

Request for Proposal (RFP)

Commodity/Service Required:	Web Based model for PX transactions
Type of Procurement:	Subcontract
Type of Contract:	Firm Fixed Price
Term of Contract:	15 months from the date of award
Contract Funding:	United States Agency for International Development (USAID)
This Procurement supports:	South Asia Regional Energy Partnership (SAREP)
Submit Proposal to:	SAREP-Procurement@rti.org
Date of Issue of RFP:	August 25, 2023
Date Questions from Supplier Due:	September 1, 2023
Date Proposals Due:	September 12, 2023
Approximate Date Subcontract Issued to Successful Bidder:	October 12, 2023
Method of Submittal: Electronic (no hard copies required to be submitted)	
Respond via e-mail only with attached documents in MS Word / pdf format. The Bidder/Seller agrees to hold the prices in its offer firm for 90 days from the date specified for the receipt of offers, unless another time is specified in the addendum of the RFP.	
Solicitation Number:	SAREP RFP-2023-023

Eligibility Criteria:

1. Since this is a USAID funded project, therefore as per USAID ADS 310, only firms that belong to Geographic Code 937 country can receive a USAID funded subcontract from RTI. Geographic code 937 is defined as - the United States, the cooperating country/recipient country (India in this case), and developing countries other than advanced developing countries, and excluding prohibited sources. For more information on this, please refer to <https://www.usaid.gov/sites/default/files/2022-12/310.pdf>. The list of developing nations is provided at <https://www.usaid.gov/sites/default/files/2022-05/310maa.pdf>. Please note that the Geographic Code 937 restriction flows down to lower tier subcontractors as well.
2. Government entities/undertakings/PSUs and quasi-Government/para-statal entities are not eligible to participate in the bidding and receive a USAID funded sub-contract or a lower tier subcontract

Attachments to RFP:

1. Attachment "A" – Statement of Work
2. Attachment "B" – Instructions to Bidders/Sellers

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4. Attachment “C” - Subcontract Terms and Conditions. These are also listed on our website at: https://www.rti.org/sites/default/files/standard_subaward_terms_and_conditions_v1_11.pdf
Supplier’s delivery of products, performance of services, or issuance of invoices in connection with this Subcontract establishes Supplier’s agreement to the Terms.
5. Attachment “D” - Quick start guide to obtaining a SAM UEI number

All bidders/sellers are responsible to carefully review each attachment and follow any instructions that may be relevant to this procurement.

IMPORTANT: Bidders are required to submit their unconditional acceptance of the Subcontract Terms and Conditions listed in Attachment ‘C’ along with their bid. Failure to do so will result in the exclusion of their bid from being considered for the resulting subcontract. Also, bidders must sign off on Attachments ‘A’ and ‘B’ in the signature blocks provided at the end of each attachment and submit these with their bid proposal.

Attachment “A” Statement of Work

Description of Activity/Service:

Introduction

RTI International is an independent, nonprofit research institute dedicated to improving the human condition. Clients rely on us to answer questions that demand an objective and multidisciplinary approach—one that integrates expertise across the social and laboratory sciences, engineering, and international development. We believe in the promise of science, and we are inspired every day to deliver on that promise for the good of people, communities, and businesses around the world.

RTI International has been working in Asia for more than 35 years, providing technical assistance, institutional strengthening, and program support on behalf of governments, foundations, and private-sector clients. Together with our local partners, we deliver science-based solutions and advisory and technical services to help countries across South and Southeast Asia achieve national, regional, and local goals—in health, education, economic growth, governance and public policy, and environmental management. RTI is implementing 19 projects in the Asia region with its offices located in India, Indonesia, Thailand, Cambodia, Philippines, Laos, Nepal, and Papua New Guinea.

RTI International is the implementing contractor for a five (5) year USAID project called the USAID South Asia Regional Energy Partnership (SAREP). SAREP will serve as a linchpin of the Asia Enhancing Development and Growth through Energy (EDGE) initiative. To achieve USAID’s goal of improving access to affordable, secure, reliable and sustainable energy, SAREP will address two distinct, yet mutually dependent objectives: a. Enabling six countries – Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka—to build systems and processes in line with their respective economic and energy security priorities, and b. Facilitating collaboration among these six countries in a regional energy market that will accelerate economic development, self-reliance, livelihoods, health, and productivity throughout the region.

SAREP’s objectives are as follows:

- Workstream 1: Regional Energy Hub
- Workstream 2: Technical Services
 - Objective 1: Enhanced regional energy markets and integration
 - Objective 2: Increased development of advanced energy
 - Objective 3: High-performing modern utilities.
 - Objective 4: Transparent, best-value procurement.

A. Background

With Bhutan's participation in India's Short-Term Open Access market segment through CBET, especially in Day Ahead Market on Power Exchange with day-ahead horizon, from 2022 onwards, many new dimensions of operational, planning and techno-commercial issues have emerged. This requires adoption of various model(s)/tool(s) for efficient operational automation, and analytics in the areas of supply-demand planning, purchase and sale of power through trading on Indian power exchange for effective participation by Bhutan in cross-border short-term power market.

USAID was requested by Government of Bhutan to develop a web based integrated model(s)/tool(s) through its South Asia Regional Energy Partnership (SAREP) program to aid in accurate supply demand forecasting and determine optimized bid volumes and prices for both buy as well as sell on Indian Power Exchange. The model shall enable monitoring of deviations and taking timely corrective actions during the actual transactions on a real time basis to optimise generation and demand so as to minimize Deviation Settlement Mechanism (DSM) charges.

Considering initial bidding and operational experience of trading power with India, and nascent stage of adoption of analytic modules, a semi-automated and easy to implement analytics module(s) using MS Excel framework and OneDrive Cloud has been implemented successfully in Bhutan. The tool covers Scheduling, Planning, Demand-Supply Management, Generation forecasting, Demand Forecasting and DAM Bidding areas. With operational adoption of this excel module, refinement in processes and data management, there is standardization with time, which in turn makes way for high-level automation and analytics through web-based software model(s)/tool(s) development and deployment in Bhutan.

B. Objectives

To provide technical assistance, handholding support to stakeholders in Bhutan to facilitate and strengthen their day to day participation in the Indian Power Exchange Market. This will entail providing guidance and help in resolving day to day issues that arises during the scheduling, bidding and import and export of power from the Power Exchange through daily interactions at the critical periods of preparation/submission of bids and scheduling of power. This will also entail developing appropriate web-based optimization model(s)/tool(s) for forecasting generation and demand, so as to determine the optimized bid volumes and prices for buy/sell on the Power Exchange in Day Ahead Market (DAM) and Real Time Market (RTM) segments and also to enable monitoring and taking timely corrective actions for participating generating plants and demand of Bhutan on a real time basis.

The web-based model(s)/ tool(s) to be developed shall be suitable for cross border power trade with India and in compliance with CBET guidelines by MOP/ CERC/CEA and should be easily implementable with necessary customization with regard to specific operational requirements of

Bhutan. The model(s)/tool(s) shall be hosted on cloud/data centres, and Bhutan specific data shall be hosted on their Bhutan's domestic data centres/cloud system as advised/desired by Bhutan. The entire system availability of 99.99% shall be ensured with required standby /redundancy arrangement and same shall be subject to USAID and SAREP approval. Necessary API interface(s) shall also be developed between cloud/data centres for efficient operation of the model(s)/tool(s).

It is also envisaged that after successful customisation and stabilization of the model(s)/tool(s), these model(s)/tool(s) shall be handed over to Government of Bhutan for long term operation of these model(s)/ tool(s) and maintenance.

