predictive,” Raimundo Coughlin says. “In a flooding scenario, time is of the essence. Imagine there’s an occupied car that’s being swept away by water – every second counts. Ultimately, Cary’s flood-prediction system is centered around the safety of our community.”

SAS and Microsoft Collaboration Leads to Optimal Solution

“Leaders from the Town of Cary met with representatives from SAS and Microsoft to plan out a new flood prediction solution. “We reached out to our technology partners and used our government municipality space as a lab to figure out what everything meant, whether it was security, processes, integration or data capture,” Raimundo Coughlin says. “This big collaboration was a win-win opportunity where we figured everything out together, and it was the best decision we ever made.”

Invigorated from these sessions, the Town of Cary gained a solid vision for the future and moved forward with the SAS flood incident prediction and preparedness solution powered by Microsoft Azure IoT.

“Having data from various systems unified in one place for a holistic view is huge,” Yates says. “Having all the data pulled together in one place—and the ability to see and analyze everything together—is a major accomplishment for the town.”

This solution builds on the town’s cloud-first strategy. “The cloud enables folks who are in the field to have the information they need right when they need it,” Yates says. “And we can make architecture changes quickly and easily, which would be much more difficult with an on-prem installation.”

“We’re very fortunate to have strong relationships with SAS and Microsoft because they’re not just technology vendors—they’re true partners who care about the work we’re doing, and they understand our vision and the impact it has in Cary and beyond,” Raimundo Coughlin says. “For us, this union is a dream come true.”

Analytics and IoT in Action

With predictive analytics, the Town of Cary can go beyond learning what happened before—and why—to discovering insights that will help it better prepare for future flooding events. Staff members can use data, statistical algorithms, and machine learning techniques to identify the likelihood of future outcomes based on the data and send out alerts in advance.

Additionally, SAS Visual Analytics provides the town an interactive dashboard, reports, business intelligence and analytics – combining traditional data with location data for analysis in a geographical context. Users who are out in the field can access the stormwater IoT dashboard

from a mobile device. The information they need is at their fingertips, even when they're not in the office.

"Having visual information is especially important because you're able to easily absorb it," Raimundo Coughlin says. "You don't need to be a data scientist to understand the results. You're not digging through a bunch of data, trying to find something. Instead, you're looking at images that actually show you the status of something."

Using the Microsoft Azure IoT Hub, the town brings in sensor data and connects it to SAS solutions on SAS Viya. "With those pieces in place, we can see all the data flowing through the systems in real time, and we know where we need to make adjustments, like moving certain sensors to more stable locations," Raimundo Coughlin says. "The scalability of Azure IoT platform became a vital component of our architecture, and SAS provided the industry-leading analytics that could deliver insight from both real-time and historical data."

Regardless of their individual roles, staff at the Town of Cary share a common priority—the safety and well-being of the community. "Thanks to our integrated SAS and Microsoft Azure IoT solution, we have reliable data and the tools to easily interpret it," Raimundo Coughlin says. "This empowers the town to make the best decisions possible regarding flooding, which, in turn, helps us better protect our citizens. We're not just analyzing numbers—we're looking out for our families, our friends, and neighbors."

Account References [4.3.2.2]

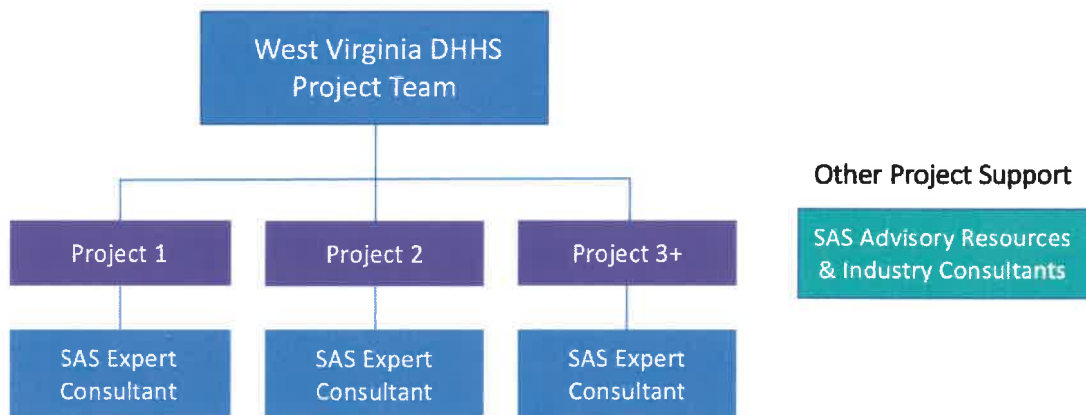
Account Reference	Account 1: Indiana Department of Corrections Assault Prediction
Name	Sarah Schelle
Title	Executive Director of Legislation and Data Science, IDOC
Email Address	sschelle@idoc.in.gov
Phone Number	317-232-2249
Date Range in Which Services Were Provided	4/2015-6/2015; migration and upgrade 12/2020
Additional Details	https://www.sas.com/en_us/customers/idoc.html https://pcn.com/data-analytics/2021/08/how-predictive-analytics-keeps-corrections-staff-inmates-safe/316141/ https://www.sas.com/en_us/insights/analytics/machine-learning.html

Account Reference	Account 2: Town of Cary Flood Prediction
Name	Nicole Raimundo Coughlin
Title	Chief Information Officer, Town of Cary
Email Address	Nicole.Raimundo@townofcary.org

Phone Number	919-469-4027
Date Range in Which Services Were Provided	2019-present
Additional Details	https://www.sas.com/en_us/customers/townofcary-flood-prediction.html https://azure.microsoft.com/en-us/blog/town-of-cary-innovates-flood-prediction-with-iot/

Organization chart [4.3.2.3]

SAS will provide a resource to work with WV on a staff augmentation basis and will be there to support the needs of WV across projects. This resource will operate on the direction of the client and will likely be the same resource across projects, unless mutually agreed upon by SAS and WV. SAS will also provide project support, overall guidance, and subject matter expertise through our experienced team of Advisory Resources and Industry Consultants.



Appendices

Resumes

The following resumes are representative of the resources that would be deployed upon contract award. The actual staff assignments will be made based on staff availability within the time frame required for the completion of the project.

Colleen M. Weldon, Sr. Account Executive, Harrisburg, PA

Summary/Highlights

Colleen is a passionate and professional government consultant with over 10 years of experience as a political operative with a well-rounded skillset including non-profit development work, political fundraising, grassroots advocacy, campaign strategy and lobbying. She has a track record of building and maintaining a strong and diverse network of bi-partisan relationships across corporate, legal, government, and media entities. Colleen is a dynamic relationship builder and entrepreneurial self-starter, a strategic thinker with strong interpersonal communication and management skills and is efficient at multi-tasking and adapting in fast-paced, changeable environments.

Professional History

Senior Account Executive, SAS Institute Inc.	2020-present
Principal, Phoenix Fundraising Partners, LLC	2016-2020
Director of Fundraising, Penn Strategies, LLC	2013-2016
Account Executive, Cold Spark Media	2012-2013
Development Manager, Harrisburg University of Science and Technology	2011-2012

Project Experience

Sr. Account Executive, PA State Police	2020-present
Sr. Account Executive, PA Department of Health	2020-present
Sr. Account Executive, PA Higher Education Assistance Agency	2020-present

Education

BA Political Science Magna Cum Laude, Gettysburg College, Gettysburg PA
Phi Beta Kappa, Pi Sigma Alpha

Josh Morgan, PsyD, National Director of Behavioral Health and Whole Person Care

Summary/Highlights

As SAS' National Director of Behavioral Health and Whole Person Care, Dr. Josh Morgan helps health and human services agencies use data and analytics to support a person-centered approach to improving health outcomes. A licensed psychologist, Dr. Morgan was previously San Bernardino County Department of Behavioral Health's Chief of Behavioral Health Informatics and is a member of the Board of Directors of TURN Behavioral Health, a large non-profit community behavioral health provider in California. His clinical work includes adolescent self-injury, partial hospitalization, intensive outpatient programs, psychiatric inpatient units, and university counseling centers. Dr. Morgan earned his Bachelor of Arts in Religious Studies from the University of California, Berkeley, and a PsyD (Doctor of Psychology) in Clinical Psychology with an emphasis in Family Psychology from Azusa Pacific University, and is trained in Dialectical Behavior Therapy.

Professional Experience

National Director of Behavioral Health and Whole Person Care, SAS Institute, Inc.	2017 - Present
Member, Board of Directors, Mental Health Services, Inc., San Diego, CA	2019 - Present
Advisory Board Member, University of North Carolina Center for Excellence in Community Mental Health	2021 - Present
Adjunct Professor, Los Angeles Pacific University	2011 - Present
Chief of Behavioral Health Informatics (Acting Chief 06/14-05/16), Research and Evaluation, San Bernardino County Department of Behavioral Health	2014 - 2017
Interim Deputy Director, Program Support Services San Bernardino County Department of Behavioral Health	2016 - 2017
Research and Planning Psychologist, Research and Evaluation San Bernardino County Department of Behavioral Health	2013 - 2014
Lead Clinical Therapist, Youth Outpatient Services Loma Linda University Behavioral Medicine Center	2011 - 2013
Clinical Therapist, Child Inpatient Unit, Partial Program, and Intensive Outpatient Program, Loma Linda University Behavioral Medicine Center	2009 - 2011

Specific Project Experience

Member, Drug Medi-Cal Organized Delivery System Clinical Committee, California Drug Medi-Cal External Quality Review Organization, California	04/17-12/21
External Reviewer, Applied Statistics Program California Baptist University, Riverside, CA	04/2019

Manager, Liaison Team to San Bernardino Terrorist Attack Survivors , Department of Behavioral Health (DBH), County of San Bernardino, San Bernardino, CA	12/15 - 06/17
Chair (2014-2017, previously Member), Institutional Review Board, Department of Behavioral Health (DBH), County of San Bernardino, San Bernardino, CA	12/13 - 10/17
Co-Chair, Systemwide Performance Outcomes Committee Department of Behavioral Health (DBH), County of San Bernardino, San Bernardino, CA	09/13-10/17
Member, Metrics Workgroup , Department of Health Care Services (DHCS)/California Behavioral Health Directors Association (CBHDA), Sacramento, CA	06/15-10/17
Member, EPSDT Performance Outcomes Systems Subject Matter Expert Workgroup and Measures Task Force , Department of Health Care Services (DHCS)/California Behavioral Health Directors Association (CBHDA), Sacramento, CA	03/15-10/17
Member, Evaluation Committee , Mental Health Services Act Oversight & Accountability Commission (MHSAOC), Sacramento, CA	09/13-10/17
Member, Measurement, Outcomes, and Quality Assessment (MOQA) Workgroup , County Behavioral Health Directors Association (CBHDA), Sacramento, CA	05/14-10/17
Member, AB109 Community Corrections Partnership Data Subcommittee , County of San Bernardino, San Bernardino, CA	12/14-10/17
Member, Mental Health Services Evaluation Advisory Group , UC San Diego Health Services Research Center (HRSC), San Diego, CA	03/14-10/17
Team Lead, Research and Evaluation Team, Electronic Health Record Implementation , Department of Behavioral Health (DBH), County of San Bernardino, San Bernardino, CA	02/14-10/17
Member, Data Committee , Community Vital Signs Initiative, County of San Bernardino, Loma Linda, CA	01/14-10/17
Chair (2014-2017), Spirituality Sub-Committee , Cultural Competency Advisory Committee, Department of Behavioral Health (DBH), County of San Bernardino, San Bernardino, CA	09/13-10/17
Member, Wellness Committee Loma Linda University Behavioral Medicine Center, Redlands, CA	04/10-07/13

Education & Certifications

Licensed Clinical Psychologist , PSY23578, Exp. 02/28/2024	2010
PsyD , Clinical Psychology with an emphasis in Family Psychology, Azusa Pacific University Department of Graduate Psychology (APA Accredited)	2009
MA , Clinical Psychology with an emphasis in Family Psychology, Azusa Pacific University Department of Graduate Psychology (WASC Accredited)	2006
BA , Religious Studies – University of California, Berkeley	2004

Sarah Newton, MPH, Sr. Manager, US Government Health Policy Team

Summary/Highlights

Sarah brings over 15 years of experience working alongside government health organizations on how to leverage data and analytics to improve health outcomes. Sarah has a Master's in Public Health, as well as extensive experience working on health policy at the federal and state level. Her understanding of technology and expertise in Medicaid policy and public health allows her to help healthcare stakeholders think innovatively about population health, person-centered care, value-based payment arrangements and public health modernization. Sarah's background in state government, specifically Medicaid policy and public health, provide her with the strategic insights and tactical understanding of the challenges inherent to changing the way healthcare and social services are delivered and paid for. Since 2019, Sarah has led a team of healthcare consultants within SAS' U.S. Government business unit, who is responsible for helping government client's advance health information technology and harness information from data for evidence-based decision making. Her team is responsible for securing dozens of multi-million dollar deals across multiple government healthcare agencies, and equally as important, establishing SAS as a formidable data analytics solutions provider and health policy consultant.

Project Experience

- ◆ NC Health Information Exchange
- ◆ SC Department of Health & Human Services
- ◆ COVID-19 response in multiple state public health agencies
- ◆ NC Department of Health & Human Services

Skills/Competencies

- ◆ Program management
- ◆ Team management
- ◆ Problem solving
- ◆ Requirements gathering
- ◆ Business analysis
- ◆ Public speaking
- ◆ Publications

Meg Schaeffer, EdD, MPA, MPH, National Public Health Advisor

Summary/Highlights

Dr. Meg Schaeffer is the National Public Health Advisor for SAS State and Local Government practice. At SAS, Dr. Schaeffer is focused on Public Health Modernization efforts in the US and globally. The majority of Dr. Schaeffer's career is focused on public health. For nearly ten years, Dr. Schaeffer managed the Influenza and Respiratory Pathogens Surveillance program for Iowa. She published 16 peer-review articles and taught epidemiology at Drake University. Before joining SAS in 2020, Dr. Schaeffer worked in Medicaid extended to corporate VP roles in Quality and Performance Improvement and health plan implementation in 14 states. Throughout the COVID-19 pandemic, Dr. Schaeffer supported emergency operations in Central Iowa, multiple school boards, transnational transportation companies, hospitals, and businesses.

Professional Summary

- ◆ EdD, Administrative Leadership, Drake University
- ◆ MPA, Drake University
- ◆ MPH, Epidemiology, University of Iowa
- ◆ B.S., Microbiology, University of Iowa

Project Experience

- ◆ CA health and human services modernization
- ◆ TX health and human services modernization
- ◆ Guilford County surveillance modernization initiative
- ◆ Massey Cancer Center data disparities project
- ◆ SAS Infectious disease case management

Skills/Competencies

- ◆ Program management
- ◆ Team leadership
- ◆ Advanced analytics
- ◆ Epidemiology
- ◆ Problem solving
- ◆ Requirements gathering
- ◆ Public speaking
- ◆ Publications

Sindhura Sevala, Analytical Consultant

Summary/Highlights

Sindhura has 5 years of experience as an analytic consultant with SAS. She has 3 years of experience working with real-time streaming data in the space of building maintenance and data center optimization. On a daily basis, she manages data from over 5000 sensors, turning the relevant data into an easily consumable format, analyzing the data often using AI/ML models and developing insights and visualizations that provide a wholistic historic and real-time view of the system. Additionally, using the client experience, she works on improving the streaming analysis framework product to try to make the product easier to use and to bring in new features that help enhance product experience.

Professional History

Analytical Consultant, SAS Institute Inc. 2017-present

Project Experience

Analytic Lead, Streaming Analytics Framework Implementation 2019-2022
Analytical Component Analyst, Healthcare Fraud Analytics 2017-2019
Analytical Component Analyst, Streaming Analytics Implementation 2017

Education

MS Analytics, summa cum laude, North Carolina State University
MS, Molecular Cancer Biology, summa cum laude, Duke University
BS, Chemical Engineering, North Carolina State University
Minors in Biotechnology and Biomanufacturing
Summa cum laude, valedictorian

Skills/Competencies

Skills

Real-time analytics
Predictive modeling
Statistical analysis
Interactive report design
Fraud detection algorithms
Health care claims
Building analytics

Software

SAS Viya / CAS / VDMML
Base SAS
SAS Visual Analytics
SAS Event Stream Processing
SAS Enterprise Guide
SAS Enterprise Miner
Python / Java (familiarity)
Microsoft Office

Certifications

SAS Certified Base Programmer for SAS 9
SAS Certified Statistical Business Analyst Using SAS 9: Regression and Modeling
SAS Certified Predictive Modeler Using SAS Enterprise Miner 13

Matt Martell, Project Manager

Summary/Highlights

Matt is a PMP certified project management professional with an 11-year track record of success, with 8 years in leading large-scale healthcare and IT systems projects, and an additional 3 years as a project coordinator and in metrics and reporting analytics management. In the process, he gained experience in following standard project management methodology, and in using related tools to develop project plans, delivering tasks, and tracking timelines and resources.