C. Expected Model Capabilities

The model(s)/tool(s) should have the following capabilities:

1. Forecast of Bhutan's domestic load on day-ahead and real-time basis factoring prevailing weather conditions.
2. Forecast of river inflow of Hydro Electric Plants (HEP) on day-ahead and real-time basis factoring prevailing weather conditions. Capability to simulate plant wise HEP operations w.r.t. inflow and generation, considering Area Capacity Curve and storage volumes of HEPs, so as to assess dam levels on 15 minutes time block basis. Parameters and data such as gross and net heads and losses, and any other technical parameters of generating plants as required would be part of permanent data inputs for each power plant.
3. Forecast of generation profiles from all types of generating plants, using artificial intelligence/ machine learning (AI/ML) models, by taking into consideration the parameters like Must run status, Generation Cost, Ramp Rates, Technical Minimum and operational requirements etc.
4. Forecast of Day Ahead Market (DAM) and Real Time Market (RTM) clearing prices (MCP) on power exchange and factor the same while deciding the bid pricing and the bidding volumes for each individual time block for DAM and RTM market. Any other market parameter(s) required for efficient working of the model shall also be factored while designing the model.
5. The model should have the capabilities to forecast/determine each time block-wise optimal bid volumes and bid prices for sale and purchase of energy, and the time slots/periods during the day to submit the bids (in exchange specified formats) for the energy traded through the Power Exchange to ensure best possible gains for Bhutan factoring prevailing weather conditions and transmission constraints if any. Statistical tools like Linear Programming based Optimisation tools etc. shall be adopted for determining the (technically and cost wise) bid volumes and prices for the most efficient energy balance and trade profile.
6. After placements of bids on the Power Exchange (through exchange APIs, or as specified by Bhutan) and schedules getting finalized for transactions, monitoring of the actual purchase/sale on a real time basis and dealing with the variations in demand and generation and DSM to be facilitated. Constraints with regard to reservoir levels, weather changes, transmission lines, plant availability etc. and any other force majeure aspects also needs to be

factored. These model(s)/tool(s) should have real time data interface with RLDC Web Based Energy Scheduling (WBES) portals. The model should be able to respond quickly to the variations in supply, demand and operational exigencies and, recommend interventions by way of setting new generation levels, reservoir operations and management of demand profile, to maintain the purchase/ sale volumes as per the agreed schedules, so that deviations w.r.t cross-border DSM are minimized.

7. In case of deviations even with the recommended interventions as above, the model(s)/tool(s) should be capable of recommending immediate rescheduling of export/import to minimize losses in generation as well as financial implications arising thereof, in addition to trading recommendations in RTM segment.

D. Design and Development Phase

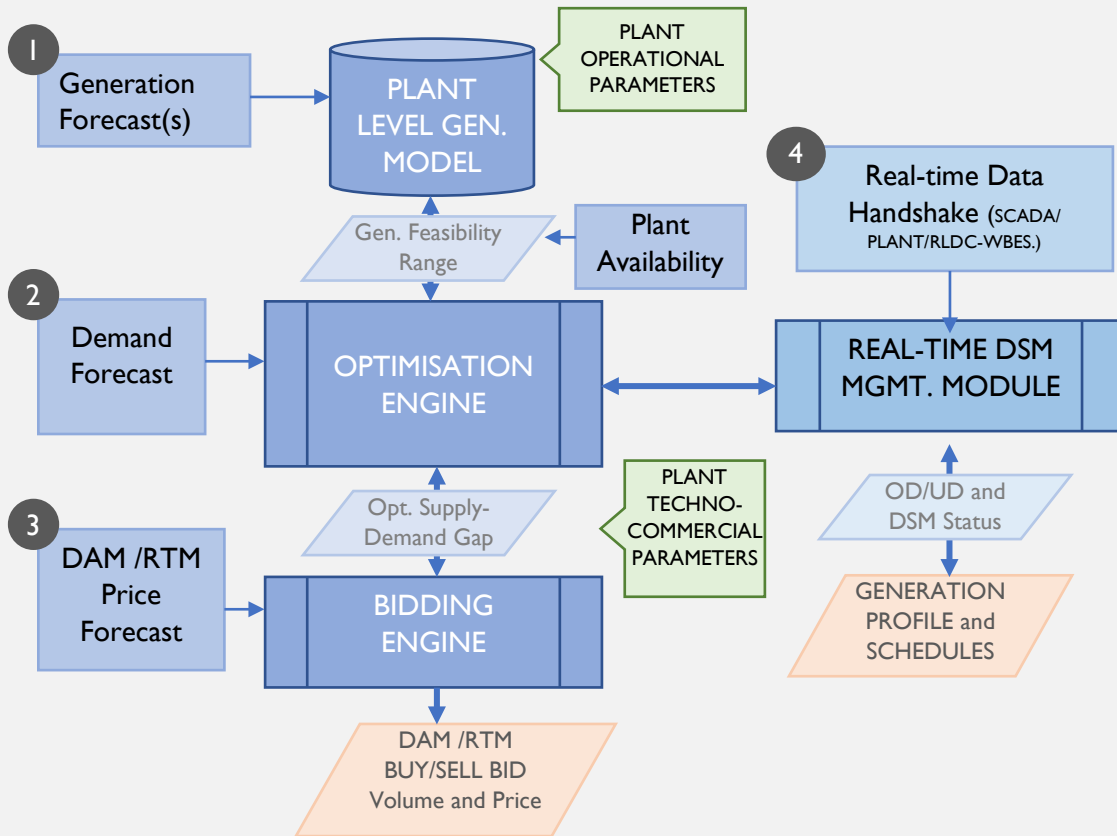
Taking into account, the model capabilities described in the section C above, the following Modules i.e., Module for Generation, Dispatch/Scheduling Optimisation, Bidding and DSM Management, along with Generation and Demand Forecasting has been conceptualized to be developed w.r.t cross-border Short-term power market participation of Bhutan, as specified in the below table:

Planning and Operational Horizon

PLANNING and OPERATIONS HORIZON: DAY-AHEAD and REALTIME	
I. PREDICTIVE ANALYTICS MODULES	II. DISPATCH and BID OPTIMISATION AND AUTOMATION
Generation Forecasts and Assessment (all types of generating plants) and Demand Forecast factoring prevailing weather conditions	<ul style="list-style-type: none"> - Hydro Reservoir Modelling, - Generation Optimisation/Scheduling (all types of generating plants), - Transmission constraints through load flow analysis - Bid (DAM/RTM) and price Automation and Optimisation - Real-time DSM Management

Proposed Process flow chart

PROCESS FLOW and FUNCTIONAL OVERVIEW OF SCHEDULING, BIDDING and DSM MGMT. MODULE



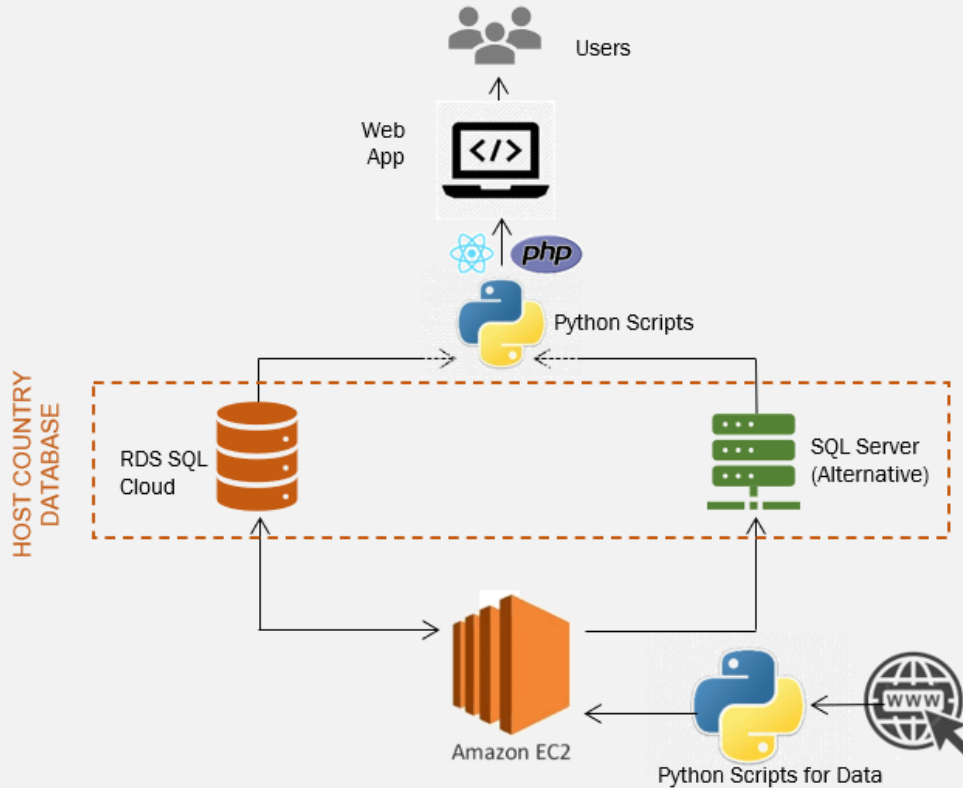
The envisaged module(s)/tool(s) should be a web-based integrated Python based software model with JS/PHP/HTML based front end and should comprise the following two independent web modules:

1. Day Ahead Module (Day Ahead Dispatch/Scheduling Optimisation and DAM Bidding)
2. Real Time Module (Real Time Dispatch/Scheduling, Optimisation, RTM Bidding and DSM Management.)

4. Architecture of the Model

The module(s)/tool(s) will have generic features for forecasting, integration, scheduling and optimisation of real time plant operations, in addition to PX Bidding and DSM management for cross-border trading. The same has to be first customized based on Bhutan's specific requirements, as explained in para-C of this document.

Solution Architecture for Dispatch and Bidding Software



Note: Cloud services shall be taken from SAREP approved sources

5. Data Server key features and Specifications to be maintained by Bhutan to interface with Python based Web-Module(s)/tool(s) (Applicable for domestic hosting)

Item	Description	Requirements
Physical Server Configuration	The server with sufficient resources to run the virtual machines that will host the instances	4 vCPU, Memory 16 GB, EBS-Optimized Volume, 1 TB Storage with scalability.
Virtualization software	To create virtual machines that can host the instances	VM ware
Operating System	Compatible OS to the available virtualization software	Ubuntu OS
Configuration and networking	Networking to be set up correctly so that the instances can communicate with each other and with the outside world	150 Mbps of network bandwidth, and reliable speed of internet shall also be mentioned
Monitoring and management	Tools to keep track of the health and performance of your instances and virtual machines, and ensure that they are up and running at all times	Appropriate Monitoring and management tools to be available

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Database	Relational database management system to support the JS and Python based webapp	MySQL and Command line tools
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The bidder shall confirm acceptance of above requirement and or suggest suitable requirements for efficient deployment and operations of the model(s).

6. Predictive and Optimisation Analytics and Operational Automation

a) Predictive Analytics							
Sl . No	Sub-Module	Architecture	Output/result	Suggested Input Parameters	Forecast Horizon	Forecast Cycle and Delivery requirement	Data Responsibility and Time line
1	1.River Inflow Forecast for participating Plants 2.Generation forecast from all sources of power generation. 3. Total 25 projects shall be considered for design and operation of the model(s)/tool(s).	AI/ ML	15 minutes time block-wise forecast for next day, separately for each plant	Historical time-block wise inflow for HEP, SCADA Generation data of other generating plants and weather forecast	Day ahead, real-time with 10 time blocks ahead on rolling basis)	By 10:00 hrs on day-ahead basis, and on same-day rolling basis, through API	Each plant to provide generation data and inflow data (for HEP) on day ahead/ real-time basis. Historical data will be provided based on availability of data with the plants.
2	Demand Forecast for each Country	AI/ ML	15minutes time block-wise forecast, separately for Domestic , Industrial, Commercial and Agriculture	Historical time-block wise demand data as available and weather forecast	Day ahead, real-time basis (10 - time blocks ahead rolling basis, to enable RTM/Exchange Participation)	By 10:00 hrs on day-ahead basis, and on same-day rolling basis, through API	-Bhutan to provide domestic demand, curtailments and outage data on day ahead/ real-time basis.

			consumer s, etc.				-Historical data to be provided as per availability
1. Dispatch and Bid Optimisation and Operational Automation							
Sl. No	Sub-Module	Functionality	Output/ result	Suggested Input Parameters	Interface Availability		
1	Hydro Reservoir Model for Plants	Should be able to compute discharge and final head levels based on inflow forecast and generation for each time block. Same to be integrated with Optimisation Engine.	Discharge, Final Reservoir Level, Dam Level Breaches etc.	River Inflow, Reservoir Capacity Curves, Net Head, Head Loss, FRL and MDDL, Dam Levels and Efficiency	Integrated Optimisation Model, and on-demand m run		
2	Generation Modelling for all other generating plants, apart from HEPs	Should be able to consider all technical constraints for operating the respective plant	Generation profile meeting all technical requirements and constraints	Technical minimum, ramp rate, etc.	Integrated Optimisation Model, and on-demand m run		
3	Optimisation Engine for Generation and Gap Analysis	Generate optimal schedules (revenue maximizing for sale and cost-minimizing to meet domestic demand / purchase) and block-wise supply-demand gap analysis, using statistical tools like Linear Programming based Optimisation Models, to suggest optimal generation profile from all sources and buy/sell positions	Optimal plant-wise Generation, with Buy/Sell positions in DAM/RTM Segment, along with Long term offtake Schedules	Plant PPA Cost, Generation Capacity Limits, Ramp Rates, Transmission Constraints, weather changes and DAM/ RTM Prices	Integrated generation modules, Generation optimisation modules and Management Module, and with on-dem model run.		
4	DAM Bid Generation Engine	Generate Buy/Sell bids for DAM (PX), considering least-cost (buy) and revenue	• Single/ Block DAM Bids, in format as per Exchange	DAM Price Forecast, Price and Volume Limits for	Integrated Optimisation Engine, with demand m		

		maximization (sell) principles, considering DAM Price Forecast		Bidding, and transmission constraints for inter-country Import/Export	run.	
5	RTM Bidding Module and Real-time DSM Management	<ol style="list-style-type: none"> 1. Generate Buy/Sell bids for RTM (PX), considering least-cost (buy) and revenue maximization (sell) principles, considering RTM Price Forecast. 2. With real-time interface to Plant and Grid level SCADA, RLDC Scheduling Portals and Using Frequency, Over Drawl/Under Drawl statistics to be monitored block-wise and also DSM Penalties as per extant regulations. OD/UD suggestions to be provided, in tandem to generation/LT Scheduling changes to minimize DSM Penalties. 	<ul style="list-style-type: none"> • Single/ Block RTM Bids, in format as per Exchange • Over Drawl /Under Drawl Decision Support real-time metrics and Optimal Generation/ Rescheduling based on actual supply-demand status and DSM Penalties 	<p>Real-time data from Plant/System Operator SCADA for Demand and Generation, RLDC- WBES Schedules, Grid Frequency and River Inflow etc. SCADA connection for real-time data connection to be provided by System Operator (API/SFTP) using OPC UA Secure protocol.</p> <p>API-application program interface. SFTP- secure file transfer protocol. OPC UA- open platform communication and unified architecture.</p>	Integrated Optimisation Engine, each country SCADA and RLDC- WBES, with on-demand model run.	to each country SCADA

With the above specified functionalities and processes, the module(s)/tool(s) should be a single integrated web-based platform for seamless coordination among various agencies/departments (stakeholders) of Bhutan so as to enable effective and timely coordination among all the stakeholders. Operational customisation to present and future requirements and, regulatory changes etc. should be feasible in this software. The model(s)/tool(s) shall be designed to factor in data from 25 nos. of plants, and the details of plants shall be shared with successful vendor.

- The bidder shall also study the current SAP implementation done at the stakeholder locations to ensure the possibility of reusing the data entered through their ERP applications with no duplication of data.
- Input data to the application to also include flat file/web-based uploading in a single entry or bulk entry, in addition to automated data entry from ERP Applications.

E. Key Performance Indicators of the Model

S.No	Particulars	Unit	Expected Values
1	Generation Forecast	Percentage Error	5 %
2	Demand Forecast	Percentage Error	5 %
3	DAM and RTM Buy/Sell volume and Price Forecast	Percentage Error	5%
4	DSM Optimization	MWh	5%

During the rollout phase KPIs shall be considered at the level of 10%. However, at the time of handover of the model, KPIs as indicated in the table above shall be achieved.