Professional History

Implementation Project Manager, SAS Institute Inc.	8/2018-present
Senior Project Manager, Evolent Health	2013-2018
Metrics and Reporting Analytics, CEB	2010-2012
Visual Program Instructor, Clayton High School, Clayton, NC	2006-2008
Project Coordinator Intern, BCBSNC	2008

Project Experience

- Wisconsin Medicaid Program Integrity – Project Lead
- Wisconsin Enterprise Data Warehouse – Project Manager
- Georgia Department of Community Health – Project Manager
- TennCare – Project Manager
- Tennessee Department of Health – Project Manager
- Minnesota Division of Medicaid – Project Manager

Education and Certifications

- Bachelor of Arts, Political Science, University of North Carolina, Chapel Hill
- Bachelor of Music, University of North Carolina, Chapel Hill
- Project Management Professional (PMP) #11352
- National Society of Collegiate Scholars
- Boy Scouts of America Eagle Scout

Addendum Acknowledgement Forms



Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder: 1090427			Reason for Modification: ADDENDUM 1 TO CORRECT QUESTION DEADLINE DATE ON PAGE 2 OF SOLICITATION DOCUMENTS
Doc Description: REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2022-08-22	2022-09-13 13:30	CRFP 0506 MIS2300000001	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code:
Vendor Name : SAS Institute Inc.
Address : 100
Street : SAS Campus Drive
City : Cary
State : North Carolina **Country :** United States **Zip :** 27513
Principal Contact : Victoria Berger
Vendor Contact Phone: 919-531-0602 **Extension:**

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov



Vendor
Signature X

DocuSigned by:

Margaret Gill

FEIN#

DATE 27-Sep-2022 | 3:07 P

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON WV 25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON WV 25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:

PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS

Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2022-08-31

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☐ Modify bid opening date and time
- ☐ Modify specifications of product or service being sought
- ☐ Attachment of vendor questions and responses
- ☐ Attachment of pre-bid sign-in sheet
- ☒ Correction of error
- ☐ Other

Description of Modification to Solicitation:

1. To correct the question deadline date on page 2 of the solicitation documents to 08/31/2022

Question Deadline: August 31, 2022 at 10:00 AM ET

No other changes

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: MIS2300000001

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

<input type="checkbox"/> Addendum No. 1	<input type="checkbox"/> Addendum No. 6
<input type="checkbox"/> Addendum No. 2	<input type="checkbox"/> Addendum No. 7
<input type="checkbox"/> Addendum No. 3	<input type="checkbox"/> Addendum No. 8
<input type="checkbox"/> Addendum No. 4	<input type="checkbox"/> Addendum No. 9
<input type="checkbox"/> Addendum No. 5	<input type="checkbox"/> Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

SAS Institute Inc.



DocuSigned by:

Company

Margaret Gill

648EC54940894AD

Authorized Signature

27-Sep-2022 | 3:07 PM EDT

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Revised 6/8/2012



Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder: 1090427			Reason for Modification: ADDENDUM 2 TO EXTEND THE PROPOSAL DUE DATE
Doc Description: REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2022-09-07	2022-09-28 13:30	CRFP 0506 MIS2300000001	3

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code:
Vendor Name : SAS Institute Inc.
Address : 100
Street : SAS Campus Drive
City : Cary
State : North Carolina **Country :** United States **Zip :** 27513
Principal Contact : Victoria Berger
Vendor Contact Phone: 919-531-0602 **Extension:**

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov



DocuSigned by:
Vendor Signature X *Margaret Gill*
648EC54940894AD...

FEIN#

DATE 27-Sep-2022 | 3:06 PM

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON WV 25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON WV 25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:

PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS

Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2022-08-31

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 2

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☒ Modify bid opening date and time
- ☐ Modify specifications of product or service being sought
- ☐ Attachment of vendor questions and responses
- ☐ Attachment of pre-bid sign-in sheet
- ☐ Correction of error
- ☐ Other

Description of Modification to Solicitation:

1. To extend the proposal close date to September 28, 2022 at 1:30 PM ET

The answers to vendor questions will be provided in a forthcoming addendum

No other changes

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: MIS2300000001

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

SAS Institute Inc.



<hr/>	
DocuSigned by:	Company
<hr/>	
Margaret Gill	
<hr/>	
648EC54940894AD...	
<hr/>	
Authorized Signature	
<hr/>	
27-Sep-2022 3:06 PM EDT	
<hr/>	
Date	

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012



Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder: 1090427 Doc Description: REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES Proc Type: Central Master Agreement			Reason for Modification: ADDENDUM 3 TO PROVIDE ANSWERS TO VENDOR QUESTIONS AND REVISED COST SHEET
Date Issued	Solicitation Closes	Solicitation No	Version
2022-09-20	2022-09-28 13:30	CRFP 0506 MIS2300000001	4

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code:
Vendor Name : SAS Institute Inc.
Address : 100
Street : SAS Campus Drive
City : Cary
State : North Carolina **Country :** United States **Zip :** 27513
Principal Contact : Victoria Berger
Vendor Contact Phone: 919-531-0602 **Extension:**

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov



DocuSigned by:

 Vendor Signature X 648EC54940894AD...

FEIN#

DATE 27-Sep-2022 | 3:07 PM

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON WV 25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON WV 25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:

PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS

Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2022-08-31

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

The purpose of this addendum is to modify the solicitation identified as CRFP MIS2300000001 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☐ Modify bid opening date and time
- ☐ Modify specifications of product or service being sought
- ☒ Attachment of vendor questions and responses
- ☐ Attachment of pre-bid sign-in sheet
- ☐ Correction of error
- ☐ Other

Description of Modification to Solicitation: To answer Vendor questions.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgement, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

SOLICITATION NUMBER: CRFP MIS2300000001

Addendum Number: 3

Question 1: What are the storage requirements (rounded up to nearest TB) for data repository?

Answer 1: We would expect the requirement to be less than 2 TB. If we go above the 2TB level, additional storage (Per TB) above the required base solution, with a per-unit cost (see 4.2.2.2 (Includes 4.2.2.2.1 thru 4.2.2.2.10.3)) Additionally, the State may elect to move data to off-line storage on a State server and reduce the storage requirements.

"The Cost Sheet has been revised to allow vendors to propose incremental increases for storage and compute resources. The per unit, incremental increases may be requested by the state and added to the monthly costs for Data Repository Hosting if it is determined that additional resources are required to optimize performance of the solution. Conversely, if demands on the environment decrease, the State reserves the right to ask for reductions in compute resources in these same increments but never decreasing below the base configuration of the proposed solution."

Question 2: Are there any CPU processing requirements sizing done for data repository?

Answer 2: This is an analytical tool, which is not used in real time. CPU resources should be able to complete analysis within a reasonable time frame. If additional computational resources are needed, we can add resources. That is also covered in 4.2.2.2.

"The Cost Sheet has been revised to allow vendors to propose incremental increases for storage and compute resources. The per unit, incremental increases may be requested by the state and added to the monthly costs for Data Repository Hosting if it is determined that additional resources are required to optimize performance of the solution. Conversely, if demands on the environment decrease, the State reserves the right to ask for reductions in compute resources in these same increments but never decreasing below the base configuration of the proposed solution."

Question 3: If data needs to be backed up and kept for longer than 60 days, what are the storage requirements (rounded up to nearest TB) for data backups?

Answer 3: The initial storage requirement is 2 TB.

"The Cost Sheet has been revised to allow vendors to propose incremental increases for storage and compute resources. The per unit, incremental increases may be requested by the state and added to the monthly costs for Data Repository Hosting if it is determined that additional resources are required to optimize performance of the solution. Conversely, if demands on the environment decrease, the State reserves the right to ask for reductions in compute resources in these same increments but never decreasing below the base configuration of the proposed solution."

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Question 4: Are any other users needing read-only type access accounts beyond the 10 users mentioned: 5 predictive analytics and modeling users and 5 view only data models and visualization users?

Answer 4: No

Question 5: Most of this RFP seems to indicate the vendor can pick the cloud hosting platform but following statement is contradicting that approach. Please clarify vendor choice of cloud platform – “State reserves the right to utilize their own data visualization product such as Microsoft Power BI or Tableaux); data modeling services; a hosted, secure Cloud repository; and training and technical support”.

Answer 5: The vendor is required to provide a hosted, secure Cloud repository where data modeling, data analysis, and data visualization can be conducted. The vendor must allow for data export from the repository in the formats already mentioned should the State elect to utilize our own data visualization tools. Training and technical support must be available for the vendor's data visualization solution. The state will be responsible for user training and support when/if utilizing our own data visualization tools.

Question 6: How should we account for project management or consulting? This includes tracking of hours, billing, scoping, software outages, etc. outside of data science work.

Answer 6: Vendor quotes should include the necessary overhead in the data repository hosting fee. (4.2.2.2)

Question 7: How should we account for data engineering support for projects (separate from data scientist support)?

Answer 7: No data engineering support is requested in the RFP.

Question 8: Does technical support include hands-on data science support only or does it also include infrastructure/installation support and/or project management?

Answer 8: The vendor is responsible for infrastructure/installation support as this is a hosted solution.

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Question 9: Is there an expectation that data will need to be transformed by vendor in some way before agency staff performs preliminary modeling (including but not limited to table joining, matching, etc.)?

Answer 9: No.

Question 10: 4.2.1.4 states hours may not exceed 5 hours of data science work per week per project - do these hours include project management or data engineering support?

Answer 10: No.

Question 11: Is there a target timeframe after submission that the Award will be completed and work started?

Answer 11: Refer to General Terms and Conditions, Section 4 - Authority to Proceed. The award and encumbrance date on the front page of the contract award is the start date.

Question 12: 4.2.2.2.1.1: does "additional resources" mean team members, or computer ('workers'/compute)?

Answer 12: This specification deals with the processing environment.

Question 13: If multiple vendors team together to respond, can team collectively meet past performance requirements?

Answer 13: The use of sub-contractor is not prohibited in the RFP. The primary vendor must meet all mandatory requirements.

Question 14: Are any of the 18 projects currently scoped? If yes, can you describe any of the projects scoped?

Answer 14: No.

Question 15: How much data preparation work is estimated to be required for the initial 2-3 projects?

Answer 15: Any data preparation work requested of the vendor will be included in the maximum 5 hours per week.

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Question 16: 4.2.2.2.6: Can the scanning of Personally Identifiable Information (PII) or other sensitive data types be done manually by an employee on the project?

Answer 16: Yes, any combination of automated or manual processes is acceptable to the State. The vendor remains responsible for verifying no sensitive data is included.

Question 17: What is the expectation of an automated solution or product to scan and filter out PII before it is uploaded to the AI Catalog or are you open to a manual process?

Answer 17: Any combination of automated or manual processes is acceptable to the State. The vendor remains responsible for verifying no sensitive data is included.

Question 18: Is there an exception to providing contact info in this public response for clients who want to maintain their privacy?

Answer 18: No. See Instructions to Vendors Submitting Bids - Item 21.

Question 19: What is the budget identified for the Initial Contract Term (i.e., year one)? What is the budget identified for each of the three years of the optional Renewal Term?

Answer 19: West Virginia does not disclose budget information prior to contract award.

Question 20: What federal grant(s) and/or other federal fund sources will be used to fund this procurement?

Answer 20: The State intends to use a combination of State and Federal funds.

Question 21: Since no PII or other sensitive data will be included per Section 4.2.2.2.6 and given that MARS-E privacy controls are highly stringent and intended to protect PII and/or Restricted data, would the Agency accept an alternative security standard to MARS-E?

Answer 21: No.

Question 22: How does the Agency define Personally Identifiable Information (PII)? How does the Agency define "other sensitive data types?" Do you not anticipate doing any data integration and entity resolution for your analytics if PII is removed?

Answer 22: The State uses the definition found in 2 CR § 200.79.

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Question 23: What is the anticipated size of the environment required to host Agency data? What is the anticipated volume of Agency data that will be processed through the hosted environment? What is the size of what will be in storage and what will pass through the system?

Answer 23: 2 TB, as stated in Answer to question 1.

Question 24: Is it acceptable for the Vendor to submit our proposal only through wvOASIS? Does WV ODCP require a physical submission of the proposal?

Answer 24: Additional Information on page 2 of the RFP states that online responses are prohibited for an RFP solicitation.

Question 25: Due to the limited time frame between the response to vendor clarification questions due 8/31/22 and the solicitation due date of 9/13/22, and the holiday, would the state please grant a 2-week extension for the solicitation response so as to permit bidders to provide even more responsive bids to the clarified solicitation responses?

Answer 25: The bid opening has been extended to 09/28/2022

Question 26: The General Terms and Conditions found in Section 3 specify that after the first year, any renewal of the contract is subject to mutual agreement. The Cost Sheet found in Attachment A appears to ask for only one year of pricing. Can the Department clarify whether bidders only have to provide one year of pricing for the scope of work required or will they be required and evaluated upon pricing for both the initial one year term and the three (3) optional renewal terms?

Answer 26: The cost sheet has been revised to include the option years.

Question 27: Based on the instructions provided in Section 2 it indicates vendors can submit on the WVOasis portal, however, when you log into the portal, it indicates "Online responses are prohibited for this response". Please clarify if vendors are able to submit through WVOasis. If not, please indicate how many hard copies of the technical and cost are required to be sent to the address provided under section 2.

Answer 27: Section 2 of the RFP also states that online responses are prohibited for RFP solicitations. Also, refer to Section 5 Vendor Proposal - Item 5.3.1 which states this is a two part submission process.

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Question 28: The second sentence of this Section states that following the opening of the bid, Vendor's entire response to the Solicitation "will be disclosed to the public ... as required by the Freedom of Information Act, West Virginia Code §§ 29B-1-1 et seq." §29B-1-4 of the West Virginia Freedom of Information Act exempts from disclosure any information in a bid or proposal that meets the definition of a "Trade Secret".

The next to last sentence of Section 21 says the exact opposite, i.e., that DHHR will disclose even information that meets the definition of a "Trade Secret". This next to last sentence states: "The Purchasing Division will disclose any document labeled 'confidential', 'proprietary', 'trade secret', 'private', or labeled with any other claim against public disclosure of the documents to include any 'trade secrets' as defined by West Virginia Code § 47-22-1 et seq."

If DHHR permits bidders to include 'trade secret' information in their proposal with the assurance that such information will not be publicly disclosed, DHHR will benefit from more detailed bidder information germane to its overall procurement goal: awarding a contract based on best value. If it does not permit trade secrets to be redacted, bidders will refrain from including information that would be highly germane to the Department's evaluation.

In light of the above inconsistency and in order to permit trade secret information that is part of a proposal to be redacted in a manner permitted under West Virginia law, would DHHR clarify the Solicitation such that bidders can include information that meets the definition of a Trade Secret under West Virginia law and have that information not disclosed to the public as long it is appropriately marked?

Answer 28: See Item 21 of Instructions to Vendors Submitting Bids and Item 31 in the General Terms and Conditions. Bids will be released to the public per the Freedom of Information Act, however, submission of any bid, proposal, or other document to the West Virginia Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal or document. The West Virginia Purchasing Division will disclose any document labeled "confidential", "proprietary", "trade secret", "private", or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined in *WVa Code* § 47-22-1, et. seq.

All submissions are subject to public disclosure without notice.

Question 29: Can the state provide an example of a typical project that illustrates relative size and complexity?

Answer 29: No

Question 30: The State asks for a "a hosted, secure Cloud repository", does this imply that the state wishes the data scientist workbench capabilities would be entirely housed within a secure enclave or does the state wish that State data scientists be able to connect from their secure State desktops to perform work? If the state does wish to have a secure enclave hosted entirely within the vendor environment, please reconcile

SOLICITATION NUMBER: CRFP MIS2300000001

Addendum Number: 3

this requirement with the State right to use its own software “State reserves the right to utilize their own data visualization product such as Microsoft Power BI or Tableau);”.

Answer 30: The vendor is required to provide a hosted, secure Cloud repository where data modeling, data analysis, and data visualization can be conducted. The vendor must allow for data export from the repository in the formats already mentioned should the State elect to utilize our own data visualization tools. Training and technical support must be available for the vendor's data visualization solution. The state will be responsible for user training and support when/if utilizing our own data visualization tools.

Question 31: Does the state desire to have a relational database management system to store structured data (e.g., Redshift, Synapse, Azure SQL DB, Snowflake, Big Query) or are state data scientists more comfortable working with files in blob storage?

Answer 31: State data scientists are not familiar with blob storage, if not using traditional structured data formats vendor will be responsible for providing additional training.

Question 32: Please confirm that vendors are required to connect to the state's identity system. If so, what protocols are supported by the identity platform?

Answer 32: Vendor is not required to connect to the state's identity system.

Question 33: The RFP clearly states that all data will be de-identified. There are only two references in the RFP to MARS-E 2.2 compliance; one with respect to the cloud hosting environment and the other to storage devices being sanitized in accordance with MARS-E 2.2. Given the nature of the data and in order for WV to benefit from a lower cost solution, please confirm that the only scope of MARS-E Compliance applicable to the Vendor are those two references. If so, please confirm vendors can port logs back to the state to meet logging requirements for data access under MARS-E.

Answer 33: Yes

Question 34: Given requirement 4.2.2.2.6 that any incoming data that includes PII or sensitive data should be rejected, please confirm all data hosted in the solution is expected to be deidentified.

Answer 34: Yes

Question 35: Regarding cloud storage, please provide an estimate of the total amount of storage required for potential peak usage of data sets for concurrent projects.

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Answer 35: Please refer to the answer to Question 1.

Question 36: Our state Medicaid and Health and Human Services customers have only recently implemented cloud-based solutions in data science, machine learning, and development of resulting predictive analytics, especially when compared to commercial customers, making the two year prior experience requirement more challenging. In light of this market reality, while at the same time wanting to increase competition with equally valuable commercial experience, would the state consider amending the RFP so as to permit bidders to submit bids if they have equivalent experience with non-(federal, State, or local) customers to meet the mandatory experience and reference requirements?

Answer 36: No.

Question 37: The total amount for Data Modeling Technical Support is calculated by multiplying hourly rate times Project length (weeks) time number of projects. Should the total amount also include number of hours such that the total amount is calculated by multiplying hourly rate times number of hours times Project length (weeks) times the number of projects?

Answer 37: The cost sheet assumes the maximum 5 hours per week.

Questions 38: Please confirm that vendors can add rows for hourly rates to the pricing sheets for the staffing positions under Data Modeling Technical Support.

Answer 38: Vendor should provide a single not to exceed hourly rate for data scientist support.

Question 39: Do you have a preference on Cloud provider?

Answer 39: No, any secure Cloud provider.

Question 40: What tools are you currently using to perform Data Science and Predictive Analytics activities?

Answer 40: None.

Question 41: What tools are you currently using to perform data cleansing and ETL?

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Answer 41: For ETL SSIS is used, for data cleansing we use manual processes including Excel.

Question 42: Do you have a preference for the user interface of data cleansing and Predictive Analytics tools (i.e. GUI, code-based, both)?

Answer 42: GUI

Question 43: Of the 10 users, what is the breakdown of roles (e.g. data engineer, data scientist, business analyst, etc.)?

Answer 43: The final breakdown is not yet known, however the State anticipates Epidemiologists and business analysts.

Question 44: What are some of the use cases that comprise the 18 anticipated projects?

Answer 44: None

Question 45: What is the volume of data that will need to be initially loaded into the Cloud repository?

Answer 45: 2 TB

Question 46: What is the anticipated annual data volume that will incrementally be loaded into the Cloud repository?

Answer 46: 2 TB

Question 47: What is the proportion of data that are unstructured vs. structured?

Answer 47: Most or all data will come from relational database systems. Data imported into the system will be via agreed upon file format.

Question 48: Is the intention to use data cleansing and predictive analytics software on-premise, in the cloud (i.e. software-as-a-service), or a hybrid approach (i.e. data cleansing on-premise and predictive analytics as SaaS)?

Answer 48: In the cloud.

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 3

Question 49: How many consumers/viewers do you anticipate for data visualization?

Answer 49: Not defined.

Question 50: Does the Agency prefer perpetual or subscription-based software licensing?

Answer 50: No preference.

Question 51: The RFP states that the vendor provided Data Scientist will support all prospective 18 projects. What will responsibilities include (i.e. assisting with tuning and expanding on preliminary model, preparing for deployment, operationalizing results, etc.)?

Answer 51: They will help create and validate the primary model, help prepare for deployment and operationalization and provide other duties as required.

Question 52: Is it expected that the vendor provided Data Scientist will provide a maximum of 5 hours per week total, 5 hours per week per project, or can more hours be allocated based on individual project requirements and estimates?

Answer 52: 5 hours per week per project with no option for allocating more hours.

Question 53: What is the Agency team's level of expertise with data cleansing and Predictive Analytics?

Answer 53: Minimal

Question 54: Is the intention to enable Agency staff to become self-sufficient in the end-to-end data and modeling lifecycle?

Answer 54: That is not a requirement of the RFP.

Question 55: Do you have a proposed budget that you can share (e.g. not-to-exceed amount)?

Answer 55: No.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: MIS2300000001

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.


Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.



DocuSigned by:	Company
	
648EC54940894AD...	
Authorized Signature	
27-Sep-2022 3:07 PM EDT	
Date	

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012



Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder: 1090427			Reason for Modification: ADDENDUM 4 TO PROVIDE REVISED COST SHEET AND SAAS ADDENDUM
Doc Description: REQUEST FOR PROPOSAL-PREDICTIVE ANALYTICS SOFTWARE/ SERVICES			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2022-09-22	2022-09-28 13:30	CRFP 0506 MIS2300000001	5

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code:
Vendor Name : SAS Institute Inc.
Address : 100
Street : SAS Campus Drive
City : Cary
State : North Carolina **Country :** United States **Zip :** 27513
Principal Contact : Victoria Berger
Vendor Contact Phone: 919-531-0602 **Extension:**

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov



Vendor
Signature X

DocuSigned by:

Margaret Gill

648EC54640894AD

FEIN#

DATE 27-Sep-2022 | 3:06 PM

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DEPARTMENT OF HEALTH AND HUMAN RESOURCES, IS SOLICITING PROPOSALS TO ESTABLISH A CONTRACT FOR PREDICATIVE ANALYTICS SOFTWARE AND SERVICES PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES ARE PROHIBITED FOR THIS SOLICITATION

INVOICE TO	SHIP TO
HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE ONE DAVIS SQUARE, RM 211 CHARLESTON WV 25301 US	HEALTH AND HUMAN RESOURCES MANAGEMENT INFORMATION SERVICE 321 CAPITOL ST, STE 200 CHARLESTON WV 25301 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	Predictive Analytics Software and Services				

Comm Code	Manufacturer	Specification	Model #
43232305			

Extended Description:

PRICING SHALL BE INCLUDED ON ATTACHMENT A COST SHEET

SCHEDULE OF EVENTS		
Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2022-08-31

SOLICITATION NUMBER: CRFP MIS2300000001
Addendum Number: 4

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☐ Modify bid opening date and time
- ☐ Modify specifications of product or service being sought
- ☐ Attachment of vendor questions and responses
- ☐ Attachment of pre-bid sign-in sheet
- ☐ Correction of error
- ☒ Other

Description of Modification to Solicitation:

1. To provide corrected Attachment A Cost Sheet
 2. To provide Software as a Service Addendum
- No other changes

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

INITIAL 12 Month Term									
Specification	Category	Requirement is a firm, fixed price that covers all training material and delivery of training. Vendor to invoice for the training after delivery of training sessions and recordings.	Firm, Fixed	Months	Hours/ Week	Per Unit	Project Length in Weeks (Assumption for Evaluation Purposes Only)	Total Number of Projects (Assumption for Evaluation Purposes Only)	Totals
4.2.2.1 (Includes 4.2.2.1.1 thru 4.2.2.1.4)	TRAINING								
4.2.2.2 (Includes 4.2.2.2.1 thru 4.2.2.2.10.3)	DATA REPOSITORY HOSTING FEE	Requirement is a monthly cost to cover hosting, storage, and compute resources meeting the requirements in 4.2.2.2.1 through 4.2.2.2.10.3. Additional Storage (Per TB) above the required base solution. May be added throughout the life of the contract at the request of the State. The State may elect to move data to off-line storage on a State server and reduce the storage requirements in the same increments throughout the life of the contract, made throughout the life of the contract. CPU, provide per unit pricing for incremental increases in the processor speed (GHz) available for the solution. CPU may be upgraded throughout the life of the contract at the request of the State. GPU cores, provide per unit pricing for incremental increases in the number of cores available for the solution. Cores may be added throughout the life of the contract at the request of the State. RAM, provide the per unit pricing for incremental increase in RAM available for the solution. RAM may be upgraded throughout the life of the contract at the request of the State.	Monthly		12				
4.2.2.3 (Includes 4.2.2.3.1 thru 4.2.2.3.6)	DATA MODELING TECHNICAL SUPPORT	Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.		Hourly Rate		\$		18	18
	Date Scientists								
4.2.2.4	REQUIRED SOFTWARE	Predictive Analytics SW (full access) Predictive Analytics (new only if applicable) If third party SW is required to provide all required functionality, enter the name/version of the required SW below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources but vendors costs are required to calculate total project cost.	Per License (annualized)	Number of Licenses					
	Third Party SW (if applicable)		Per License (annualized basis)	Number of Licenses					
	Third Party SW								
	Third Party SW								
	Third Party SW								
	Third Party SW								
	Third Party SW								
<div>Initial 12 Month Term Total Software and Services Costs</div>									
OPTION YEAR 1									
Specification	Category	Requirement is a firm, fixed price that covers all training material and delivery of training. Vendor to invoice for the training after delivery of training sessions and recordings.	Firm, Fixed	Months	Hours/ Week	Per Unit	Project Length in Weeks (Assumption for Evaluation Purposes Only)	Total Number of Projects (Assumption for Evaluation Purposes Only)	Totals
4.2.2.1 (Includes 4.2.2.1.1 thru 4.2.2.1.4)	TRAINING								
4.2.2.2 (Includes 4.2.2.2.1 thru 4.2.2.2.10.3)	DATA REPOSITORY HOSTING FEE	Requirement is a monthly cost to cover hosting, storage, and compute resources meeting the requirements in 4.2.2.2.1 through 4.2.2.2.10.3. Additional Storage (Per TB) above the required base solution. May be added throughout the life of the contract at the request of the State. The State may elect to move data to off-line storage on a State server and reduce the storage requirements in the same increments throughout the life of the contract. CPU, provide per unit pricing for incremental increases in the processor speed (GHz) available for the solution. CPU may be upgraded throughout the life of the contract at the request of the State. GPU cores, provide per unit pricing for incremental increases in the number of cores available for the solution. Cores may be added throughout the life of the contract at the request of the State. RAM, provide the per unit pricing for incremental increase in RAM available for the solution. RAM may be upgraded throughout the life of the contract at the request of the State.	Monthly		12				
4.2.2.3 (Includes 4.2.2.3.1 thru 4.2.2.3.6)	DATA MODELING TECHNICAL SUPPORT	Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.		Hourly Rate		\$		18	18
	Date Scientists								
4.2.2.4	REQUIRED SOFTWARE	Predictive Analytics SW (full access) Predictive Analytics (new only if applicable)	Per License (annualized)	Number of Licenses					

Addendum 4 REVISED_Attachment A Cost Sheet

		If third party SW is required to provide all required functionality, enter the name/version of the required SW below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources but verifiable costs are required to calculate total project cost.		Per License (annualized fees)	Number of Licenses				
Third Party SW (if applicable)									
Third Party SW									
Third Party SW									
Third Party SW									
Third Party SW									

4.2.2.3 (includes 4.2.2.3.1 thru 4.2.2.3.4)		Requirement is an hourly rate for the services of data scientists providing support as outlined in the RFP.		Hourly Rate	5	10	15
DATA MODELING TECHNICAL SUPPORT		Data Scientists					
4.2.2.4	REQUIRED SOFTWARE			Per License (Amplified)	Number of Licenses		
	Predictive Analytics SW (full access)						
	Predictive Analytics (less only if applicable)						
	If third party SW is required to provide all required functionality, enter the name/version of the required SW below. Pricing should be based on a published price or a quote from authorized distributor. Agency reserves the right to procure SW from other sources. (if variable costs are required to calculate total project cost.			Per License (Amplified basis)	Number of Licenses		
	Third Party SW (if applicable)						
	Third Party SW						
	Third Party SW						
	Third Party SW						
	Third Party SW						

Version 11-1-19

Software as a Service Addendum

1. Definitions:

Acceptable alternative data center location means a country that is identified as providing equivalent or stronger data protection than the United States, in terms of both regulation and enforcement. DLA Piper's Privacy Heatmap shall be utilized for this analysis and may be found at <https://www.dlapiperdataprotection.com/index.html?t=world-map&c=US&c2=IN>.

Authorized Persons means the service provider's employees, contractors, subcontractors or other agents who have responsibility in protecting or have access to the public jurisdiction's personal data and non-public data to enable the service provider to perform the services required.

Data Breach means the unauthorized access and acquisition of unencrypted and unredacted personal data that compromises the security or confidentiality of a public jurisdiction's personal information and that causes the service provider or public jurisdiction to reasonably believe that the data breach has caused or will cause identity theft or other fraud.

Individually Identifiable Health Information means information that is a subset of health information, including demographic information collected from an individual, and (1) is created or received by a health care provider, health plan, employer or health care clearinghouse; and (2) relates to the past, present or future physical or mental health or condition of an individual; the provision of health care to an individual; or the past, present or future payment for the provision of health care to an individual; and (a) that identifies the individual; or (b) with respect to which there is a reasonable basis to believe the information can be used to identify the individual.

Non-Public Data means data, other than personal data, that is not subject to distribution to the public as public information. It is deemed to be sensitive and confidential by the public jurisdiction because it contains information that is exempt by statute, ordinance or administrative rule from access by the general public as public information.

Personal Data means data that includes information relating to a person that identifies the person by first name or first initial, and last name, and has any of the following personally identifiable information (PII): government-issued identification numbers (e.g., Social Security, driver's license, state identification card); financial account information, including account number, credit or debit card numbers; or protected health information (PHI).

Protected Health Information (PHI) means individually identifiable health information transmitted by electronic media, maintained in electronic media, or transmitted or maintained in any other form or medium. PHI excludes education records covered by the Family Educational Rights and Privacy Act (FERPA), as amended, 20 U.S.C. 1232g, records described at 20 U.S.C. 1232g(a)(4)(B)(iv) and employment records held by a covered entity in its role as employer.

Version 11-1-19

Public Jurisdiction means any government or government agency that uses these terms and conditions. The term is a placeholder for the government or government agency.

Public Jurisdiction Data means all data created or in any way originating with the public jurisdiction, and all data that is the output of computer processing or other electronic manipulation of any data that was created by or in any way originated with the public jurisdiction, whether such data or output is stored on the public jurisdiction's hardware, the service provider's hardware or exists in any system owned, maintained or otherwise controlled by the public jurisdiction or by the service provider.

Public Jurisdiction Identified Contact means the person or persons designated in writing by the public jurisdiction to receive security incident or breach notification.

Restricted data means personal data and non-public data.

Security Incident means the actual unauthorized access to personal data or non-public data the service provider believes could reasonably result in the use, disclosure or theft of a public jurisdiction's unencrypted personal data or non-public data within the possession or control of the service provider. A security incident may or may not turn into a data breach.

Service Provider means the contractor and its employees, subcontractors, agents and affiliates who are providing the services agreed to under the contract.

Software-as-a-Service (SaaS) means the capability provided to the consumer to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin-client interface such as a Web browser (e.g., Web-based email) or a program interface. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

2. Data Ownership: The public jurisdiction will own all right, title and interest in its data that is related to the services provided by this contract. The service provider shall not access public jurisdiction user accounts or public jurisdiction data, except (1) in the course of data center operations, (2) in response to service or technical issues, (3) as required by the express terms of this contract or (4) at the public jurisdiction's written request.

3. Data Protection and Privacy: Protection of personal privacy and data shall be an integral part of the business activities of the service provider to ensure there is no inappropriate or unauthorized use of public jurisdiction information at any time. To this end, the service provider shall safeguard the confidentiality, integrity and availability of public jurisdiction information and comply with the following conditions:

- a) The service provider shall implement and maintain appropriate administrative, technical and physical security measures to safeguard against unauthorized access, disclosure or theft of personal data and non-public data. In Appendix A,

Version 11-1-19

the public jurisdiction shall indicate whether restricted information will be processed by the service provider. Such security measures shall be in accordance with recognized industry practice and not less stringent than the measures the service provider applies to its own personal data and non-public data of similar kind. The service provider shall ensure that all such measures, including the manner in which personal data and non-public data are collected, accessed, used, stored, processed, disposed of and disclosed, comply with applicable data protection and privacy laws, as well as the terms and conditions of this Addendum and shall survive termination of the underlying contract.

- b) The service provider represents and warrants that its collection, access, use, storage, disposal and disclosure of personal data and non-public data do and will comply with all applicable federal and state privacy and data protection laws, as well as all other applicable regulations, policies and directives.
- c) The service provider shall support third-party multi-factor authentication integration with the public jurisdiction third-party identity provider to safeguard personal data and non-public data.
- d) If, in the course of its engagement by the public jurisdiction, the service provider has access to or will collect, access, use, store, process, dispose of or disclose credit, debit or other payment cardholder information, the service provider shall at all times remain in compliance with the Payment Card Industry Data Security Standard ("PCI DSS") requirements, including remaining aware at all times of changes to the PCI DSS and promptly implementing all procedures and practices as may be necessary to remain in compliance with the PCI DSS, in each case, at the service provider's sole cost and expense. All data obtained by the service provider in the performance of this contract shall become and remain the property of the public jurisdiction.
- e) All personal data shall be encrypted at rest and in transit with controlled access. Unless otherwise stipulated, the service provider is responsible for encryption of the personal data.
- f) Unless otherwise stipulated, the service provider shall encrypt all non-public data at rest and in transit, in accordance with recognized industry practice. The public jurisdiction shall identify data it deems as non-public data to the service provider.
- g) At no time shall any data or process – that either belong to or are intended for the use of a public jurisdiction or its officers, agents or employees — be copied, disclosed or retained by the service provider or any party related to the service provider for subsequent use in any transaction that does not include the public jurisdiction.
- h) The service provider shall not use or disclose any information collected in connection with the service issued from this proposal for any purpose other than fulfilling the service.
- i) Data Location. For non-public data and personal data, the service provider shall provide its data center services to the public jurisdiction and its end users solely from data centers in the U.S. Storage of public jurisdiction data at rest shall be located solely in data centers in the U.S. The service provider shall not allow its personnel or contractors to store public jurisdiction data on portable devices, including personal computers, except for devices that are used and kept only at its

Version 11-1--19

U.S. data centers. With agreement from the public jurisdiction, this term may be met by the service provider providing its services from an acceptable alternative data center location, which agreement shall be stated in Appendix A. The Service Provider may also request permission to utilize an acceptable alternative data center location during a procurement's question and answer period by submitting a question to that effect. The service provider shall permit its personnel and contractors to access public jurisdiction data remotely only as required to provide technical support.

4. Security Incident or Data Breach Notification: The service provider shall inform the public jurisdiction of any confirmed security incident or data breach.

- a) **Incident Response:** The service provider may need to communicate with outside parties regarding a security incident, which may include contacting law enforcement, fielding media inquiries and seeking external expertise as defined by law or contained in the contract. Discussing security incidents with the public jurisdiction shall be handled on an urgent as-needed basis, as part of service provider communication and mitigation processes defined by law or contained in the contract.
- b) **Security Incident Reporting Requirements:** The service provider shall report a confirmed Security Incident as soon as practicable, but no later than twenty-four (24) hours after the service provider becomes aware of it, to: (1) the department privacy officer, by email, with a read receipt, identified in Appendix A; and, (2) unless otherwise directed by the public jurisdiction in the underlying contract, the WVOT Online Computer Security and Privacy Incident Reporting System at <https://apps.wv.gov/ot/ir/Default.aspx>, and (3) the public jurisdiction point of contact for general contract oversight/administration. The following information shall be shared with the public jurisdiction: (1) incident phase (detection and analysis; containment, eradication and recovery; or post-incident activity), (2) projected business impact, and, (3) attack source information.
- c) **Breach Reporting Requirements:** Upon the discovery of a data breach or unauthorized access to non-public data, the service provider shall immediately report to: (1) the department privacy officer, by email, with a read receipt, identified in Appendix A; and, (2) unless otherwise directed by the public jurisdiction in the underlying contract, the WVOT Online Computer Security and Privacy Incident Reporting System at <https://apps.wv.gov/ot/ir/Default.aspx>, and the public jurisdiction point of contact for general contract oversight/administration.