F. Model Implementation and adoption support

1. Conduct modelling, testing and analysis with existing data available.
2. Identify integrated training and capacity development needs to enable stakeholders to develop internal capacity to independently manage and operate the model(s)/tool(s).
3. Deliver handholding support and mock run of the model(s)/tool(s) including hands on capacity development training sessions (12 numbers) based on identified needs to develop institutional capacity for operational of the model(s)/tool(s).
4. Model handover and operational support for six months.
5. Documentation on the configuration of the model(s)/tool(s) along with source code.
6. Application management and support manual.

G. Stakeholder(s) Participation

It is recommended that a local IT partner from Bhutan is also taken on board for facilitating development/implementation of the project so that post go live, there is local support available to ensure that the model(s)/tool(s) are sustainable in the long term.

Further it is also envisaged that engineers from each stakeholder(s) shall be engaged/associated with the project.

H. Timelines for Development and Delivery of Model(s)

S.No.	Particulars	Timeline (Weeks)-T
1	Data Exchange	T+3
2	Design and Development of Model(s)/tool(s)	T+15
3	Model(s)/tool(s) Testing	T+18

4	UAT, Customisation, Rollout and Implementation of Model(s)/tool(s)	T+24
5	Handover of Model(s)	T+26
6	User Manual	T+28
7	12 Mock exercises and capacity building	T+38
8	Operational Support and Training	T+62

I. Model(s)/Tool(s) customisation for Nepal and Bangladesh

The details of model(s)/tools(s) as described above shall also be customized and implemented for Nepal and Bangladesh as required and in discussions with USAID missions in India, Nepal and Bangladesh.

J. IT infrastructure

- i. All model(s)/tool(s) shall be hosted on cloud infrastructure/data centre and should be compatible for efficient operations.
- ii. The cloud services provider (CSP) firm should be MeitY empanelled (as on bid submission date) and SAREP approved. The data centre and disaster recovery architecture for the cloud services should be STQC audited. Furthermore, all data should be maintained safely for a period of 02 years post completion of contract for audit purpose.
- iii. The models shall be compliant with the cyber security norms as per the Cyber Security in Power Sector Guidelines.
- iv. The model shall use preferably APIs and SFTPs for fetching data from different platforms. Other techniques such as web-scraping, crawlers may also be utilized where data through API isn't available.
- v. The models shall provide dashboards to summarize and present data using software such as Power BI, Tableau, Quicksight etc.
- vi. The models should have the capability to display the dashboards over multiple interfaces such as web-based, desktop and mobile application.
- vii. The dashboards, visualizations, and reports should offer query-based sorting and filtering options, including historical trends and forecast.
- viii. The dashboard shall allow for multiple reporting provisions which shall be finalized once the bidder is selected.
- ix. The dashboard should be capable of generating reports in PDF, CSV, Excel or other formats as required.
- x. The dashboards should be accessible via login credentials and provide multiple hierarchy of access as per requirements.

K. Bidder's Team Expertise and Composition

The bidder shall confirm availability of following personals for working on this project and submit necessary details in support of same along with the bid.

a. Project Manager

Qualification- must possess a graduate degree in engineering.

Experience: At least 10 years of experience of supporting power utilities/exchanges out of which at least 05 years in power procurement function. Hands-on experience in developing and implementation of AI/ML software solutions is required. Experience in cross border power trade is preferred.

b. Generation/Load/ Price forecasting and dispatch expert(s)

Qualification- must possess a graduate degree in engineering.

Experience: At least 5 years of hands on experience in generation/load /dispatch/price forecasting.

c. IT technical expert(s)

Qualification- At least graduate degree in Computer Science/IT or equivalent field.

Experience: At least 5 years of experience in design and development of Web based application architecture including IT solutions for power utilities/exchanges. Experience in successful development and deployment of software solutions for power procurement on exchange is required.

d. Power Market and Analytic expert(s)

Qualification- must possess a graduate degree in engineering.

Experience: At least 5 years of experience in power sector including 2/3 years of experience in regulatory, power markets participation, trading and analytics for utilities.

SUBCONTRACT PERFORMANCE PERIOD: Eighteen months (18) from the date of subcontract award, including one month for closing out the subcontract.

Payment and Delivery Schedule

The prices towards the deliverables, which include the development of the portal and one (1) year of maintenance support services, including providing the cloud storage support are to be quoted in the format as shown below:

1. PRICE SCHEDULE for BHUTAN

CLIN	Deliverables	Deliverable due date (From date of award)-T	Not to exceed percentage of the total firm fixed price of the subcontract	Firm Fixed Price in US Dollars including all within India domestic travel
1.	Inception report covering detailed methodology, approach, analytical framework, and steps for the entire assignment as per SOW and sign off from SAREP	T+3 weeks	4 %	
2.	Web based software model(s) as per SOW for generation/demand/exchange price forecast (DAM and RTM) and buy /sell transactions support for Bhutan participation in India's Power Exchange Market			
2.a	Develop, customize and deliver suitable model(s) and submission of report(s) for successfully providing assistance/guidance in cross border trading processes like generation/demand/ exchange price forecast (DAM and RTM) for preparation and optimization of bids for Day ahead and Real time market(s) for buy/sell volumes and prices and submission of bids to traders/exchanges.	T+24	12%	
2.b	Develop, customize and deliver suitable model(s) and submission of report for successfully providing assistance/guidance to stakeholders for operating the participating generating plants on real time basis to minimize DSM deviations.	T+24	12%	
2.c	Submission of report of successful uploading all model(s) on various	T+26	2 %	

	machines of stakeholders, integrate them and handover of all model (s)/tool(s) to stakeholders			
2.d	Develop and deliver “User Manual” of all model(s)	T+28	2%	
2.e	Submission of 12 reports of successfully conducting hands-on mock exercises and capacity building workshops (12 numbers) for models to enable the stakeholders to use these models independently.	T+38	6%	
2.f	Submit monthly reports (6 Nos) for successfully providing models(s) operational support and training to stakeholders	T+62	6%	
2.g	TOTAL FIRM FIXED PRICE FOR BHUTAN			

2. PRICE SCHEDULE FOR NEPAL

CLIN	Deliverables	Deliverable due date (From date of award)-T	Not to exceed percentage of the total firm fixed price of the subcontract	Firm Fixed Price in US Dollars including all within India domestic travel
1.	Inception report covering detailed methodology, approach, analytical framework, and steps for the entire assignment as per SOW and sign off from SAREP	T+3 weeks	3%	
2.	Web based software model(s) as per SOW for generation/demand/exchange price forecast (DAM and RTM) and buy /sell transactions support for Nepal participation in India’s Power Exchange Market			
2.a	Develop, customize and deliver suitable model(s) and submission of report(s) for successfully providing assistance/guidance in cross border trading processes like generation/demand/ exchange price forecast (DAM and RTM) for preparation and optimization of bids for	T+24	7%	

	Day ahead and Real time market(s) for buy/sell volumes and prices and submission of bids to traders/exchanges.			
3.b	Develop, customize and deliver suitable model(s) and submission of report for successfully providing assistance/guidance to stakeholders for operating the participating generating plants on real time basis to minimize DSM deviations.	T+24	6%	
3.c	Submission of report of successful uploading all model(s) on various machines of stakeholders, integrate them and handover of all model (s)/tool(s) to stakeholders	T+26	2 %	
3.d	Develop and deliver "User Manual" of all mode(s)	T+28	2%	
3.e	Submission of 12 reports of successfully conducting hands-on mock exercises and capacity building workshops (12 numbers) for models to enable the stakeholders to use these models independently.	T+38	4%	
3.f	Submit monthly reports (6 Nos) for successfully providing models(s) operational support and training to stakeholders	T+62	4%	
TOTAL FIRM FIXED PRICE FOR NEPAL				