5. Breach Responsibilities: This section only applies when a data breach occurs with respect to personal data within the possession or control of the service provider.

- a) Immediately after being awarded a contract, the service provider shall provide the public jurisdiction with the name and contact information for an employee of service provider who shall serve as the public jurisdiction's primary security contact and shall be available to assist the public jurisdiction twenty-four (24) hours per day, seven (7) days per week as a contact in resolving obligations associated with a data breach. The service provider may provide this information in Appendix A.

Version 11-1--19

- b) Immediately following the service provider's notification to the public jurisdiction of a data breach, the parties shall coordinate cooperate with each other to investigate the data breach. The service provider agrees to fully cooperate with the public jurisdiction in the public jurisdiction's handling of the matter, including, without limitation, at the public jurisdiction's request, making available all relevant records, logs, files, data reporting and other materials required to comply with applicable law and regulation.
- c) Within 72 hours of the discovery, the service provider shall notify the parties listed in 4(c) above, to the extent known: (1) date of discovery; (2) list of data elements and the number of individual records; (3) description of the unauthorized persons known or reasonably believed to have improperly used or disclosed the personal data; (4) description of where the personal data is believed to have been improperly transmitted, sent, or utilized; and, (5) description of the probable causes of the improper use or disclosure.
- d) The service provider shall (1) cooperate with the public jurisdiction as reasonably requested by the public jurisdiction to investigate and resolve the data breach, (2) promptly implement necessary remedial measures, if necessary, and prevent any further data breach at the service provider's expense in accordance with applicable privacy rights, laws and regulations and (3) document responsive actions taken related to the data breach, including any post-incident review of events and actions taken to make changes in business practices in providing the services, if necessary.
- e) If a data breach is a direct result of the service provider's breach of its contract obligation to encrypt personal data or otherwise prevent its release, the service provider shall bear the costs associated with (1) the investigation and resolution of the data breach; (2) notifications to individuals, regulators or others required by state or federal law; (3) a credit monitoring service (4) a website or a toll-free number and call center for affected individuals required by state law — all not to exceed the average per record per person cost calculated for data breaches in the United States in the most recent Cost of Data Breach Study: Global Analysis published by the Ponemon Institute at the time of the data breach (or other similar publication if the named publication has not issued an updated average per record per cost in the last 5 years at the time of the data breach); and (5) complete all corrective actions as reasonably determined by service provider based on root cause. The service provider agrees that it shall not inform any third party of any data breach without first obtaining the public jurisdiction's prior written consent, other than to inform a complainant that the matter has been forwarded to the public jurisdiction's legal counsel and/or engage a third party with appropriate expertise and confidentiality protections for any reason connected to the data breach. Except with respect to where the service provider has an independent legal obligation to report a data breach, the service provider agrees that the public jurisdiction shall have the sole right to determine: (1) whether notice of the data breach is to be provided to any individuals, regulators, law enforcement agencies, consumer reporting agencies or others, as required by law or regulation, or otherwise in the public jurisdiction's discretion; and (2) the contents of such notice, whether any

Version 11-1-19

type of remediation may be offered to affected persons, and the nature and extent of any such remediation. The service provider retains the right to report activity to law enforcement.

6. Notification of Legal Requests: The service provider shall contact the public jurisdiction upon receipt of any electronic discovery, litigation holds, discovery searches and expert testimonies related to the public jurisdiction's data under this contract, or which in any way might reasonably require access to the data of the public jurisdiction. The service provider shall not respond to subpoenas, service of process and other legal requests related to the public jurisdiction without first notifying the public jurisdiction, unless prohibited by law from providing such notice.

7. Termination and Suspension of Service:

- a) In the event of a termination of the contract, the service provider shall implement an orderly return of public jurisdiction data within the time period and format specified in the contract (or in the absence of a specified time and format, a mutually agreeable time and format) and after the data has been successfully returned, securely and permanently dispose of public jurisdiction data.
- b) During any period of service suspension, the service provider shall not take any action to intentionally erase any public jurisdiction data.
- c) In the event the contract does not specify a time or format for return of the public jurisdiction's data and an agreement has not been reached, in the event of termination of any services or agreement in entirety, the service provider shall not take any action to intentionally erase any public jurisdiction data for a period of:
 - 10 days after the effective date of termination, if the termination is in accordance with the contract period
 - 30 days after the effective date of termination, if the termination is for convenience
 - 60 days after the effective date of termination, if the termination is for cause

After such period, the service provider shall have no obligation to maintain or provide any public jurisdiction data and shall thereafter, unless legally prohibited, delete all public jurisdiction data in its systems or otherwise in its possession or under its control.

- d) The public jurisdiction shall be entitled to any post-termination assistance generally made available with respect to the services, unless a unique data retrieval arrangement has been established as part of the Contract.
- e) The service provider shall securely dispose of all requested data in all of its forms, such as disk, CD/ DVD, backup tape and paper, when requested by the public jurisdiction. Data shall be permanently deleted and shall not be recoverable, according to National Institute of Standards and Technology (NIST)-approved methods. Certificates of destruction shall be provided to the public jurisdiction.

8. Background Checks: The service provider shall conduct criminal background checks in compliance with W.Va. Code §15-2D-3 and not utilize any staff to fulfill the obligations

Version 11-1-19

of the contract, including subcontractors, who have been convicted of any crime of dishonesty, including but not limited to criminal fraud, or otherwise convicted of any felony or misdemeanor offense for which incarceration for up to 1 year is an authorized penalty. The service provider shall promote and maintain an awareness of the importance of securing the public jurisdiction's information among the service provider's employees and agents.

9. Oversight of Authorized Persons: During the term of each authorized person's employment or engagement by service provider, service provider shall at all times cause such persons to abide strictly by service provider's obligations under this Agreement and service provider's standard policies and procedures. The service provider further agrees that it shall maintain a disciplinary process to address any unauthorized access, use or disclosure of personal data by any of service provider's officers, partners, principals, employees, agents or contractors.

10. Access to Security Logs and Reports: The service provider shall provide reports to the public jurisdiction in CSV format agreed to by both the service provider and the public jurisdiction. Reports shall include user access (successful and failed attempts), user access IP address, user access history and security logs for all public jurisdiction files and accounts related to this contract.

11. Data Protection Self-Assessment: The service provider shall perform a Cloud Security Alliance STAR Self-Assessment by completing and submitting the "Consensus Assessments Initiative Questionnaire" to the Public Jurisdiction Identified Contact. The service provider shall submit its self-assessment to the public jurisdiction prior to contract award and, upon request, annually thereafter, on the anniversary of the date of contract execution. Any deficiencies identified in the assessment will entitle the public jurisdiction to disqualify the bid or terminate the contract for cause.

12. Data Center Audit: The service provider shall perform an audit of its data center(s) at least annually at its expense and provide a redacted version of the audit report upon request. The service provider may remove its proprietary information from the redacted version. A Service Organization Control (SOC) 2 audit report or approved equivalent sets the minimum level of a third-party audit. Any deficiencies identified in the report or approved equivalent will entitle the public jurisdiction to disqualify the bid or terminate the contract for cause.

13. Change Control and Advance Notice: The service provider shall give 30 days, advance notice (to the public jurisdiction of any upgrades (e.g., major upgrades, minor upgrades, system changes) that may impact service availability and performance. A major upgrade is a replacement of hardware, software or firmware with a newer or better version in order to bring the system up to date or to improve its characteristics.

14. Security:

- a) At a minimum, the service provider's safeguards for the protection of data shall include: (1) securing business facilities, data centers, paper files, servers, back-up

Version 11-1-19

systems and computing equipment, including, but not limited to, all mobile devices and other equipment with information storage capability; (2) implementing network, device application, database and platform security; (3) securing information transmission, storage and disposal; (4) implementing authentication and access controls within media, applications, operating systems and equipment; (5) implementing appropriate personnel security and integrity procedures and practices, including, but not limited to, conducting background checks consistent with applicable law; and (6) providing appropriate privacy and information security training to service provider's employees.

- b) The service provider shall execute well-defined recurring action steps that identify and monitor vulnerabilities and provide remediation or corrective measures. Where the service provider's technology or the public jurisdiction's required dependence on a third-party application to interface with the technology creates a critical or high risk, the service provider shall remediate the vulnerability as soon as possible. The service provider must ensure that applications used to interface with the service provider's technology remain operationally compatible with software updates.
- c) Upon the public jurisdiction's written request, the service provider shall provide a high-level network diagram with respect to connectivity to the public jurisdiction's network that illustrates the service provider's information technology network infrastructure.

15. Non-disclosure and Separation of Duties: The service provider shall enforce separation of job duties, require commercially reasonable non-disclosure agreements, and limit staff knowledge of public jurisdiction data to that which is absolutely necessary to perform job duties.

16. Import and Export of Data: The public jurisdiction shall have the ability to securely import, export or dispose of data in standard format in piecemeal or in entirety at its discretion without interference from the service provider. This includes the ability for the public jurisdiction to import or export data to/from other service providers identified in the contract (or in the absence of an identified format, a mutually agreeable format).

17. Responsibilities: The service provider shall be responsible for the acquisition and operation of all hardware, software and network support related to the cloud services being provided. The technical and professional activities required for establishing, managing and maintaining the environments are the responsibilities of the service provider.

18. Subcontractor Compliance: The service provider shall ensure that any of its subcontractors to whom it provides any of the personal data or non-public data it receives hereunder, or to whom it provides any personal data or non-public data which the service provider creates or receives on behalf of the public jurisdiction, agree to the restrictions, terms and conditions which apply to the service provider hereunder.

19. Right to Remove Individuals: The public jurisdiction shall have the right at any time to require that the service provider remove from interaction with public jurisdiction any

Version 11-1-19

service provider representative who the public jurisdiction believes is detrimental to its working relationship with the service provider. The public jurisdiction shall provide the service provider with notice of its determination, and the reasons it requests the removal. If the public jurisdiction signifies that a potential security violation exists with respect to the request, the service provider shall immediately remove such individual. The service provider shall not assign the person to any aspect of the contract without the public jurisdiction's consent.

20. Business Continuity and Disaster Recovery: The service provider shall provide a business continuity and disaster recovery plan executive summary upon request. Lack of a plan will entitle the public jurisdiction to terminate this contract for cause.

21. Compliance with Accessibility Standards: The service provider shall comply with and adhere to Accessibility Standards of Section 508 Amendment to the Rehabilitation Act of 1973.

22. Web Services: The service provider shall use web services exclusively to interface with the public jurisdiction's data in near real time when possible.

23. Encryption of Data at Rest: The service provider shall ensure hard drive encryption consistent with validated cryptography standards as referenced in FIPS 140-2, Security Requirements for Cryptographic Modules for all personal data.

24. Subscription Terms: Service provider grants to a public jurisdiction a license to:

- Access and use the service for its business purposes;
- For SaaS, use underlying software as embodied or used in the service; and
- View, copy, upload, download (where applicable), and use service provider's documentation.

25. Equitable Relief: Service provider acknowledges that any breach of its covenants or obligations set forth in Addendum may cause the public jurisdiction irreparable harm for which monetary damages would not be adequate compensation and agrees that, in the event of such breach or threatened breach, the public jurisdiction is entitled to seek equitable relief, including a restraining order, injunctive relief, specific performance and any other relief that may be available from any court, in addition to any other remedy to which the public jurisdiction may be entitled at law or in equity. Such remedies shall not be deemed to be exclusive but shall be in addition to all other remedies available at law or in equity, subject to any express exclusions or limitations in this Addendum to the contrary.

Version 11-1-19

AGREED:

Name of Agency: _____

Signature: _____

Title: _____

Date: _____

Name of Vendor: SAS Institute Inc.

DocuSigned by:
Signature: Margaret Gill
648E864040984AD...

Title: Manager, Licensing Operations

Date: 27-Sep-2022 | 3:06 PM EDT



Version 11-1--19

Appendix A

(To be completed by the Agency's Procurement Officer prior to the execution of the Addendum, and shall be made a part of the Addendum. Required information not identified prior to execution of the Addendum may only be added by amending Appendix A and the Addendum, via Change Order.)

Name of Service Provider/Vendor: _____

Name of Agency: WV DHHR - Management Information Services

Agency/public jurisdiction's required information:

1. Will restricted information be processed by the service provider?
Yes ☐
No ☒
2. If yes to #1, does the restricted information include personal data?
Yes ☐
No ☒
3. If yes to #1, does the restricted information include non-public data?
Yes ☐
No ☒
4. If yes to #1, may the service provider store public jurisdiction data in a data center in an acceptable alternative data center location, which is a country that is not the U.S.?
Yes ☐
No ☒
5. Provide name and email address for the Department privacy officer:
Name: Chris Snyder
Email address: Chris.S.Snyder@wv.gov

Vendor/Service Provider's required information:

6. Provide name and contact information for vendor's employee who shall serve as the public jurisdiction's primary security contact:
Name: _____
Email address: _____
Phone Number: _____

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: MIS2300000001

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

SAS Institute Inc.



<hr/>	
DocuSigned by:	Company
<i>Margaret Gill</i>	
<hr/>	
Authorized Signature	
<hr/>	
27-Sep-2022 3:06 PM EDT	
<hr/>	
Date	

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

Federal Funds Addendum [Attachment 1]

FEDERAL FUNDS ADDENDUM

2 C.F.R. §§ 200.317 – 200.327

Purpose: This addendum is intended to modify the solicitation in an attempt to make the contract compliant with the requirements of 2 C.F.R. §§ 200.317 through 200.327 relating to the expenditure of certain federal funds. This solicitation will allow the State to obtain one or more contracts that satisfy standard state procurement, state federal funds procurement, and county/local federal funds procurement requirements.

Instructions: Vendors who are willing to extend their contract to procurements with federal funds and the requirements that go along with doing so, should sign the attached document identified as: “REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317)”

Should the awarded vendor be unwilling to extend the contract to federal funds procurement, the State reserves the right to award additional contracts to vendors that can and are willing to meet federal funds procurement requirements.

Changes to Specifications: Vendors should consider this solicitation as containing two separate solicitations, one for state level procurement and one for county/local procurement.

State Level: In the first solicitation, bid responses will be evaluated with applicable preferences identified in sections 15, 15A, and 16 of the “Instructions to Vendors Submitting Bids” to establish a contract for both standard state procurements and state federal funds procurements.

County Level: In the second solicitation, bid responses will be evaluated with applicable preferences identified in Sections 15, 15A, and 16 of the “Instructions to Vendors Submitting Bids” omitted to establish a contract for County/Local federal funds procurement.

Award: If the two evaluations result in the same vendor being identified as the winning bidder, the two solicitations will be combined into a single contract award. If the evaluations result in a different bidder being identified as the winning bidder, multiple contracts may be awarded. The State reserves the right to award to multiple different entities should it be required to satisfy standard state procurement, state federal funds procurement, and county/local federal funds procurement requirements.

State Government Use Caution: State agencies planning to utilize this contract for procurements subject to the above identified federal regulations should first consult with the federal agency providing the applicable funding to ensure the contract is compliant.

County/Local Government Use Caution: County and Local government entities planning to utilize this contract for procurements subject to the above identified federal regulation should first consult with the federal agency providing the applicable funding to ensure the contract is compliant. For purposes of County/Local government use, the solicitation resulting in this contract was conducted in accordance with the procurement laws, rules, and procedures governing the West Virginia Department of Administration, Purchasing Division, except that vendor preference has been omitted for County/Local use purposes and the contract terms contained in the document entitled “REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317)” have been added.

FEDERAL FUNDS ADDENDUM

REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317):

The State of West Virginia Department of Administration, Purchasing Division, and the Vendor awarded this Contract intend that this Contract be compliant with the requirements of the Procurement Standards contained in the Uniform Administrative Requirements, Cost Principles, and Audit Requirements found in 2 C.F.R. § 200.317, et seq. for procurements conducted by a Non-Federal Entity. Accordingly, the Parties agree that the following provisions are included in the Contract.

**1. MINORITY BUSINESSES, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS:
(2 C.F.R. § 200.321)**

- a. The State confirms that it has taken all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Those affirmative steps include:
 - (1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
 - (2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
 - (3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
 - (4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
 - (5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
 - (6) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (1) through (5) above.
- b. Vendor confirms that if it utilizes subcontractors, it will take the same affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

**2. DOMESTIC PREFERENCES:
(2 C.F.R. § 200.322)**

- a. The State confirms that as appropriate and to the extent consistent with law, it has, to the greatest extent practicable under a Federal award, provided a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United

States (including but not limited to iron, aluminum, steel, cement, and other manufactured products).

b. Vendor confirms that will include the requirements of this Section 2. Domestic Preference in all subawards including all contracts and purchase orders for work or products under this award.

c. Definitions: For purposes of this section:

(1) "Produced in the United States" means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

(2) "Manufactured products" means items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber.

3. BREACH OF CONTRACT REMEDIES AND PENALTIES:

(2 C.F.R. § 200.327 and Appendix II)

(a) The provisions of West Virginia Code of State Rules § 148-1-5 provide for breach of contract remedies, and penalties. A copy of that rule is attached hereto as Exhibit A and expressly incorporated herein by reference.

4. TERMINATION FOR CAUSE AND CONVENIENCE:

(2 C.F.R. § 200.327 and Appendix II)

(a) The provisions of West Virginia Code of State Rules § 148-1-5 govern Contract termination. A copy of that rule is attached hereto as Exhibit A and expressly incorporated herein by reference.

5. EQUAL EMPLOYMENT OPPORTUNITY:

(2 C.F.R. § 200.327 and Appendix II)

Except as otherwise provided under 41 CFR Part 60, and if this contract meets the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3, this contract includes the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

6. DAVIS-BACON WAGE RATES:

(2 C.F.R. § 200.327 and Appendix II)

Vendor agrees that if this Contract includes construction, all construction work in excess of \$2,000 will be completed and paid for in compliance with the Davis–Bacon Act (40 U.S.C. 3141–3144, and 3146–3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must:

- (a) pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor.
- (b) pay wages not less than once a week.

A copy of the current prevailing wage determination issued by the Department of Labor is attached hereto as Exhibit B. The decision to award a contract or subcontract is conditioned upon the acceptance of the wage determination. The State will report all suspected or reported violations to the Federal awarding agency.

7. ANTI-KICKBACK ACT:
(2 C.F.R. § 200.327 and Appendix II)

Vendor agrees that it will comply with the Copeland Anti-KickBack Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). Accordingly, Vendor, Subcontractors, and anyone performing under this contract are prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The State must report all suspected or reported violations to the Federal awarding agency.

8. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT
(2 C.F.R. § 200.327 and Appendix II)

Where applicable, and only for contracts awarded by the State in excess of \$100,000 that involve the employment of mechanics or laborers, Vendor agrees to comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, Vendor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

9. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT.
(2 C.F.R. § 200.327 and Appendix II)

If the Federal award meets the definition of “funding agreement” under 37 CFR § 401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

10. CLEAN AIR ACT
(2 C.F.R. § 200.327 and Appendix II)

Vendor agrees that if this contract exceeds \$150,000, Vendor is to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251–1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

11. DEBARMENT AND SUSPENSION
(2 C.F.R. § 200.327 and Appendix II)

The State will not award to any vendor that is listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

12. BYRD ANTI-LOBBYING AMENDMENT
(2 C.F.R. § 200.327 and Appendix II)

Vendors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

13. PROCUREMENT OF RECOVERED MATERIALS
(2 C.F.R. § 200.327 and Appendix II; 2 C.F.R. § 200.323)

Vendor agrees that it and the State must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the

Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

14. PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.

(2 C.F.R. § 200.327 and Appendix II; 2 CFR § 200.216)

Vendor and State agree that both are prohibited from obligating or expending funds under this Contract to:

- (1) Procure or obtain;
- (2) Extend or renew a contract to procure or obtain; or
- (3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115–232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
 - (i) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
 - (ii) Telecommunications or video surveillance services provided by such entities or using such equipment.
 - (iii) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

In implementing the prohibition under Public Law 115–232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.

State of West Virginia
Purchasing Division

By: _____

Printed Name: _____

Title: _____

Date: _____

Vendor Name:

DocuSigned by:
By: Margaret Gill
648EG64946894AD...

Printed Name: Margaret Gill

Title: Manager, Licensing Operations

Date: 27-Sep-2022 | 3:06 PM EDT



**EXHIBIT A To:
REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY
CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317):**

W. Va. CSR § 148-1-5

West Virginia Code of State Rules
Title 148. Department of Administration
Legislative Rule (Ser. 1)
Series 1. Purchasing

W. Va. Code St. R. § 148-1-5
§ 148-1-5. Remedies.

Currentness

5.1. The Director may require that the spending unit attempt to resolve any issues that it may have with the vendor prior to pursuing a remedy contained herein. The spending unit must document any resolution efforts and provide copies of those documents to the Purchasing Division.

5.2. Contract Cancellation.

5.2.1. Cancellation. The Director may cancel a purchase or contract immediately under any one of the following conditions including, but not limited to:

5.2.1.a. The vendor agrees to the cancellation;

5.2.1.b. The vendor has obtained the contract by fraud, collusion, conspiracy, or is in conflict with any statutory or constitutional provision of the State of West Virginia;

5.2.1.c. Failure to honor any contractual term or condition or to honor standard commercial practices;

5.2.1.d. The existence of an organizational conflict of interest is identified;

5.2.1.e. Funds are not appropriated or an appropriation is discontinued by the legislature for the acquisition;

5.2.1.f. Violation of any federal, state, or local law, regulation, or ordinance, and

5.2.1.g. The contract was awarded in error.

5.2.2. The Director may cancel a purchase or contract for any reason or no reason, upon providing the vendor with 30 days' notice of the cancellation.

5.2.3. Opportunity to Cure. In the event that a vendor fails to honor any contractual term or condition, or violates any provision of federal, state, or local law, regulation, or ordinance, the Director may request that the vendor remedy the contract breach or legal violation within a time frame the Director determines to be appropriate. If the vendor fails to remedy the contract breach or legal violation or the Director determines, at his or her sole discretion, that such a request is unlikely to yield a satisfactory result, then he or she may cancel immediately without providing the vendor an opportunity to perform a remedy.

5.2.4. Re-Award. The Director may award the cancelled contract to the next lowest responsible bidder (or next highest scoring bidder if best value procurement) without a subsequent solicitation if the following conditions are met:

5.2.4.a. The next lowest responsible bidder (or next highest scoring bidder if best value procurement) is able to perform at the price contained in its original bid submission, and

5.2.4.b. The contract is an open-end contract, a one-time purchase contract, or a contract for work which has not yet commenced.

Award to the next lowest responsible bidder (or next highest scoring bidder if best value procurement) will not be an option if the vendor's failure has in any way increased or significantly changed the scope of the original contract. The vendor failing to honor contractual and legal obligations is responsible for any increase in cost the state incurs as a result of the re-award.

5.3. Non-Responsible. If the Director believes that a vendor may be non-responsible, the Director may request that a vendor or spending unit provide evidence that the vendor either does or does not have the capability to fully perform the contract requirements, and the integrity and reliability necessary to assure good faith performance. If the Director determines that the vendor is non-responsible, the Director shall reject that vendor's bid and shall not award the contract to that vendor. A determination of non-responsibility must be evaluated on a case-by-case basis and can only be made after the vendor in question has submitted a bid. A determination of non-responsibility will only extend to the contract for which the vendor has submitted a bid and does not operate as a bar against submitting future bids.

5.4. Suspension.

5.4.1. The Director may suspend, for a period not to exceed 1 year, the right of a vendor to bid on procurements issued by the Purchasing Division or any state spending unit under its authority if:

5.4.1.a. The vendor has submitted a bid and then requested that its bid be withdrawn after bids have been publicly opened.

5.4.1.b. The vendor has exhibited poor performance in fulfilling his or her contractual obligations to the State. Poor performance includes, but is not limited to any of the following: violations of law, regulation, or ordinance; failure to deliver timely; failure to deliver quantities ordered; poor performance reports; or failure to deliver commodities, services, or printing at the quality level required by the contract.

5.4.1.c. The vendor has breached a contract issued by the Purchasing Division or any state spending unit under its authority and refuses to remedy that breach.

5.4.1.d. The vendor's actions have given rise to one or more of the grounds for debarment listed in [W. Va. Code § 5A-3-33d](#).

5.4.2. Vendor suspension for the reasons listed in section 5.4 above shall occur as follows:

5.4.2.a. Upon a determination by the Director that a suspension is warranted, the Director will serve a notice of suspension to the vendor.

5.4.2.b. A notice of suspension must inform the vendor:

5.4.2.b.1. Of the grounds for the suspension;

5.4.2.b.2. Of the duration of the suspension;

5.4.2.b.3. Of the right to request a hearing contesting the suspension;

5.4.2.b.4. That a request for a hearing must be served on the Director no later than 5 working days of the vendor's receipt of the notice of suspension;

5.4.2.b.5. That the vendor's failure to request a hearing no later than 5 working days of the receipt of the notice of suspension will be deemed a waiver of the right to a hearing and result in the automatic enforcement of the suspension without further notice or an opportunity to respond; and

5.4.2.b.6. That a request for a hearing must include an explanation of why the vendor believes the Director's asserted grounds for suspension do not apply and why the vendor should not be suspended.

5.4.2.c. A vendor's failure to serve a request for hearing on the Director no later than 5 working days of the vendor's receipt of the notice of suspension will be deemed a waiver of the right to a hearing and may result in the automatic enforcement of the suspension without further notice or an opportunity to respond.

5.4.2.d. A vendor who files a timely request for hearing but nevertheless fails to provide an explanation of why the asserted grounds for suspension are inapplicable or should not result in a suspension, may result in a denial of the vendor's hearing request.

5.4.2.e. Within 5 working days of receiving the vendor's request for a hearing, the Director will serve on the vendor a notice of hearing that includes the date, time and place of the hearing.

5.4.2.f. The hearing will be recorded and an official record prepared. Within 10 working days of the conclusion of the hearing, the Director will issue and serve on the vendor, a written decision either confirming or reversing the suspension.

5.4.3. A vendor may appeal a decision of the Director to the Secretary of the Department of Administration. The appeal must be in writing and served on the Secretary no later than 5 working days of receipt of the Director's decision.

5.4.4. The Secretary, or his or her designee, will schedule an appeal hearing and serve on the vendor, a notice of hearing that includes the date, time and place of the hearing. The appeal hearing will be recorded and an official record prepared. Within 10 working days of the conclusion of the appeal hearing, the Secretary will issue and serve on the vendor a written decision either confirming or reversing the suspension.

5.4.5. Any notice or service related to suspension actions or proceedings must be provided by certified mail, return receipt requested.

5.5. Vendor Debarment. The Director may debar a vendor on the basis of one or more of the grounds for debarment contained in [W. Va. Code § 5A-3-33d](#) or if the vendor has been declared ineligible to participate in procurement related activities under federal laws and regulation.

5.5.1. Debarment proceedings shall be conducted in accordance with [W. Va. Code § 5A-3-33e](#) and these rules. A vendor that has received notice of the proposed debarment by certified mail, return receipt requested, must respond to the proposed debarment within 30 working days after receipt of notice or the debarment will be instituted without further notice. A vendor is deemed to have received notice, notwithstanding the vendor's failure to accept the certified mail, if the letter is addressed to the vendor at its last known address. After considering the matter and reaching a decision, the Director shall notify the vendor of his or her decision by certified mail, return receipt requested.

5.5.2. Any vendor, other than a vendor prohibited from participating in federal procurement, undergoing debarment proceedings is permitted to continue participating in the state's procurement process until a final debarment decision has been reached. Any contract that a debarred vendor obtains prior to a final debarment decision shall remain in effect for the current term, but may not be extended or renewed. Notwithstanding the foregoing, the Director may cancel a contract held by a debarred vendor if the Director determines, in his or her sole discretion, that doing so is in the best interest of the State. A vendor prohibited from participating in federal procurement will not be permitted to participate in the state's procurement process during debarment proceedings.

5.5.3. If the Director's final debarment decision is that debarment is warranted and notice of the final debarment decision is mailed, the Purchasing Division shall reject any bid submitted by the debarred vendor, including any bid submitted prior to the final debarment decision if that bid has not yet been accepted and a contract consummated.

5.5.4. Pursuant to [W.Va. Code § 5A-3-33e\(e\)](#), the length of the debarment period will be specified in the debarment decision and will be for a period of time that the Director finds necessary and proper to protect the public from an irresponsible vendor.

5.5.5. List of Debarred Vendors. The Director shall maintain and publicly post a list of debarred vendors on the Purchasing Division's website.

5.5.6. Related Party Debarment. The Director may pursue debarment of a related party at the

same time that debarment of the original vendor is proceeding or at any time thereafter that the Director determines a related party debarment is warranted. Any entity that fails to provide the Director with full, complete, and accurate information requested by the Director to determine related party status will be presumed to be a related party subject to debarment.

5.6. Damages.

5.6.1. A vendor who fails to perform as required under a contract shall be liable for actual damages and costs incurred by the state.

5.6.2. If any commodities delivered under a contract have been used or consumed by a spending unit and on testing the commodities are found not to comply with specifications, no payment may be approved by the Spending Unit for the merchandise until the amount of actual damages incurred has been determined.

5.6.3. The Spending Unit shall seek to collect damages by following the procedures established by the Office of the Attorney General for the collection of delinquent obligations.

Credits

History: Filed 4-1-19, eff. 4-1-19; Filed 4-16-21, eff. 5-1-21.

Current through register dated May 7, 2021. Some sections may be more current. See credits for details.

W. Va. C.S.R. § 148-1-5, WV ADC § 148-1-5

End of Document

© 2021 Thomson Reuters. No claim to original U.S.
Government Works.

**EXHIBIT B To:
REQUIRED CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY
CONTRACTS UNDER FEDERAL AWARDS (2 C.F.R. § 200.317):**

Prevailing Wage Determination

☐ – Not Applicable Because Contract Not for Construction

☐ – Federal Prevailing Wage Determination on Next Page

Certification and Signature Page

SAS' exceptions to State's Terms and Conditions are attached to SAS' response in the form of a redlined version. SAS would also need to negotiate aspects of the State's Confidentiality Policies and Information Security Accountability Requirements, and particularly Section 4.4.2, to align with SAS' breach notification policies.

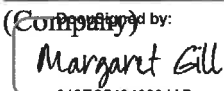
We are also attaching SAS' contracts to this response. SAS' proposed solution is a unique combination of hosting, consulting and software and SAS' contracts are drafted to address the specific nature of SAS' offerings. In particular, SAS' Hosting Managed Services Addendum and Hosted Managed Services Service Level Agreement provide terms governing SAS' provision of hosting services. SAS and the State would need to negotiate the State's Software as a Service Addendum so as to integrate SAS' hosting terms with the State's terms.

SAS looks forward to discussing legal provisions with WVDHHR and reaching mutually agreeable terms.

REQUEST FOR PROPOSAL
WV Department of Health and Human Resources
CRFP MIS2300000001

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

SAS Institute Inc.

Proposed by:
 Margaret Gill
648EC54940894AD
Manager, Licensing Operations



(Representative Name, Title)

919-531-7977

(Contact Phone/Fax Number)

27-Sep-2022 | 3:07 PM EDT

(Date)

WVDHHS RFP Terms and Conditions – SAS' Exceptions (Redlined Version)

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of an Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance by the State of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid, or on the Contract if the Contract is not the result of a bid solicitation, signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or "Agencies" means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or "Proposal" means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or "Vendors" means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

Revised 07/01/2022

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☒ **Term Contract**

Initial Contract Term: The Initial Contract Term will be for a period of ~~one (1)~~ one (1) year. The Initial Contract Term becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as n/a) and the Initial Contract Term ends on the effective end date also shown on the first page of this Contract.

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to ~~three (3)~~ three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only).

☐ **Alternate Renewal Term -** This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only).

Delivery Order Limitations: ~~In the event that~~ this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that: ☐

☐ the contract will continue for _____ years.

Revised 07/01/2022

☐ the contract may be renewed for _____ successive _____
year periods or shorter periods provided that they do not exceed the total number of
months contained in all available renewals. Automatic renewal of this Contract is
prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division
and Attorney General's Office (Attorney General approval is as to form only).

☐ **One-Time Purchase:** The term of this Contract shall run from the issuance of the Award
Document until all of the goods contracted for have been delivered, but in no event will this
Contract extend for more than one fiscal year.

☐ **Construction/Project Oversight:** This Contract becomes effective on the effective start
date listed on the first page of this Contract, identified as the State of West Virginia contract
cover page containing the signatures of the Purchasing Division, Attorney General, and
Encumbrance clerk (or another page identified as _____
_____ and continues until the project for which the
vendor is providing oversight is complete.

☐ **Other:** Contract Term specified in _____

4. AUTHORITY TO PROCEED: Vendor is authorized to begin performance of this contract on
the date of encumbrance listed on the front page of the Award Document unless either the box for
"Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked in Section 3
above. If either "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been
checked, Vendor must not begin work until it receives a separate notice to proceed from the State.
The notice to proceed will then be incorporated into the Contract via change order to memorialize the
official date that work commenced.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance
with the category that has been identified as applicable to this Contract below.

☒ **Open End Contract:** Quantities listed in this Solicitation/Award Document are
approximations only, based on estimates supplied by the Agency. It is understood and agreed
that the Contract shall cover the quantities actually ordered for delivery during the term of the
Contract, whether more or less than the quantities shown.

☐ **Service:** The scope of the service to be provided will be more clearly defined in the
specifications included herewith.

☐ **Combined Service and Goods:** The scope of the service and deliverable goods to be
provided will be more clearly defined in the specifications included herewith.

☐ **One-Time Purchase:** This Contract is for the purchase of a set quantity of goods that
are identified in the specifications included herewith. Once those items have been delivered,
no additional goods may be procured under this Contract without an appropriate change
order approved by the Vendor, Agency, Purchasing Division, and Attorney General's
office.

Revised 07/01/2022

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One-Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked in this section must be provided to the Purchasing Division by the Vendor as specified:

☐ **BID BOND (Construction Only):** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

Revised 07/01/2022

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

☐

☐

☐

☐

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications regardless of whether or not that requirement is listed above.


8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. ~~Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued.~~ Customer may check Vendor's electronic certificates of insurance (e-CERT) at https://www.sas.com/en_us/legal/evidence-of-insurance.html. Vendor must also provide Agency with ~~immediate prompt~~ notice of any changes in its insurance policies, including but not limited to, policy cancellation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether that insurance requirement is listed in this section.

Vendor must maintain:

☒ **Commercial General Liability Insurance** in at least an amount of \$1,000,000.00 per occurrence.

☒ **Automobile Liability Insurance** in at least an amount of \$1,000,000.00 per occurrence.

Revised 07/01 2022

☒ **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of _____  er occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.

☐ **Commercial Crime and Third Party Fidelity Insurance** in an amount of: _____ per occurrence.

☐ **Cyber Liability Insurance** in an amount of of _____ per occurrence.

☐ **Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.

☐ **Pollution Insurance** in an amount of of _____ per occurrence.

☐ **Aircraft Liability** in an amount of of _____ per occurrence.

☒ *****STATE OF WV SHALL BE INCLUDED AS ADDITIONAL INSURED ON INSURANCE CERTIFICATE**

☒ *****CERTIFICATE HOLDER SHOULD READ AS FOLLOWS:**
WVDHHR
ONE DAVIS SQUARE, RM 211, CHARLESTON, WV 25301

☐

☐

Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be ~~named included~~ as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

Revised 07/01/2022

9. WORKERS' COMPENSATION INSURANCE: Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. [Reserved]

11. LIQUIDATED DAMAGES: This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

☒ n / a _____ for _____

☐ Liquidated Damages Contained in the Specifications.