3. PRICE SCHEDULE FOR BANGLADESH

CLIN	Deliverables	Deliverable due date (From date of award)-T	Not to exceed percentage of the total firm fixed price of the subcontract	Firm Fixed Price in US Dollars including all within India domestic travel
1.	Inception report covering detailed methodology, approach, analytical framework, and steps for the entire assignment as per SOW and sign off from SAREP	T+3 weeks	3%	
2.	Web based software model(s) as per SOW for generation/demand/exchange price			

	forecast (DAM and RTM) and buy /sell transactions support for Bangladesh participation in India's Power Exchange Market			
2.a	Develop, customize and deliver suitable model(s) and submission of report(s) for successfully providing assistance/guidance in cross border trading processes like generation/demand/ exchange price forecast (DAM and RTM) for preparation and optimization of bids for Day ahead and Real time market(s) for buy/sell volumes and prices and submission of bids to traders/exchanges.	T+24	7%	
2.b	Develop, customize and deliver suitable model(s) and submission of report for successfully providing assistance/guidance to stakeholders for operating the participating generating plants on real time basis to minimize DSM deviations.	T+24	6%	
2.c	Submission of report of successful uploading all model(s) on various machines of stakeholders, integrate them and handover of all model (s)/tool(s) to stakeholders	T+26	2 %	
2.d	Develop and deliver "User Manual" of all mode(s)	T+28	2%	
2.e	Submission of 12 reports of successfully conducting hands-on mock exercises and capacity building workshops (12 numbers) for models to enable the stakeholders to use these models independently.	T+38	4%	
2.f	Submit monthly reports (6 Nos) for successfully providing models(s) operational support and training to stakeholders	T+62	4%	
TOTAL FIRM FIXED PRICE FOR BANGLADESH				

TOTAL FIRM FIXED PRICES FOR EACH COUNTRY (SEE ABOVE)

	Country	Total price as per country wise pricing tables above (US Dollars)
1.	Bhutan	
2.	Nepal	
3.	Bangladesh	
TOTAL FIRM FIXED PRICE		
ADD: GST (IF APPLICABLE)		
TOTAL FIRM FIXED PRICE INCLUDING GST		

REIMBURSABLE INTERNATIONAL TRAVEL COSTS

Description	No. of days for each trip	Cost per trip in USD	Total estimated cost in USD
1. Bhutan (only four trips for two persons each time is authorized)			
Air fare			
Per Diem - Lodging			
Per Diem - Meals and Incidental expenses			
Within city transportation			
Total international travel cost for Bhutan			
2. Nepal (only four trips for two persons each time is authorized)			
Air fare			
Per Diem - Lodging			
Per Diem - Meals and Incidental expenses			
Within city transportation			
Total international travel cost for Nepal			
3. Bangladesh (only four trips for two persons each time is authorized)			
Air fare			
Per Diem - Lodging			
Per Diem - Meals and Incidental expenses			
Within city transportation			
Total international travel cost for Bangladesh			
Total estimated cost for all three countries			
Add: GST if applicable			
*Total estimated cost for all three countries including GST			

***Total travel costs shall also be included in bid evaluation prices.**

RTI's and USAID's prior approval is required for all international travel , and are subject to the

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maximum rates and limitations prescribed by USAID. For air travel, only economy class travel is authorized. The daily ceiling rate for all domestic travel, other than for New Delhi is: \$100 for Meals & Incidental Expenses (M&IE) and \$150 for Lodging, a total of \$250. For New Delhi, the existing ceiling rates specified at https://aoprals.state.gov/web920/per_diem_action.asp?MenuHide=1&CountryCode=1155 shall apply.

By signing this attachment, the bidder confirms he has a complete understanding of the specifications and fully intends to deliver items that comply with the above listed specifications.

Signature:

Title:

Date:

Attachment “B” Instructions to Bidders/Sellers

- Procurement Narrative Description:** The Buyer (RTI) intends to purchase commodities and/or services identified in Attachment A. The Buyer intends to purchase the quantities (for commodities) and/or services (based on deliverables identified in a Statement of Work). The term of the Ordering Agreement shall be from Award Date to the Delivery date of the Offeror unless extended by mutual agreement of the parties. The Buyer intends to award to a single “approved” supplier based on conformance to the listed specifications, the ability to service this contract, and selling price. We reserve the right to award to more than one bidder. If an Ordering Agreement is established as a result of this RFP, supplier understands that quantities indicated in the specifications (Attachment A) are an estimate only and RTI does not guarantee the purchase quantity of any item listed.
- Procuring Activity:** This procurement will be made by **Research Triangle Institute (RTI International)**, located at

3040 Cornwallis Road
Research Triangle Park, NC 27709

(insert full address of the office)

who has a purchase requirement in support of a project funded by

United States Agency for International Development (USAID)

(insert client’s name)

RTI shall award the initial quantities and/or services and any option quantities (if exercised by RTI) to Seller by a properly executed Purchase Order as set forth within the terms of this properly executed agreement.

- Proposal Requirements.** All Sellers will submit a proposal which contains offers for all items and options included in this RFP. The proposal should be prepared in such a way that continuity of contract can be maintained with SAREP or central stakeholder as per price discovered in this contract. All information presented in the Sellers quote/proposal will be considered during RTI’s evaluation. Failure to submit the information required in this RFP may result in Seller’s offer being deemed non-responsive. Sellers are responsible for submitting offers, and any modifications, revisions, or withdrawals, so as to reach RTI’s office designated in the RFP by the time and date specified in the RFP. Any offer, modification, revision, or withdrawal of an offer received at the RTI office designated in the RFP after the exact time specified for receipt of offers is “late” and may not be considered at the discretion of the RTI Procurement Officer. **The Seller’s proposal shall include the following:**

(a)	The solicitation number:
(b)	The date and time submitted:
(c)	The name, address, and telephone number of the seller (bidder) and authorized signature of same:
(d)	Unique Entity ID in System for Award Management (SAM): <i>If you already have an active or inactive registration in SAM.gov today, you’ve already been assigned a Unique Entity ID. It’s viewable on your entity registration record in SAM.gov. For</i>

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	<i>those who don't, a quick start guide to obtaining a SAM UEI number as Attachment "D" for reference.</i>		
(e)	Validity period of Quote: <i>Should not be less than 90 days</i>		
(f)	A Technical Proposal in sufficient detail to evaluate compliance with the requirements in the RFP. The technical proposal must include the following:		
	<p>Technical Proposal requirements: The technical proposal must follow the structure outlined below, contain the following components, and be within page limitations. Failure to follow the outline and page limits prescribed or exclusion of any of the required items will impact the proposal's scoring. Maximum proposal limit 50 pages (inclusive of cover page, the following details, and any annexes the bidder may want to append).</p>		
	Subject heading	Description	Maximum page limit
	Understanding of the issues	Demonstration of an understanding of the issues outlined in the SoW	1 page
	Technical approach	Approach to implementing the SoW	10 pages
	<ol style="list-style-type: none"> 1. Team assignments & Bio sketches 2. Organizational experience 	<p>Bidders to propose the best suited team for the assignment. However, the engagement will require at a minimum –</p> <ol style="list-style-type: none"> 1. One Project Manager, having experience of handling similar projects. 2. <u>Generation/Load/ Price forecasting and dispatch expert(s)</u> 3. <u>IT technical expert(s)</u> 4. <u>Power Market and Analytic expert(s)</u> 5. Any other (to be proposed by bidder) 6. Note: Team composition shall preferably have relevant experience being covered in the SOW. 7. Refer to Annexure 1 below for providing organizational experience. <p>For each member of the team, submit:</p> <p>1st: Summary of work to be performed by/assignment of each individual proposed.</p>	<p>2 pages per person total</p> <p>1 page for assignment per person, followed by 1 page for bio sketch.</p> <p>Complete the Annexure 1 below on organizational experience</p>

		2nd: (Immediately following the assignment) Short bio sketch that highlights the individual’s direct experience with the subject matter.		
(g)	If RTI informs Seller that the Commodity is intended for export and the Commodity is not classified for export under Export Classification Control Number (ECCN) “EAR99” of the U.S. Department of Commerce Export Administration Regulations (EAR), then Seller must provide RTI the correct ECCN and the name of Seller’s representative responsible for Trade Compliance who can confirm the export classification.			
(h)	Attachment A above contains the delivery and pricing schedule. Alternate delivery schedule is not acceptable, hence, not being asked for)			
(i)	Terms of warranty describing what and how the warranties will be serviced.			
(j)	Special pricing instructions: Price and any discount terms or special requirements or terms (special note: pricing must include guaranteed firm fixed prices for items requested.)			
(k)	Payment address or instructions (if different from mailing address)			
(l)	Acknowledgment of solicitation (RFP) amendments (if any are issued by RTI)			
	Special Note: <i>The Seller, by his response to this RFP and accompanying signatures, confirms that the terms and conditions associated with this RFP document have been agreed to and <u>all</u> of its attachments have been carefully read and understood and all related questions answered.</i>			

4. **Forms:** Sellers (potential bidders or suppliers) must record their pricing utilizing the format found on Attachment “A.” Sellers must sign the cover page of this RFP, Attachments A and B and send to address listed on the cover page of this RFP.