☐ Liquidated Damages Are Not Included in this Contract.

12. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

13. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: Payments for goods/services will be made in arrears only upon receipt of a proper invoice, detailing the goods/services provided or receipt of the goods/services, whichever is later. Notwithstanding the foregoing, payments for software maintenance, licenses, or subscriptions may be paid annually in advance.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

Revised 07/01/2022

17. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia, included in the Contract, or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

18. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available. If that occurs, the State may notify the Vendor that an alternative source of funding has been obtained and thereby avoid the automatic termination. Non-appropriation or non-funding shall not be considered an event of default.

19. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

20. TIME: Time is of the essence regarding all matters of time and performance in this Contract.

21. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code, or West Virginia Code of State Rules is void and of no effect.

22. COMPLIANCE WITH LAWS: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

Revised 07/01/2022

24. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

25. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

26. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

27. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments, such consent to not be unreasonably withheld. Notwithstanding the above, SAS may assign the Contract (1) to any affiliate or (2) to a third party in connection with an acquisition, including any deemed transfer in connection with a merger or stock acquisition.

28. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) materially conform to the associated Documentation (official SAS user manuals and to the specifications, drawings, samples, or other description furnished or specified by the Agency and agreed upon by Vendor; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

29. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>, as applicable.

Revised 07/01/2022

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or ~~unreasonable~~ restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

Revised 07/01/2022

34. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

Revised 07/01/2022

INDEMNIFICATION: Provided Customer complies with the Agreement, SAS will defend and indemnify Customer for any third-party claim against Customer for: (a) any copyright, patent, trade secret or other intellectual property rights violation relating to the Software, Work Product, or any Software or Work Product included in a SAS Cloud Offering; or (b) bodily injury, death or damage to tangible property, arising solely from actions for which SAS is legally responsible. Tangible property does not include software or data. "Work Product" means computer code or other materials delivered by SAS in connection with the provision of services.

Customer will promptly notify SAS in writing of any such claim. Customer will allow SAS to control the litigation or settlement of any such claim and will cooperate with SAS in the investigation, defense and settlement. SAS will indemnify Customer by paying for the costs and attorneys' fees Customer incurs at SAS' direction and any judgment finally awarded against Customer or settlement approved by SAS. Customer may participate at Customer's own expense.

If any intellectual property claim is made or, in SAS' opinion, is likely to be made, SAS may: (i) modify the Software or Work Product; (ii) obtain rights for Customer to continue using the Software or Work Product; or (iii) terminate Customer's license to use the Software or Work Product and refund any Fees paid by Customer for the then-current annual period or for the Work Product at issue. Customer will abide by SAS' decision.

SAS' indemnification obligation does not apply to claims based on: (1) Customer's combination of the Software or Work Product with other software or materials; (2) Customer's modification to the Software or Work Product; (3) prior versions of the Software if Customer had not installed the latest version or updates to the Software prior to the date the claim arose as instructed by SAS; or (4) Customer's unique specifications for the Work Product. The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

36. NO DEBT CERTIFICATION: In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State. By submitting a bid, or entering into a contract with the State, Vendor is affirming that (1) for construction contracts, the Vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, neither the Vendor nor any related party owe a debt as defined above, and neither the Vendor nor any related party are in employer default as defined in the statute cited above unless the debt or employer default is permitted under the statute.

Revised 07/01/2022

37. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

38. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

☒ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.division@wv.gov.

39. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check. Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

Revised 07/01/2022

40. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process.
- c. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
 1. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
 2. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

41. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 143-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel

Revised 07/01/2022

products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

42. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least \$1 million, the Vendor must submit to the Agency a disclosure of interested parties prior to beginning work under this Contract. Additionally, the Vendor must submit a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-work interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

43. PROHIBITION AGAINST USED OR REFURBISHED: Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

44. VOID CONTRACT CLAUSES-This Contract is subject to the provisions of West Virginia Code § SA-3-62, which automatically voids certain contract clauses that violate State law.

45. ISRAEL BOYCOTT: Bidder understands and agrees ~~that~~ pursuant to W. Va. Code § SA-3-63, it is prohibited from engaging in a boycott ~~of Israel~~ ~~of Israel~~ during the term of this contract.

Revised 07/01/2022

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Name, Title) _____

(Printed Name and Title) _____

(Address) _____

(Phone Number) / (Fax Number) _____

(email address) _____

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through ~~WV OASIS~~, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless ~~otherwise~~ stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further ~~certify~~ that I understand this Contract is ~~subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.~~

(Company)

(Authorized Signature) (Representative Name, Title)

(Printed Name and Title of Authorized Representative) (Date)

(Phone Number) (Fax Number)

(Email Address)

Revised 07/01/2022

SAS' Hosting Managed Services Addendum and Hosted Managed Services Service Level Agreement



中文 Français Deutsch Italiano 日本語 한국어 Español Polski Türkçe Português

SAS Universal Terms

These Universal Terms apply to all Offerings. To order an Offering, Customer will enter into an Order Form with SAS that incorporates these Universal Terms and other Offering-specific addenda. [Definitions](#)

1. Permitted Use

1.1 Usage Rights. This section describes the standard usage or access rights for Offerings. The Order Form may contain additional or different usage or access rights.

1.1.1 For any SAS Cloud Offering, Customer may access the System during the Term.

1.1.2 For any Software Offering installed outside of a System, SAS grants Customer a license to use the Software during the Term.

1.1.3 If the Offering includes Work Product, SAS grants Customer a royalty-free license to use the Work Product. If the Work Product relates to Software or a System, Customer will use the Work Product only in connection with the applicable Software or System and during the Term of the Agreement for the Software or System.

1.2 Benefit. Customer will use the Offering solely for the benefit of its operations in the Territory. If the Territory is global or includes more than one country, then Customer's Related Entities existing in the Territory as of the Effective Date of the Order Form may benefit from Customer's use of or access to the Offering.

1.3 Restrictions.

1.3.1 All license grants and usage rights are nonexclusive, nonassignable and nontransferable.

1.3.2 Customer will not use any Offering or Documentation to: (a) bring an intellectual property infringement claim against SAS; or (b) create or assist a third party in creating an offering that competes with SAS.

1.3.3 Customer may use any Documentation only to support Customer's use of the related Software.

1.3.4 Customer will not use any Offering in a time-sharing or service provider arrangement.

1.4 Users. This Permitted Use section extends to Users.

2. Agreement Term

2.1 Term. The Agreement is effective for the Term.

2.2 Termination. If a party breaches the Agreement, the other party may terminate the Agreement if the breach has not been cured after thirty (30) days' written notice. SAS may terminate

the Agreement immediately if Customer violates SAS' intellectual property rights. Obligations in the Agreement that by their nature are continuing survive expiration or termination.

If the Agreement terminates or expires, Customer will stop using the Offering and delete any media, Product Authorization Codes, or Documentation provided by SAS.

3. Fees

3.1 Fees. Fees are listed in the Order Form.

3.2 Payment. Payments are due net thirty (30) days. Refunds are not available unless specifically stated in the Agreement. SAS may designate an affiliate or a third party to invoice and/or collect payment on its behalf.

3.3 Upgrades. Customer must contact SAS to change any factor impacting the Pricing Metric or applicable usage or access rights. These changes may result in additional Fees calculated and invoiced based on the date of the change.

3.4 Taxes. Customer is responsible for any applicable taxes, except for taxes based on SAS' income. Unless otherwise stated in the Order Form, Fees do not include taxes. Customer may provide a tax exemption certificate to SAS. SAS will use reasonable efforts to include applicable taxes on SAS' invoice. Customer will self-assess and pay any VAT, GST or sales tax applicable to Customer's use of the Offering outside of the US and not included on SAS' invoice.

3.5 Third Party Payments. Customer may designate a third party to receive invoices and make payments on Customer's behalf. Customer will be responsible for any related charges assessed by the third party. Payment of all Fees remains Customer's ultimate responsibility.

4. Technical Support

4.1 General. Standard technical support for any Software or System is included during the Term. SAS will use reasonable efforts, either by telephone or electronically, to help Customer solve specific problems with the Software or Customer's usage of the System as documented at support.sas.com, which may be updated from time to time. Customer may obtain additional support services from SAS by executing an Order Form and paying additional Fees to SAS. It may not be possible for SAS to solve

all problems or correct all errors in the Software or System.

SAS technical support also includes access to all new releases, updates, bug-fixes, security patches and other corrective code that SAS makes generally available. Customer agrees to use reasonable efforts to install such content for Software not hosted by SAS. If Customer chooses not to install the current release of the Software or instructs SAS not to install the current release of the Software in a System, the level of technical support will diminish over time. During ongoing development, SAS may add, change or delete individual components or functionality in new releases of the Software or System.

4.2 Customer Contacts and Notification. Customer must establish knowledgeable technical contacts who are qualified to provide SAS with information necessary for SAS to diagnose and remedy any problems. When requesting technical support, Customer will notify SAS of any modifications to the Software or System not made by SAS. Failure to comply with these terms may result in longer response and resolution times.

5. Intellectual Property

The Agreement does not transfer any ownership rights. SAS and its licensors retain title to the Offering, any Documentation, source code, and any techniques, skills, concepts or know-how SAS utilizes or develops while performing the Agreement. Customer retains ownership to Customer Materials and any data Customer derives from using an Offering. The Software source code is a SAS trade secret. Customer and Users will not access source code or attempt to reverse engineer, reverse assemble or decompile the Software or System. Customer and Users will not remove any copyright or proprietary rights notice from any Offering.

6. Customer Materials

6.1 Usage Rights. Customer grants SAS a nonexclusive, nonassignable, nontransferable and royalty-free license to use the Customer Materials solely to perform the Agreement.

6.2 Data Classification Forms. Before providing any Customer Materials to SAS, Customer will complete any data classification forms that SAS requests. Customer will only transmit Customer Materials to SAS using SAS-approved methods.

6.3 Format and Protection. Customer's failure to provide any required Customer Materials in a mutually agreed upon format and timeframe, and in a usable condition, may delay SAS' performance of the Agreement. The parties will manage any

resulting schedule changes through a change control process, and additional Fees may apply.

Customer is responsible for: (a) the integrity of the Customer Materials; (b) backing up the Customer Materials, and (c) mitigating the risks inherent in storing or transmitting the Customer Materials via the System, including the risk of data loss.

6.4 Exclusions. SAS' warranties, indemnities and technical support set forth in the Agreement do not apply to Customer Materials.

6.5 Customer Materials Used in a System.

6.5.1 Customer must obtain SAS' prior written approval before using Customer Materials owned by a third-party data provider in the System. If any third-party data provider requires that SAS sign a separate data use agreement in order to use such data to perform the Agreement, then Customer, SAS and the provider will sign a three-party agreement. Notwithstanding the terms of any such data use agreement, the data provided by the third party will be deemed Customer Materials, and the Customer warranties and indemnification applicable to Customer Materials in the Agreement will apply.

6.5.2 If SAS believes the Customer Materials violate applicable law or third-party rights, SAS may either: (a) require Customer to remove the Customer Materials from the System; or (b) disable the Customer Materials.

6.5.3 Customer is responsible for: (a) providing or arranging for the provision of all support, maintenance, and upgrades for Customer Materials, including up-to-date virus protections; and (b) coordinating the timing of such activities with SAS. Customer may direct the Customer Materials provider to contact SAS on Customer's behalf for technical support issues if the provider believes the issue is connected to the System.

6.5.4 SAS may disable or remove Customer Materials in the event of any emergency situation or any threat or perceived threat to the System related to the Customer Materials. SAS will not be responsible for any adverse performance impact to the System or Downtime attributable to Customer Materials or to any such disengagement. In addition, SAS is not responsible for any compromises to the confidentiality, integrity, or availability of the System or Customer Materials that are attributable in whole or in part to Customer's use of Customer Materials.

7. Preproduction Offerings

7.1 Preproduction Offerings. During the Term, SAS may give Customer the opportunity to preview Preproduction Offerings at no cost to Customer so that Customer may provide feedback to SAS. No additional Order Form is required for Customer to preview a Preproduction Offering, regardless of

whether the Preproduction Offering is a version of a production Offering that Customer has ordered via an Order Form or separate technology. Customer will not use Preproduction Offerings for production purposes.

7.2 No Warranty. SAS PROVIDES PREPRODUCTION OFFERINGS "AS IS." SAS' warranties and indemnification obligations set forth in the Agreement do not apply to Preproduction Offerings. SAS does not guarantee that any Preproduction Offering or functionality will be made generally available.

7.3 Disclaimers. NEITHER CUSTOMER, SAS, NOR SAS' THIRD-PARTY LICENSORS ARE LIABLE FOR DIRECT, SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, PUNITIVE, OR RELIANCE DAMAGES (ARISING IN TORT, CONTRACT OR OTHERWISE) RELATED TO THE PREPRODUCTION OFFERING, EVEN IF THEY HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. SAS AND SAS' THIRD-PARTY LICENSORS ARE NOT LIABLE FOR ANY THIRD-PARTY CLAIMS AGAINST CUSTOMER RELATED TO A PREPRODUCTION OFFERING. THE PARTIES MAKE THESE EXCLUSIONS IN CONSIDERATION OF THE LICENSES GRANTED UNDER THE AGREEMENT.

7.4 Hosted Preproduction Offering. If SAS makes the Preproduction Offering available via a hosted environment, Customer will comply with the terms of use that SAS specifies in writing.

8. SAS Warranties and Disclaimers

8.1 Intellectual Property Warranty. SAS warrants it has the right to license the Software or Work Product or provide the Offering to Customer. Customer's exclusive remedy for SAS' breach of this warranty is set forth in the *Indemnification by SAS* section.

8.2 Virus Warranty; Conformance with Documentation Warranty. SAS warrants that when delivered, each commercially available release of the Software will not contain a virus and will substantially conform to its Documentation. As Customer's exclusive remedy for breach of this warranty, SAS, at its option, will: (a) repair the Software; (b) replace the Software; or (c) terminate the applicable Order Form and refund the Fees paid for the Software during the then-current annual period or any prepaid Fees under the Order Form.

8.3 Skilled Personnel Warranty. SAS warrants that the Consulting Services will be performed by skilled personnel. As Customer's exclusive remedy for breach of this warranty, SAS will refund the Fees paid for the Consulting Services at issue.

8.4 WARRANTY DISCLAIMERS. SAS AND ITS THIRD-PARTY LICENSORS DISCLAIM ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING AS A RESULT OF CUSTOM OR USAGE IN THE TRADE OR BY COURSE OF DEALING. SAS MAKES NO WARRANTY THAT THE SOFTWARE OR THE SYSTEM WILL OPERATE ERROR-FREE OR WITHOUT INTERRUPTION OR THAT ANY DATA TRANSMISSIONS TO, FROM, OR THROUGH THE SYSTEM WILL BE COMPLETELY SECURE. SAS DOES NOT WARRANT OR REPRESENT THAT CUSTOMER'S USE OF THE OFFERING ALONE WILL RESULT IN CUSTOMER'S COMPLIANCE WITH ANY APPLICABLE LAW.

9. Customer Warranties

9.1 Intellectual Property Warranty. Customer warrants that: (a) it has the right to provide the Customer Materials to SAS; and (b) Customer and Users will comply with any third-party usage rights and applicable laws related to the Customer Materials. The exclusive remedy for breach of these warranties is set forth in the *Indemnification by Customer* section.

9.2 Compliance Warranty. Customer warrants that the publication, transmission and receipt of all Customer Materials complies with all applicable laws including, without limitation, laws relating to trademarks, copyrights, defamation, consumer protection, personal privacy and false or deceptive trade practices.

10. Exclusions of Damages; Limitation of Liability

10.1 Exclusion of Damages. Neither Customer, SAS, nor SAS' third-party licensors are liable for special, incidental, indirect, consequential, punitive, or reliance damages (arising in contract, tort or otherwise) even if they have been informed of the possibility of such damages. Neither SAS nor SAS' third-party licensors are liable for any third-party claim against Customer. SAS' third-party licensors are not liable for any direct damages.

10.2 Limitation of Liability. THE TOTAL AMOUNT CUSTOMER MAY RECOVER FROM SAS FOR ALL CLAIMS ARISING FROM OR RELATING TO THE AGREEMENT IS LIMITED IN THE AGGREGATE TO THE FEES CUSTOMER HAS PAID FOR THE OFFERING AT ISSUE DURING THE APPLICABLE ANNUAL PERIOD IN WHICH THE CLAIM AROSE.

10.3 Applicability. This section does not apply to the *Indemnification by SAS* section, the

Indemnification by Customer section, or to either party's violation of the other's intellectual property rights. The limitations in this section will apply even if any of the remedies provided in the *SAS Warranties and Disclaimers* section fail of their essential purpose. Some jurisdictions do not allow limitations of liability or exclusions of certain types of damages so certain provisions of this section may not apply to Customer. However, the provisions apply to the greatest extent permitted by applicable law.

11. Indemnification by SAS

Provided Customer complies with the Agreement, SAS will defend and indemnify Customer for any third-party claim against Customer for: (a) any copyright, patent, trade secret or other intellectual property rights violation relating to the Software, Work Product, or any Software or Work Product included in a SAS Cloud Offering; or (b) bodily injury, death or damage to tangible property, arising solely from actions for which SAS is legally responsible. Tangible property does not include software or data. Customer will promptly notify SAS in writing of any such claim. Customer will allow SAS to control the litigation or settlement of any such claim and will cooperate with SAS in the investigation, defense and settlement. SAS will indemnify Customer by paying for the costs and attorneys' fees Customer incurs at SAS' direction and any judgment finally awarded against Customer or settlement approved by SAS. Customer may participate at Customer's own expense.

If any intellectual property claim is made or, in SAS' opinion, is likely to be made, SAS may: (i) modify the Software or Work Product; (ii) obtain rights for Customer to continue using the Software or Work Product; or (iii) terminate Customer's license to use the Software or Work Product and refund any Fees paid by Customer for the then-current annual period or for the Work Product at issue. Customer will abide by SAS' decision.

SAS' indemnification obligation does not apply to claims based on: (1) Customer's combination of the Software or Work Product with other software or materials; (2) Customer's modification to the Software or Work Product; (3) prior versions of the Software if Customer had not installed the latest version or updates to the Software prior to the date the claim arose as instructed by SAS; or (4) Customer's unique specifications for the Work Product.

12. Indemnification by Customer

Customer will indemnify SAS for any claim made against SAS arising from or relating to: (a) the Customer Materials; (b) Customer's violation of its obligations in the *Customer Warranties* and

Customer Responsibilities sections of these Universal Terms; or (c) violations of the *Prohibited Activities* section included in an Addendum for any System. SAS will promptly notify Customer in writing of any such claim. SAS will allow Customer to control the litigation or settlement of any such claim and will cooperate with Customer in the investigation, defense and settlement. Customer will indemnify SAS by paying for the costs and attorneys' fees SAS incurs at Customer's direction and any judgment finally awarded against SAS or settlement approved by Customer. SAS may participate at SAS' own expense.

13. Confidential Information

Each party acknowledges that it may have access to certain Confidential Information. The recipient will use the discloser's Confidential Information only to perform its obligations under the Agreement. SAS may also use Customer's Confidential Information to provide Customer sample analysis for other SAS Offerings or Preproduction Offerings. Recipient will not disclose discloser's Confidential Information received in connection with the Agreement to any third parties without discloser's prior written approval. This restriction does not apply to information that is: (a) generally available to the public; (b) released by discloser without restriction; (c) independently developed or acquired by recipient; (d) known to the recipient prior to receipt from discloser; or (e) revealed pursuant to court order or as required by applicable law, provided that recipient uses reasonable efforts to promptly notify discloser of such requirement prior to compliance in order to permit discloser to seek protection against disclosure. SAS may also: (a) report the terms of the Agreement to SAS' third-party licensors and partners solely as required by agreements between SAS and its third-party licensors and partners; and (b) list Customer as a SAS customer in SAS' annual report or other materials. Recipient's obligations of confidentiality for each item of discloser's Confidential Information will continue for five (5) years from the date of initial disclosure. However, confidentiality obligations for Personal Data or source code will not expire. For the purpose of this section, SAS' affiliates and subcontractors are not "third parties." Unless specifically authorized in the Order Form, neither party will disclose source code.

14. Data Protection and Personal Data

Customer will not disclose or transmit Personal Data to SAS unless: (a) specifically authorized by the Order Form or the Agreement; or (b) required for technical support. In such event, the SAS Data Processing Addendum available at <https://www.sas.com/dpg> will apply to SAS' processing of Personal Data. If the Personal Data contains Protected Health Information as defined by

and subject to the US Health Insurance Portability and Accountability Act, the Business Associate Addendum available at [sas.com/baa](https://www.sas.com/baa) is incorporated into the Agreement with respect to such disclosure.

To the extent applicable, SAS will also comply with the SAS Business Customer Privacy Policy available at https://www.sas.com/en_us/legal/privacy.html, which is subject to change at SAS' reasonable discretion. Changes will not result in a material reduction to the level of protection provided by SAS for any Personal Data during the Term.

15. Insurance

During the Term, SAS Institute Inc. will keep the following insurance policies in force:

(a) Workers Compensation – Statutory (in the amounts required by applicable law);

(b) Employer's Liability – USD \$1,000,000 per occurrence; bodily injury by accident or disease, including death;

(c) Commercial General Liability – USD \$1,000,000 combined limit per occurrence and USD \$2,000,000 aggregate; bodily injury, personal injury and property damage, including blanket contractual liability; and

(d) Automobile Liability (if vehicles are brought on Customer's premises) – USD \$1,000,000 combined limit per occurrence; bodily injury and property damage covering owned, non-owned and hired vehicles.

Evidence of coverage is available at https://www.sas.com/en_us/legal/evidence-of-insurance.html.

16. Applicable Law

16.1 Governing Law. The laws of New York, excluding choice of law provisions and excluding the United Nations Convention on Contracts for the International Sale of Goods, govern the Agreement.

16.2 Arbitration. All disputes arising out of or in connection with the Agreement, including any dispute as to the validity and enforceability of this arbitration clause, will be finally settled under the Rules of Arbitration of the International Chamber of Commerce ("Rules") by three (3) arbitrators. Each party will appoint one (1) arbitrator and the third arbitrator will be appointed by the first two (2) arbitrators. The tribunal will not award any punitive or exemplary damages or any remedies greater than those allowed by the Agreement. Notwithstanding Article 38 of the Rules, each party will bear its own costs. The parties will share equally in the compensation and expenses of the arbitrators and the ICC administrative fees. The seat of the arbitration will be New York, New York, and the

arbitration will be conducted in English. For clarification, the Governing Law section of this Agreement establishes the substantive law applicable to the Agreement. The terms in this Arbitration section will be interpreted and enforced in accordance with the U.S. Federal Arbitration Act. This section does not prevent the parties from applying to a court of competent jurisdiction for temporary or preliminary injunctive relief, without breach or waiver of this section and without abridging the powers of the tribunal.

16.3 Export and Import Restrictions. US export laws and regulations apply to the Offering and any other SAS-provided technology ("Controlled Material"). The Controlled Material originates from the United States. Both parties agree to comply with these and other applicable export and import laws and regulations, except as prohibited or penalized by law ("Trade Law"). Customer warrants that Customer and its Users are not: (a) prohibited by Trade Law from accessing Controlled Material without US government approval; (b) located in or under control of any country or other territory subject to general export or trade embargo under Trade Law; or (c) engaged in any of the following end-uses: nuclear, chemical or biological weapons; nuclear facilities not under International Atomic Energy Agency safeguards; missiles or unmanned aerial vehicles capable of long-range use or weapons delivery, military training or assistance, military or intelligence end-use in Russia or in any country in Country Group D:5 of the United States Export Administration Regulations; deep water, Arctic offshore or shale oil or gas exploration involving Russia or Russian companies, or Russian energy export pipelines. Customer will not import or use any data within the System that is subject to the US International Traffic in Arms Regulations. United States export classification information for SAS software is available at <http://support.sas.com/adminservices/export.html>.

16.4 Additional Terms. If the Order Form is entered between Customer and a SAS affiliate located outside of the US, any applicable provisions of the Country-Specific Terms available at <https://www.sas.com/country-specific-terms> will apply. In the event of a conflict between the Country-Specific Terms and these Universal Terms, the Country-Specific Terms apply.

17. General

17.1 Subcontracting. SAS may subcontract its performance under the Agreement. However, such subcontracting arrangement does not relieve SAS of its obligations to Customer under the Agreement.

17.2 Customer Responsibilities. Customer will (a) verify the accuracy of its data input and output while using the Offering, (b) duplicate, document

and protect all data and software Customer uses with the Offering; (c) inform all Users of the relevant terms of the Agreement and be responsible for their adherence to such terms; (d) keep records of where any Software is installed and used; (e) keep records of the extent of usage of the Software or System relative to the applicable Pricing Metrics and usage rights and provide a copy of such records to SAS upon request; and (f) designate a single delivery contact for Product Authorization Codes and installation media and a single billing contact for invoices.

17.3 Customer Feedback. SAS may use any feedback related to any Offering or Preproduction Offering in any format and any ideas, concepts, know-how, formulas, designs, improvements, inventions, techniques or processes contained in that feedback, whether or not patentable.

17.4 Severability. If a court of competent jurisdiction finds any part of the Agreement unenforceable, that part is excluded, but the remainder remains in full force and effect.

17.5 No Waiver. Failure to require compliance with a part of the Agreement is not a waiver of that part. Nothing in the Agreement waives any remedy SAS may have under the Agreement at law, in equity, or otherwise.

17.6 Non-Assignment. Customer will not assign the Agreement or any of its rights or obligations without SAS' written permission, which will not be unreasonably withheld. If Customer attempts to assign the Agreement in violation of this subsection, that assignment is void and is a material breach of the Agreement. However, SAS may assign the Agreement to any affiliate or in connection with a merger, acquisition or asset sale by notice to Customer.

17.7 Audit. Upon thirty (30) business days' notice to Customer, SAS may conduct an audit during Customer's normal business hours to verify Customer's compliance with an Order Form. If the audit reveals that Customer owes additional fees, Customer will pay the amounts owed.

17.8 Injunctive Relief. Because monetary damages are inadequate to remedy a breach of SAS' or its third-party licensors' intellectual property rights, SAS may protect those intellectual property rights through temporary restraining orders or injunctions without posting bond.

17.9 Force Majeure. Except for Customer's obligations to pay the Fee, neither party will be liable to the other party for any failure or delay in performance caused by factors beyond its reasonable control including, but not limited to, restrictions of applicable law, epidemics or pandemics, labor disputes, acts of God, third-party

mechanical or other equipment breakdowns, fire, explosions, fiber optic cable cuts, interruption or failure of telecommunication or digital transmission links, Internet failures or delays, cyber-attacks, storms or any other event that prevents performance.

17.10 Independent Contractors. SAS, its employees, and subcontractors are acting as independent contractors and not as employees or agents of Customer. Neither party has the authority to bind the other party.

17.11 Third Party Rights; No Lease. Unless specifically stated in the Order Form, the Agreement does not confer any rights upon any third parties. This Agreement does not lease any interest in real property to Customer.

17.12 Non-Solicitation. For twelve (12) months after the completion of the applicable Order Form, Customer will not solicit for hire any individual who provides Consulting Services. This section does not prevent Customer from hiring any individual who applies through a public job posting.

17.13 Updates to Terms. SAS may change the terms set forth in the URLs listed in the Order Form or incorporated into the Agreement from time to time. However, if the change results in a material degradation of the Customer's rights under the Agreement, SAS will provide Customer with written notice of the change by posting the notice on www.sas.com/contract-with-sas-archive.

17.14 Languages. The parties enter into the Agreement in English. However, Customer or SAS may enter into all or a portion of the Order Form in a non-English language. In that event, the Order Form will be binding as written but any addenda incorporated into the Order Form will be binding in English. SAS may make the Agreement available in other languages for Customer's convenience. However, the English language version controls unless otherwise required by applicable law. SAS may invoice Customer in English.

17.15 Complete Agreement. If SAS provides an Order Form as a click agreement, the Agreement will be binding upon both parties upon Customer's acceptance. The Agreement is the parties' complete statement relating to its subject matter. SAS rejects any additional or conflicting terms on purchase orders or other purchasing documents.

Definitions

These defined terms are used in the Universal Terms, an Addendum and/or an Order Form. SAS may define additional terms in an Order Form or Addendum.

1. "Addendum" means any addendum incorporated into an Order Form.
2. "Agreement" means the collective set of terms identified in the Order Form. Invoices also form part of the Agreement.
3. "Application Monitoring Software" means software specified by SAS and required to collect data to verify the availability and performance of the Software.
4. "Authorized Environment" means the physical hardware, virtual machine, private cloud, public cloud account, or other environment where the Software is installed. If a pricing metric refers to "Authorized Hardware," that term will be interpreted to mean "Authorized Environment."
5. "Committed Period" means a period during which neither party may terminate an Order Form for convenience, except as set forth in the Termination section above.
6. "Confidential Information" means confidential information of the other party that is either marked as confidential or should be reasonably understood to be considered confidential due to its nature. Confidential Information includes source code, Customer Materials, Personal Data and the Product Authorization Code.
7. "Connectivity Tool" means individually assigned credentials which will enable access to Customer's computing system via Customer's VPN, Remote Desktop Protocol, or any other remote connection with multi-factor authentication and scoped access to data.
8. "Consulting Services" means SAS consulting services identified on an Order Form.
9. "Customer" means the customer entity identified on an Order Form.
10. "Customer Budget" means the amount of money Customer makes available for payment of Fees for the performance of Time and Materials Consulting Services. Applicable taxes and travel and living expenses are not included in Customer Budget.
11. "Customer Materials" means any materials that Customer provides to SAS or directs SAS to obtain.
12. "Customer's Infrastructure" means Customer's information technology infrastructure, including computers, software, databases, electronic systems (including database management systems) and networks, whether operated by Customer or a third party.
13. "Deliverable" means the tangible or intangible items identified in an Order Form that SAS agrees to deliver as part of Fixed Price Consulting Services.
14. "Documentation" means the official user documentation that SAS may make available for Software either via support.sas.com or a portal provided by SAS.
15. "Fee" means the fee that Customer will pay to SAS under the Order Form.
16. "Fixed Price" means a pre-defined project model where SAS provides Consulting Services for a set Fee.
17. "Issue Tracking System" means the system that SAS provides to report, track and monitor issues associated with the Software and/or System.
18. "License Period" means the period during which Customer is authorized to use the Software.
19. "Offering" means the SAS offering listed on the Order Form, which may include Software, Consulting Services, a SAS Cloud offering, or any other offering made available by SAS.
20. "Option Period" means any annual period following the initial term where Customer may agree to renew the Order Form for a renewal Fee specified in the Order Form.
21. "Order Form" means the electronic or written ordering document entered into between SAS and Customer that specifies the Offering, Fee and other commercial terms.
22. "Personal Data" means information relating to an identified or identifiable natural person.

23. "Pre-Installation Requirements Document" means a document that SAS provides to Customer detailing activities, specifications and other requirements Customer must complete in preparation for installation of Software and provision of the System.
24. "Preproduction Offering" means an offering that is not generally available.
25. "Prerequisite Software" means any third party software required for use with the Software as defined at <http://support.sas.com/resources/thirdpartysupport/index.html>.
26. "Pricing Metric" means the metric used to determine the Fee.
27. "Product Authorization Code" means a code that enables the Software to operate for the applicable annual License Period.
28. "Related Entity" means a separate legal entity that is controlled by, is under common control with, or controls Customer. The term "control" means: (a) for commercial entities, ownership of more than fifty percent (50%) of the voting stock or assets of an entity; or (b) for non-profit or governmental entities, statutory or other documented legal authority over the general budget and contracting rights of an entity.
29. "RMS" means remote managed services Offering identified on the Order Form.
30. "SAS" means SAS Institute Inc. unless another SAS entity is defined in the Order Form.
31. "SAS Cloud" means Hosted Managed Services, Subscription Services, XaaS, or other hosted Offerings made available by SAS.
32. "Sensitive Information" means (a) credit or debit card numbers, personal identification numbers (PIN), passwords or other similar information used for payment or to access personal or financial information; (b) patient, medical or other protected health information; (c) genetic data, biometric data, or data about an individual's criminal history; (d) government-issued personal identification numbers (such as social security numbers, driver's license numbers, or passport numbers); (e) classified or technical data controlled by the US International Traffic in Arms Regulations; or (f) materials that require a United States export license, license exception or other United States government authorization.
33. "Software" means SAS software, including its embedded subcomponents, licensed to Customer under an Order Form or accessed by Customer in a System.
34. "Subscription Period" means the period during which Customer is authorized to use the SAS Cloud Offering.
35. "Subscription Service" means the subscription service Offering identified on the Order Form.
36. "System" means any hosted environment provided in connection with a SAS Cloud Offering.
37. "Technical Account Manager" or "TAM" means a named SAS representative who serves as Customer's primary RMS point-of-contact.
38. "Term" means twelve (12) months, or another initial time period if specified in the Order Form, and any subsequent renewal period.
39. "Territory" means global, unless otherwise set forth in the Order Form.
40. "Time and Materials" means a consultative model where (a) SAS provides Consulting Services at hourly or daily rates; and (b) the only Deliverables are SAS' time and a limited license to any Work Product resulting from the Consulting Services.
41. "Universal Terms" means the terms that apply to all Offerings.
42. "User" means any individual authorized by Customer to access an Offering.
43. "Work Product" means computer code or other materials delivered by SAS in connection with Consulting Services.

LGL5628 v2
Last Revised: 27 Jan 2022



Hosted Managed Services Addendum

中文 Français Deutsch Italiano 日本語 한국어 Español Polski Türkçe Português

This Addendum applies only to Hosted Managed Services ("HMS"). To order HMS, Customer will enter into an Order Form with SAS that incorporates the Universal Terms, this Addendum and other Offering-specific terms.

1. Hosted Managed Services

The HMS include provision of: (a) the Software deployed within the System in a SAS-managed cloud environment; and (b) the managed services, which include, but are not limited to the provision, installation, management, monitoring, security and support of the hosted environment.

A detailed description of the parties' HMS activities is set forth in the RACI document found at <https://www.sas.com/raci>.

If the Order Form does not specify Fees for the installation of new Software releases, data migration, configuration, or customization services, Customer may purchase Consulting Services at an additional Fee for such tasks.

2. Subscription Periods

Subscription Periods are annual unless otherwise set forth in the Order Form.

3. Renewal

The parties may agree to renew the Subscription Service for additional Subscription Periods. Renewal is accomplished by SAS sending an invoice for the applicable Fee and Customer paying the invoice.

4. Renewal Fees

The Order Form may specify renewal Fees for a multi-year Term or Option Period(s). If the Order Form does not specify the renewal Fee for the upcoming Subscription Period, SAS will use reasonable efforts to provide Customer ninety (90) days' advance notice of the renewal Fee.

5. Invoicing

SAS will invoice Customer for the Fee for the first Subscription Period when Customer executes the Order Form. SAS will invoice Customer for any renewal Fee annually in advance of each annual Subscription Period.

6. Multi-Year Initial Term

The Order Form may specify a multi-year Term consisting of multiple annual Subscription Periods and will set forth a payment schedule under which the multi-year Fee is paid upfront or on an installment basis. The multi-year Term may consist of a Committed Period and/or subsequent Option Periods. Customer will pay the Fee for the Committed Period even if Customer discontinues its use of the Offering prior to the expiration of the Committed Period. However, either party may

terminate the Agreement for cause according to the Termination section of the Universal Terms.