5. **Questions Concerning the Procurement.** All questions in regards to this RFP to be directed to

Sumit Dutta, Senior Procurement Expert
(insert name of procurement officer)

at this email address:

SAREP-Procurement@rti.org
(insert email address of the procurement officer).

The cut-off date for questions is *(insert date)*.

September 1, 2023

6. **Notifications and Deliveries:** Time is of the essence for this procurement. Seller shall deliver the items or services no later than the dates set forth in the contract that will be agreed by both parties as a result of this RFP. The Seller shall immediately contact the Buyer’s Procurement

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Officer if the specifications, availability, or the delivery schedule(s) changes. Exceptional delays will result in financial penalties being imposed of Seller.

7. **Documentation:** The following documents will be required for payment for each item:
 - (a) A detailed invoice listing Purchase Order Number, Bank information with wiring instructions (when applicable)
 - (b) Packing List
 - (c) All relevant product/service documentation (manuals, warranty doc, certificate of analysis, etc.)
8. **Payment Terms:** Refer to RTI purchase order terms and conditions found in https://www.rti.org/sites/default/files/standard_subaward_terms_and_conditions_v1_11.pdf. Payment can be made via wire transfer or other acceptable form. Sellers may propose alternative payment terms and they will be considered in the evaluation process.
9. **Alternative Proposals:** Sellers are permitted to offer “alternatives” should they not be able to meet the listed requirements. Any alternative proposals shall still satisfy the minimum requirements set forth in Attachment A Specifications.
10. **Inspection Process:** Each item shall be inspected prior to final acceptance of the item. All significant discrepancies, shortages, and/or faults must be satisfactorily corrected and satisfactorily documented prior to delivery and release of payment.
11. **Evaluation and Award Process:** The RTI Procurement Officer will award an agreement contract resulting from this solicitation to the responsible Seller (bidder) whose offer conforms to the RFP will be most advantageous to RTI, price and other factors considered. The award will be made to the Seller representing the **best value** to the project and to RTI. For the purpose of this RFP, price, delivery, technical and past performance are of equal importance for the purposes of evaluating, and selecting the “best value” awardee. RTI intends to evaluate offers and award an Agreement without discussions with Sellers. Therefore, the Seller’s initial offer should contain the Seller’s best terms from a price and technical standpoint. However, RTI reserves the right to conduct discussions if later determined by the RTI Procurement Officer to be necessary.

The evaluation factors will be comprised of the following criteria:

- (a) **PRICE.** Refer to Other Evaluation Criteria in (d) below
- (b) **TECHNICAL.** Refer to Other Evaluation Criteria in (d) below.
- (c) **EVALUATION CRITERIA.**

The firm/bidder which fulfil all qualification criteria will be considered for evaluation. The evaluation will be done in two parts i.e., technical, and financial. Both technical and financial parts will be scored at a scale of 100.

First, the technical scoring is done, the firm with at least a score of 70 in technical evaluation will be considered for the final evaluation.

1. Technical Evaluation

The scoring shall be undertaken using the following approach:

2. Technical Proposal

The scoring shall be undertaken using the following approach:

Nos	Criteria	Points
1.	A brief write up about understanding and approach to implementing the SoW	20
2.	At least 3 years of organizational experience of developing Web based software forecast and optimization models and tools to forecast generation/load/exchange prices on day ahead basis and optimisation of bid volumes and bid prices as a buyer/seller from/to the power exchange and enable monitoring and timely corrective actions of generating plants during the actual transactions on a real time basis for DSM management.	20
3.	Demonstrable experience of successfully developing and implementing such models as per (a) above for market-based electricity trade.	20
4.	Dedicated team (consisting of cross border power trading expert through power exchange, modelling/tool expert, IT expert and regulatory expert) for developing web based integrated software models for buy/sell transactions on power exchange, real time monitoring and corrective actions for optimized scheduling, billing, and DSM management for cross border electricity trade	20
5.	Experience of providing implementation and hand holding support for trading model(s).	10
6.	Exposure of working in Bhutan, Bangladesh, and Nepal power sector(s) and with key stakeholders in these countries	10
Total points		100

Financial Proposal scoring

The consultancy firm with lowest qualifying financial bid (L1) will be awarded 100% score. Financial Scores for other than L1 will be evaluated using the following formula:
 Financial Score (Fn) = {(Commercial Bid of L1/Commercial Bid of the Bidder) X 100}%

Overall Score

The selection of the consultancy firm shall be based upon the methodology of Quality and cost-based selection (QCBS) with technical and financial weightage as 80:20.

12. **Award Notice.** A written notice of award or acceptance of an offer, mailed or otherwise furnished to the successful supplier within the time acceptance specified in the offer, shall result in a binding contract without further action by either party.

13. **Validity of Offer.** This RFP in no way obligates RTI to make an award, nor does it commit RTI to pay any costs incurred by the Seller in the preparation and submission of a proposal or amendments to a proposal. Your proposal shall be considered valid for 90 days after submission.
14. **Representations and Certifications.** Winning suppliers under a US Federal Contract are required to complete and sign as part of your offer RTI Representations and Certifications for values over \$10,000.
15. **Anti- Kick Back Act of 1986.** Anti-Kickback Act of 1986 as referenced in FAR 52.203-7 is hereby incorporated into this Request for Proposal as a condition of acceptance. If you have reasonable grounds to believe that a violation, as described in Paragraph (b) of FAR 52.203-7 may have occurred, you should report this suspected violation to the RTI's Ethics Hotline at 1-877-212-7220 or by sending an e-mail to ethics@rti.org. You may report a suspected violation anonymously.
16. **The John S. McCain National Defense Authorization Act for fiscal year 2019 - section 889.** RTI cannot use any equipment or services from specific companies, or their subsidiaries and affiliates, including Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, and Dahua Technology Company ("Covered Technology"). In response to this request for proposal, please do not provide a quote which includes any Covered Technology. Any quote which includes Covered Technology will be deemed non-responsive. Additionally, if the United States Government is the source of funds for this RFP, the resulting Supplier shall not provide any equipment, system, or service that uses Covered Technology as a substantial or essential component.

Acceptance:

Seller agrees, as evidenced by signature below, that the seller's completed and signed solicitation, seller's proposal including all required submissions and the negotiated terms contained herein, constitute the entire agreement for the services described herein.

By: *(Bidder Name)*

Signature: _____

Title:

Date:

Attachment "C"

Standard Terms and Conditions

ARTICLE 1. Definitions

In this Subcontract, the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

"Agreement" means the Terms and Conditions Articles set forth herein, the Statement of Work, Subcontract, the Federal Acquisition Regulation (FAR) and Agency Supplemental Clauses (as applicable), Code of Federal Regulations (CFR), the Subcontractor's Technical and Cost Proposal, the Representations and Certifications, and such further documents executed by both Parties and expressly incorporated in this Agreement.

"Client" means RTI's customer who is responsible for funding the Subcontract.

"Direct Labor" means Subcontractor personnel performing work under this Subcontract.

"Federal" as used under this Agreement refers to United States of America central government.

"Fringe Benefit Expense Rate" means the direct payroll-related expenses including employer-paid Benefits; Social Security and Medicare (FICA); State Unemployment (SUTA); Federal Unemployment (FUTA); Workers Compensation; and Vacation and Holiday Pay. This rate, as defined, shall satisfy the allowability and allocability requirements of Federal Acquisition Regulation (FAR) Part 31, Contract Cost Principles, or 2 CFR 200 Subpart E - Cost Principles, as applicable. The Fringe Expense Rate will be the percentage amount applied to actual Direct Labor expenses incurred under the Subcontracts.