7. Access Credentials

SAS may require Users to register for a profile on SAS' website in order to obtain confidential System access credentials.

8. Customer Responsibilities

Customer is responsible for: (a) Customer's Infrastructure, including communications link and any other technology or hardware required for the System to operate properly between Customer and SAS; (b) the security of access credentials, including ensuring only authorized Users have access to the System or their respective Passwords. Customer will notify SAS immediately upon becoming aware of any loss or theft of their Password or any unauthorized use of such Password, and (c) any virus Customer introduces into the System through Customer Materials or otherwise.

9. Personal Data

9.1 **Personal Data.** Customer may use Personal Data in the System. The Confidential Information and Personal Data Protection sections of the Universal Terms apply to Personal Data.

9.2 **SAS Obligations.** Upon expiration or termination of the Order Form, SAS will delete or render inaccessible all Personal Data in the System, unless the Order Form specifies different retention practices. SAS may: (a) retain one copy of the Personal Data as necessary to comply with legal, audit or internal SAS requirements; and (b) defer the above activities to the extent and for the duration that SAS cannot reasonably and practically expunge Personal Data from the System. As long as SAS retains any Personal Data on the System, the Security section of this Addendum and the Personal Data Protection section of the Universal Terms will continue to apply to such Personal Data.

9.3 **Sensitive Information.** Unless authorized in the Order Form, Customer will not use Sensitive Information in the System or transmit Sensitive Information to SAS. If Customer uses or transmits any Sensitive Information in the System in violation of this section, Customer will reimburse SAS for any costs associated with its removal.

10. Prohibited Activities

Customer and Users will not use the System to: (a) send spam or other unsolicited marketing or communications; (b) infringe on any party's intellectual property or privacy rights; (c) send or

store harassing, abusive, libelous, or obscene materials; (d) falsify or delete transmission information, including headers, return mailing, and Internet protocol addresses; (e) misuse or abuse passwords, confidential information, software, equipment, networks or network devices of SAS or any third party; (f) download the Software, other software, or data other than the Customer Materials made available by SAS via the System; (g) impair the functionality of the System; (h) violate any applicable laws or regulations; (i) violate the rules of any other service provider engaged by or for the benefit of Customer. Users will not use any open source software in connection with the System if the license to the open source software requires that any part of the System be disclosed or distributed in source code form, made available free of charge, or modifiable without restriction; or (j) perform, or cause to be performed, any type of penetration testing or similar external security attacks against the System. Customer will promptly notify SAS and use best efforts to remedy any violations of this section by Users. Upon notification to Customer, SAS may suspend access to the System if a Customer violates this section or if SAS reasonably suspects a Customer is violating this section.

11. Security

SAS will employ reasonable security measures designed to: (a) protect the System against unauthorized access, usage, or other threats; and (b) protect Confidential Information, including Personal Data, against unauthorized access, use, alteration, destruction, or disclosure. Such measures are set forth in SAS' Technical and Organizational Security Measures document ("TOMS") available at <https://www.sas.com/TOMS>.

Except as expressly specified in the Agreement, SAS does not represent or guarantee that the System complies with any applicable laws that impose specific data security obligations for the storage or processing of Customer Materials. Customer is solely responsible for determining the suitability of the System in light of any such applicable laws.

12. System Validation

If set forth in an Order Form, SAS will provide assistance with qualification or validation activities related to System use in certain regulated industries. Customer will provide the appropriate information to enable SAS to qualify or validate the System as integrated with the Customer Materials. Additional Fees may apply for any qualification or validation activities.

13. Security Audit

Upon thirty (30) days' written notice to SAS and at Customer's expense, Customer employees or a mutually acceptable independent third-party auditor

may conduct one (1) off-site documentation audit or one (1) on-site audit to verify that SAS is in compliance with SAS' security and data protection obligations under the Agreement. Customer will conduct on-site security audits at SAS' corporate headquarters in Cary, North Carolina, USA during SAS' normal business hours. SAS will not be required to disclose any information relating to other customers or third parties. On-site security audits must not interfere with SAS' normal business operations and will not exceed three (3) SAS business days. The auditor must sign a confidentiality agreement with SAS prior to conducting the security audit and will comply at all times with SAS' security rules, policies and procedures. SAS will cooperate with the auditor by:

(a) making applicable records available; (b) providing copies of such records as requested for review by the auditor on SAS' premises; and (c) directing SAS employees to reasonably cooperate. Security audits will be limited to SAS' records, facilities and employees and will not include a review of any records, facilities, infrastructure, or technology owned or controlled by a third party cloud provider. Neither Customer nor the auditor will access the internet data center or otherwise observe any physical security safeguards maintained by SAS or Microsoft. Customer may conduct one (1) security audit during any twelve (12) month period during the Term, unless applicable law or an order of a regulatory authority mandates otherwise.

14. Disclaimer of Third-Party Actions

SAS exercises no control over the flow of information to or from the System, SAS' network, or other portions of the internet. Such flow largely depends on the performance of internet services provided or controlled by third parties. At times, actions or inactions of such third parties can impair or disrupt connections to the System. SAS will use commercially reasonable efforts to take all actions it deems appropriate to avoid or remedy such events, but SAS cannot guarantee that such events will not occur. **SAS DISCLAIMS ANY AND ALL LIABILITY RESULTING FROM OR RELATED TO INTERNET OR NETWORK FAILURES, EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THE AGREEMENT, SAS DISCLAIMS ANY AND ALL LIABILITY ARISING FROM ACTIONS OR INACTIONS OF A THIRD PARTY.**

15. Additional Termination Rights

In addition to SAS' termination rights set forth in the Agreement, SAS may terminate the Order Form upon thirty (30) days' prior written notice if Customer fails to cure either of the following conditions: (a) Customer's use of the System or the Customer Materials poses a security risk to the System or any other SAS customer, may harm the System or any other SAS customer, or may subject SAS or any third party to liability; or (b) applicable law prohibits SAS from providing the System to Customer. SAS may terminate the Order Form upon five (5) days' written notice in the event Customer uses the System for fraudulent or illegal activities. If a cloud service provider terminates its agreement with SAS to provide their facilities for the System, SAS may, upon at least one hundred twenty

(120) days' written notice to Customer, either (a) relocate the System to an alternate internet data center, or (b) if relocation is not commercially reasonable, terminate the Order Form and refund to Customer a pro rata portion of any Fees paid by Customer for the time remaining in the Term.

16. Microsoft Products

If the System includes any products owned by Microsoft Corporation, the Microsoft terms are available at:

<https://www.sas.com/content/dam/SAS/legal/microsoft/products/english.pdf>

LGL8624.v2
Last Revised: 27 Jan 2022



Hosted Managed Services Service Level Warranty Addendum

中文 Français Deutsch Italiano 日本語 한국어 Español Polski Türkçe Português

This Service Level Warranty Addendum describes SAS' Service Level Warranty for System availability and Customer's remedy for System Downtime for Hosted Managed Services or Managed Application Services, as applicable.

1. Service Level Warranty for Hosted Managed Services

1.1 Definitions.

1.1.1 "Burn-in Period" means a period of sixty (60) days following the date on which SAS declares the production System to be live.

1.1.2 "Planned Outage" means any scheduled outage resulting in unavailability of the System due to maintenance activities of the Internet data center or other reasons.

1.1.3 "Service Credit" means the credit provided to Customer for any calendar month in which System Availability is not achieved. Service Credits are calculated as set forth in the Section entitled, *Service Credits*.

1.1.4 "Service Level Warranty" means the warranty that the production System will be available to Customer as described in the *Service Level Warranties* provision of this Addendum.

1.1.5 "System Availability" means the percentage of time during each calendar month when the System is available to Customer, excluding any period of unavailability due to a Planned Outage, any outage due to Customer Materials or any outage beyond SAS' reasonable control.

1.1.6 If this Addendum is incorporated into an agreement for Managed Application Services, then Hosted Managed Services means Hosting Services for the purposes of interpreting this Addendum.

1.2 Service Level Warranty. SAS' Service Level Warranty applies to production Systems only and is dependent on Customer submitting all required Customer Materials to SAS in accordance with the Agreement. SAS will monitor the Hosted Managed Services and will determine System Availability. SAS will monitor the Service Level Warranty during the Burn-in Period but will not make Service Level Credits available until the end of the Burn-in Period.

1.3 Applicability.

1.3.1 The Service Level Warranty will not apply to: (a) any modification of the System by anyone other than SAS or SAS' representatives; (b) Consulting Services or technical support; or (c) telecommunications lines. The Service Level Warranty does not apply to any unavailability of the System or performance issues that result from or are related to: (a) a Force Majeure cause; (b)

actions or inactions of Customer or any third parties outside of SAS' control including, but not limited to third party provider(s); (c) Customer's equipment and/or third-party equipment not within the sole control of SAS or its representatives; (d) Customer's failure to comply with the System usage rules; (e) Customer Materials; or (f) Third Party Products.

1.3.2 SAS' provision of the Hosted Managed Services or Additional Services depends on the timely availability of Customer Materials. If SAS is unable to perform any obligation under the Order Agreement due to unavailable or altered Customer Materials, SAS will notify Customer and Customer will provide the Customer Materials. SAS will process the Customer Materials or corrected Customer Materials as soon as commercially practicable after they become available. SAS will notify Customer once any delays in the availability of the System are resolved. Any delays in the availability of the System occurring as a result of the Customer Materials will not be deemed a breach of the Service Level Warranty and SAS will not be liable for providing Customer with any Service Credits pursuant to the *Service Credits* section.

1.3.3 Any unavailability of the System relating to the *Planned Outages* or *Temporary Service Suspensions* sections below are not a breach of the Service Level Warranties and SAS will not provide Customer with any Service Credits.

1.4 Planned Outages. SAS will use reasonable efforts to provide Customer with at least seven (7) days' notice prior to a Planned Outage.

1.5 Temporary Service Suspensions. SAS may temporarily suspend Customer's access to any portion or all of the System, including the Customer Materials, if SAS reasonably determines that:

(a) a threat, attack, denial of service attack, or other event creates a risk to the System, the Internet data center, any party or a third party;

(b) Customer's use of the System or the Customer Materials creates a risk to the System, the Internet data center, any party or third party, or may subject SAS or any third party to liability;

(c) Customer uses the System for fraudulent or illegal activities or any activity prohibited by the System usage rules;

(d) subject to applicable law, Customer ceases to continue its business in the ordinary course, attempts to make an assignment for the benefit of

creditors or similar disposition of its assets, or becomes the subject of any bankruptcy, reorganization, liquidation, dissolution or similar proceeding;

(e) Customer uses the System in breach of the Agreement;

(f) there is any unauthorized access to or use of the System;

(g) Customer is in default of its payment obligations;

(h) there is an unusual spike or increase in Customer's use of the System, which gives rise to a reasonable suspicion of unauthorized use of the System; or

(i) applicable law prohibits SAS from providing the System to Customer.

SAS will use commercially reasonable efforts to provide written notice of any service suspension to Customer and will provide updates regarding resumption of availability of the System following any service suspension. SAS will not provide any Service Credits and will have no liability for any damage, liabilities, losses (including any loss of data or profits) that Customer may incur as a result of any service suspension under this section.

2. Service Credits

2.1 Service Credits will apply to Customer's production System(s) only. Customer will be entitled to request only one (1) Service Credit each month related to a particular event. Customer must request each Service Credit within seven (7) days of the end of such calendar month. Customer's failure to request a Service Credit within this timeframe will forfeit the Service Credit for that month. Any Service Credits received by Customer will be applied to the next invoice for Hosted Managed Services Fees under the Order Agreement. However, if the Service Credit is due in the final period of the Term, SAS will refund the Service Credit to Customer.

2.2 End-to-End Service Level Warranty. Service Credits available to Customer as a result of a breach of the End-to-End Service Level Warranty are calculated based on the System Availability as follows:

$$x = ((n-y)/n) * 100$$

Where x = Average System Availability percentage;

n = the number of hours in a calendar month; and

y = the number of hours that the production System is not available in the same month.

System Availability	Service Credit Calculation
> 99.0%	No Service Credit
98.99% - 98.5%	4% of the monthly Hosted Managed Services Fees (annual Fee divided by twelve)
< 98.49%	7% of the monthly Hosted Managed Services Fees (annual Fee divided by twelve)

3. Termination

Customer may terminate the Order Agreement for cause and without penalty if: (a) Customer receives a total of four (4) Service Credits during any annual period under the Order Agreement; and (b) SAS breaches the Service Level Warranty in any subsequent calendar month during such annual period. Customer must notify SAS of its intention to terminate within five days following the end of the calendar month in which the termination right arises.

4. Exclusive Remedies

Exclusive Remedies. The *Service Credits*, and *Termination* sections above state Customer's sole and exclusive remedy for any noncompliance with the Service Level Warranty. **SAS MAKES NO WARRANTY THAT THE SYSTEM WILL OPERATE ERROR-FREE OR WITHOUT INTERRUPTION OR THAT ANY DATA TRANSMISSIONS TO, FROM, OR THROUGH THE SYSTEM WILL BE COMPLETELY SECURE; PROVIDED, HOWEVER, THAT SAS WILL UTILIZE THE SECURITY MEASURES DESCRIBED IN THE HOSTED MANAGED SERVICES ADDENDUM.**



Consulting Services Addendum

中文 Français Deutsch Italiano 日本語 한국어 Español Polski Türkçe Português

This Addendum applies only to Consulting Services. To purchase Consulting Services, Customer will enter into an Order Form with SAS that incorporates the Universal Terms, this Addendum and any other Offering-specific terms.

1. Consulting Services

SAS will provide the Consulting Services on either a Fixed Price basis or a Time and Materials basis as described in the Order Form. Consulting Services do not include continued support or maintenance of any Work Product, unless such continued support or maintenance is detailed in the Order Form.

2. Time and Materials Consulting Services

This section applies only to Time and Materials Consulting Services.

2.1 Invoicing. Unless Customer elects to pre-pay Fees as set forth in an Order Form, SAS will invoice Customer monthly for Fees due.

2.2 Customer Budget. If the Order Form sets forth a Customer Budget, SAS will not perform Services or charge Fees exceeding such Customer Budget without an amendment to the Order Form to increase the Customer Budget. Customer is not obligated to spend all of the Customer Budget.

3. Fixed Price Consulting Services

This section applies only to Fixed Price Consulting Services.

3.1 Invoicing. SAS will invoice Customer for the Fees according to the schedule in the Order Form.

3.2 Acceptance. Customer will accept or reject a Deliverable within ten (10) business days of delivery. If Customer does not reject a Deliverable within this timeframe, the Deliverable is deemed to have been accepted. Customer must notify SAS in writing to reject a Deliverable and must specify the nature and scope of the deficiencies.

If Customer rejects a Deliverable, the parties will use reasonable efforts to follow these timeframes. Within five (5) business days after receipt of the rejection notice, SAS will either correct the deficiencies or propose the manner and timeframe for correcting the deficiencies. Customer will accept or reject any proposal from SAS for correcting any deficiencies within five (5) business days after receipt of SAS' proposal. Customer will accept or reject the corrected Deliverable within five (5) business days of SAS' delivery.

If Customer rejects SAS' proposal for correcting any deficiencies or rejects the corrected Deliverable, SAS may terminate the Agreement for the Consulting Services and refund the Fees paid for the Deliverable. In such event, Customer will delete or destroy the Deliverable.

If the Order Form does not specify any Deliverables, then the Services are deemed accepted as they are performed.

4. Customer's Responsibilities

Customer will:

(a) provide accurate information and access to Customer personnel required for SAS to perform the Consulting Services;

(b) review any Work Product and Deliverables as SAS reasonably requests;

(c) back up all systems, data or software that SAS will access when performing the Consulting Services;

(d) implement reasonable measures to prevent SAS' inadvertent access to any Confidential Information not necessary for SAS' performance of the Consulting Services;

(e) make available facilities and equipment reasonably required for SAS to perform any on-site Consulting Services; and

(f) provide and use a Connectivity Tool to limit and control SAS' access to the systems and data required for SAS to perform the Consulting Services. If individually assigned access is unavailable, Customer may permit SAS remote access via screen sharing applications (such as WebEx or Zoom). SAS will use the Connectivity Tool regardless of whether access occurs remotely, at Customer's facility, or using SAS' or Customer's laptops or other hardware.

SAS is not liable for any performance delays caused by Customer's failure or delay to perform these responsibilities.

5. Taxes, Travel and Living Expenses

Fees do not include applicable taxes or travel and living expenses. SAS will invoice Customer monthly for actual travel and living expenses SAS incurs while performing Consulting Services. Unless specifically stated in the Order Form or Agreement, any pre-paid Fees are non-refundable and cannot be applied to taxes or travel and living expenses.

6. Change Management

For any change to the scope of Consulting Services or the assumptions set forth in the Order Form, SAS will prepare a written change order describing: (a) the changes; (b) the impact of the changes on the Consulting Services and the project schedule; (c)

the estimated timetable; and (d) any additional Fees and cost.

Customer's project manager will respond in writing to a change order within five (5) business days. If the change requires payment of additional Fees, SAS will provide a proposed amendment to the Order Form. Until the parties mutually agree on the change order and sign an amendment, if required, SAS will continue to perform the Consulting Services as if the change order does not apply.

7. Customer Project Manager

Customer will designate one or more project managers to be Customer's primary contact(s) with SAS.

8. Time Limitations

Customer will not bring any claim against SAS related to the Work Product or Consulting Services more than one (1) year after the termination or completion of the Consulting Services under the applicable Order Form.

LGL8623 v2

Last Revised: 27 Jan 2022



To contact your local SAS office, please visit: sas.com/offices

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. * Indicates USA registration. Other brand and product names are trademarks of their respective companies. Copyright 2021 SAS Institute Inc. All Rights Reserved.