"General and Administrative (G&A) Expense" means the Subcontractor's costs of doing business that are not directly associated with the costs of performing this Agreement or the Subcontractor's other contracts. These expenses, as defined, must satisfy the allowability and allocability requirements of Federal Acquisition Regulation (FAR) Part 31, Contract Cost Principles, or 2 CFR 200 Subpart E - Cost Principles, as applicable. Similar to the Fringe Benefit Rate, the G&A Expense Rate will be the percentage amount charged in accordance with the Subcontractor's established method for allocating G&A.

"Lower tier subcontractor/subrecipient" means any person or firm lower-tier subcontractor/subrecipient for a part of the Work or any person or firm to whom a part of the Work has been subcontracted or subawarded and the legal successors in title to such person or firm, but not any assignee of such person or firm.

"Other Direct Costs (ODCs)" mean those expenses that are directly incurred for the benefit of performing the Work under the Subcontract. For Subcontracts funded with Federal contract funds, these expenses must satisfy the allowability and allocability requirements of Federal Acquisition Regulation (FAR) Part 31, Contract Cost Principles. Generally, these costs consist of approved travel (hotel, meals, air and rail transportation expenses, car rental), pre-approved equipment, classified ads,

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and reasonable phone expenses directly charged to the project.

“Parties” as used under this Agreement mean “RTI” and “Subcontractor.”

“Pay Rate” means those actual direct labor expenses that are incurred for the benefit of performing the Work under a specific Subcontract(s). These expenses, as defined, must satisfy the allowability and allocability requirements of Federal Acquisition Regulation (FAR) Part 31, Contract Cost Principles. The Subcontractor’s actual Pay Rate(s) solely consists of direct labor (gross hourly wage(s)) expenses that are completely unburdened with profit or any application of G&A, overhead or indirect rate expenses.

“Payment” means the remuneration that RTI has agreed to pay Subcontractor upon the execution, satisfactory completion, and acceptance of RTI’s Work set forth in the Subcontract.

“Provisional billing rate(s)” means the Subcontractor’s temporary indirect rate ceiling(s) used for the purpose of allowing interim reimbursement of incurred indirect fringe and general and administrative costs. The provisional billing rate(s) remain(s) in effect until a final billing rate is negotiated and settled by the parties for the period in accordance with FAR Part 42.700 and the FAR Allowable Cost and Payment clause or 2 CFR 200 Subpart E - Cost Principles, as applicable. The provisional billing rate(s) will be subject to retroactive redetermination and audit by RTI or RTI’s Client in order to preclude substantial overpayments to Subcontractor. Unless terms of the Agreement stipulate otherwise, the Subcontractor’s provisional billing rates represent RTI’s maximum liability for the reimbursement of indirect expenses.

“RTI” means the Research Triangle Institute or RTI International.

“RTI Project Manager” means the designated RTI person who has been provided the technical authority to manage the Work on behalf of RTI. The RTI Project Manager does not have authority to sign and bind RTI to contractual agreements.

“RTI Subcontract Administrator” means the designated RTI person(s) who has contractual authority over the Work being performed pursuant to the Subcontract. The RTI Subcontract Administrator is the only person authorized by RTI to make changes or amendments to the issued Subcontract.

“Site or Location” means the place(s) provided by Subcontractor where the Work is to be executed and any other places as may be specifically designated in the Subcontract as forming part of the Site or Location.

“Statement of Work/Technical Specifications” means the services defined and set forth in the Subcontract (hereinafter referred to as the “Work”), that the Subcontractor is responsible for delivering to RTI.

“Subcontract” means the document that the RTI Subcontract Administrator will use in accordance with the terms of this Agreement to authorize and reasonably request the Subcontractor to commence Work under and subject to the terms of this Agreement. The term “Subcontract” includes subagreements, subawards, contracts, and/or purchase orders issued under this Agreement. Subcontract(s) issued under this Agreement fully incorporate by reference the Terms and Conditions of the Agreement which

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are set forth herein. The term “Subcontract” will be applicable when RTI’s prime agreement is a contract and “Subaward” may be applicable when RTI’s prime agreement is a cooperative agreement or a grant in with the Subcontractor is a Subgrantee or Subrecipient. The term “Contract” will be applicable when RTI’s prime agreement is a Federally funded cooperative agreement or grant in which the Subcontractor is contractor, as defined by 2 CFR 200, who is a provider of services to RTI. The term “Purchase Order” may be applicable when a contractual document is issued by RTI for the purchase of goods and/or non-technical services.

“Subcontract Type” refers to the billing structure and includes Firm Fixed Price, Fixed Unit Rate, Time and Materials, Labor Hour, or Cost Reimbursement, and any category or hybrid thereof. A hybrid Subcontract means a Subcontract that is a combination of two or more Subcontract types.

“Subcontractor” means the person or firm whose Cost and Technical Proposal has been accepted by RTI and the legal successors in title to such person, but not (except with the written consent of RTI) any assignee of such person or firm. The term “Supplier,” “Subrecipient” or “Contractor” may be used in place of Subcontractor where contextually appropriate and/or necessary.

ARTICLE 2. Institutional Review Board [Insert if applicable. Applicable if Subcontract involves the use of human subjects]

Institutional Review Board approval must be obtained before any contact with human subjects. All research involving human subjects, or data from or about human subjects, must be conducted in accordance with applicable federal regulations (45 CFR 46 and 21 CFR 50 and 56) and the protocol approved by the IRB. Research activities include contacting Human Subjects, conducting the survey and the collecting and storing of any Human Subject data resulting from this survey. Upon notice of IRB approval, RTI will provide notice to the Subcontractor to commence work. Once this notice is provided to Subcontractor, the Subcontractor may commence with the research activities.

ARTICLE 3. Privity of Contract

No privity between Subcontractor and RTI’s client, including the Federal Government, is established by this Subcontract. All communications regarding this Subcontract must be directed to RTI and not to RTI’s Client.

ARTICLE 4. Independent Contractor

The relationship of Subcontractor to RTI is that of an independent contractor, and nothing in this Subcontract shall be construed as creating any other relationship. Subcontractor shall comply with all laws and assume all risks incident to its status as an independent contractor. This includes, but is not limited to, responsibility for all applicable federal and state income taxes, associated payroll and business taxes, licenses and fees, and such insurance as is necessary for Subcontractor’s protection in connection with work performed under this Agreement. Neither Subcontractor nor anyone employed by it shall be, represent, act, and purport to act, or be deemed to be an agent, representative, employee, or servant of RTI.

ARTICLE 5. Statement of Work/Price and Delivery Schedule

Subcontractor shall furnish the necessary personnel, materials, services, equipment and facilities, and all other items necessary to accomplish all tasks specified in Subcontractor’s *Statement of Work/Price and*

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Delivery Schedule which is hereby incorporated and made a part of this Subcontract.

ARTICLE 6. Limitation of Funds/Costs (Applicable to Incrementally Funded)

The parties agree that performance of the Subcontract will not cost RTI or RTI's Client more than the cost specified in the Subcontract. Subcontractor agrees to perform the work set forth within the cost ceiling and the funding amount allocated to the Subcontract. In the event the Subcontract is not fully funded at the time of award, RTI, at its sole discretion, will incorporate additional funding to support the work requirements as funding is made available to RTI by RTI's Client. This additional funding will be incorporated into the Subcontract by written modification. Funding allocations shall not exceed the cost ceiling established in the Subcontract. No costs will be incurred under except those costs specifically proposed by the Subcontractor to RTI. RTI is not obligated to reimburse the Subcontractor for costs incurred in excess of the total funding amount allotted by RTI to the Subcontract, and the Subcontractor is not obligated to continue performance or otherwise incur costs in excess of the amount of funding allotted to the Subcontract. For incrementally funded Subcontracts funded via Federal Contracts, the Limitation of Funds Clause (FAR 52.232-22) shall also apply, and when such an individual Subcontract becomes fully funded, the Limitation of Cost Clause (FAR 52.232-20) shall then become applicable.

ARTICLE 7. Period of Performance and Delays

Subcontractor shall strictly adhere to the period of performance set forth in the Appendix A, Special Contract Requirements. Any changes to the period of performance shall only be authorized by RTI through the issuance of a written and fully executed Subcontract modification. In the event of any anticipated or actual delay in performance, Subcontractor shall: (i) promptly notify RTI in writing (within 5 business days) of the reasons for the delay and the actions being taken to overcome or minimize the delay; (ii) provide RTI with a written recovery schedule; and (iii) if requested by RTI, expedite performance or delivery to avoid or minimize delay to the maximum extent possible, unless Subcontractor is excused from prompt performance as provided in the "Excusable Delays" article of this Subcontract.

ARTICLE 8. Consultants/Lower-Tier Subcontracts

- A. PRIOR WRITTEN approval of the RTI Subcontract Administrator is required for obtaining services of consultants and lower-tier subcontractors. Costs for consultants and lower-tier subcontractors who have not received PRIOR WRITTEN approval in accordance with this Article will not be reimbursed. Inclusion in the Subcontractor's budget or proposal does not constitute request or approval of consultants or lower-tier Subcontractors.
- B. When requesting the use of consultants or a lower-tier subcontractor, the Subcontractor shall furnish information concerning the need for such services, the reasonableness of the fees or costs, a copy of the proposed consulting agreement/subcontract, and any additional information required to make a determination of acceptability, including, as applicable, FAR 52.244-2. Cost-plus-a-percentage-of-cost subcontracts or purchase orders are prohibited. Once approved, Subcontractor should make every effort to provide prompt payment to any lower-tier consultants, subcontractors or any subrecipients for materials or labor.

ARTICLE 9. Assignment, Delegation, and Subcontracting

- A. Subcontractor shall not assign or novate any of its rights or interests in this Subcontract without prior written consent of the RTI Subcontract Administrator. Subcontractor shall not delegate any of its duties or obligations under this Subcontract. Subcontractor shall not assign its right to monies due or to become due. No assignment, delegation or subcontracting by Subcontractor, with or without the RTI Subcontract Administrator's written consent, shall relieve Subcontractor of any of its obligations under this Subcontract or prejudice any of RTI's rights against Subcontractor whether arising before or after the date of any assignment. This Article does not limit Subcontractor's ability to purchase standard commercial supplies or raw materials.
- B. RTI shall be entitled to assign this Subcontract to any third party or any of its subsidiaries or other affiliates (including by operation of law, judicial process or otherwise) or any successor to RTI's business or operations without prior notice to or consent from Subcontractor. RTI shall further be entitled to assign this Subcontract to its Prime Sponsor of the agreement under which this Subcontract is issued without prior notice to or consent from Subcontractor. Any other assignment by RTI shall require Subcontractor consent.

ARTICLE 10. Technical Direction

- A. The RTI Principal Investigator/Project Manager identified in Appendix A, *Special Contract Requirements*, does not have the authority to direct the Subcontractor to make changes in scope, period(s) of performance, place(s) of performance, cost, funding, or any other express Provisions of this Subcontract. All matters affecting the terms of this Subcontract and the administration thereof shall be referred to the RTI Subcontract Administrator. The RTI Subcontract Administrator is the only person with the authority to direct changes under this Subcontract. Any changes to the provisions of this Subcontract must be made by written modification in accordance with the Changes and Modifications Provision of this Subcontract.
- B. When, in the opinion of Subcontractor, technical direction calls for effort outside the scope of the Statement of Work, Subcontractor shall notify the RTI Subcontract Administrator and the RTI Principal Investigator/Project Manager of the technical direction in writing in accordance with the Changes and Modifications Article of this Subcontract.

ARTICLE 11. Inspection and Acceptance

- A. Acceptance of the work set forth in this Subcontract will be made by the RTI Principal Investigator/Project Manager as identified in Appendix A: *Special Contract Requirements* or his/her authorized designee. RTI and any Client including without limitation the federal government of the United States have the right to inspect and evaluate the work performed or being performed under this Subcontract, and the premises where the work is being performed, at all reasonable times and in a manner that will not unduly delay the work. .
- B. If RTI or a Client performs any inspection or test on the premises of the Subcontractor or a lower-tier subcontractor, the Subcontractor shall furnish, and shall require lower-tier subcontractors to furnish, without additional charge, all reasonable facilities and assistance for the safe and convenient performance of these duties. Upon request by RTI or a Client, Subcontractor shall provide RTI or the

Client the records of inspection/test for any products and/or services furnished hereunder at any time during performance and any applicable warranty period.

ARTICLE 12. Changes and Modifications

- A. The RTI Subcontract Administrator may direct changes within the general scope of the Subcontract in any of the following: (i) technical requirements and descriptions, specifications, statement of work, drawings or designs; ; (ii) place of delivery, inspection or acceptance; ; (iii) amount of RTI-furnished property; and, if the Subcontract includes services; (iv) description of services to be performed; ; and (v) place of performance. Subcontractor shall comply immediately with such direction.
- B. If any change under this Article causes an increase or decrease in the Subcontractor's cost of, or the time required for, the performance of any part of this Subcontract, the parties shall negotiate an equitable adjustment in the price or schedule, or both, and the RTI Subcontract Administrator shall modify the Subcontract in writing accordingly.
- C. Subcontractor must assert its right to an adjustment under this Article to the RTI Subcontract Administrator in writing within 30 (thirty) calendar days from the date of Subcontractor's receipt of the written change order from the RTI Subcontract Administrator. In support of the claim for adjustment, Subcontractor shall provide a written statement describing the general nature of the requested adjustment, as well as a fully supported proposal with the total dollar amount of the requested adjustment. RTI may, at its sole discretion, consider any claim regardless of when asserted. RTI, or mutually agreeable third-party, may examine Subcontractor's pertinent books and records to verify the amount of Subcontractor's claim. Failure of the parties to agree upon any adjustment shall not excuse Subcontractor from performing previously agreed upon work.
- D. Notwithstanding the foregoing provisions of this article, the Subcontract ceiling and funded amount shall not be increased or deemed to be increased except by specific written modification of this Subcontract indicating the new Subcontract ceiling and authorized funded amount. Until such modification is made, Subcontractor shall not continue performance or incur costs beyond the period of performance or the authorized funded amount as set forth in the Special Contract Requirement (SCR) Appendix of this Subcontract.

ARTICLE 13. Indirect Rate and Audit Indemnity (Applicable to Cost Type Subcontracts funded in whole or in part via Federal funds)

Subcontractor shall provide the Subcontract Administrator with a copy of Subcontractor's Negotiated Indirect Cost Rate Agreement with the Government for the purpose of verifying compliance with Subcontractor's Negotiated Indirect Cost Rate Agreement with the Government. In the event Subcontractor will not provide indirect rate information to RTI due to proprietary restrictions, Subcontractor hereby agrees to certify to the following:

"The indirect costs billed under this Subcontract do not exceed the indirect rates as determined in

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Subcontractor's Negotiated Indirect Cost Rate Agreement with the Government for the fiscal year in which the direct costs were incurred."

If Subcontractor does not have a Negotiated Indirect Cost Rate Agreement with the Government, Subcontractor shall invoice for indirect costs that do not exceed the indirect rates established in the Subcontract. Subcontractor shall maintain and provide upon request appropriate audit-level documentation to support claimed indirect rates.

In the event that a Government audit of Subcontractor financial records results in a determination that Subcontractor has failed to adhere to the requirements of this Article, 2 CFR 200 Subpart E and 48 CFR 31, and such audit results in the reduction of the price of the Subcontract, Subcontractor hereby agrees to indemnify, defend and hold harmless RTI from and against any and all demands, claims, liabilities, fines, penalties, losses, damages, costs and expenses of whatsoever nature, including attorneys' fees, which may be asserted by the Government auditor. The Subcontractor shall promptly, within 30 days from date of the Government audit findings, reimburse RTI for any overpayments, including any interest and penalties, previously made by RTI to Subcontractor as a result of Subcontractor's failure to comply with the cost allocability, allowability and reasonableness standards set forth in 48 CFR 31 or 2 CFR 200 Subpart E, as applicable.

ARTICLE 14. Submission and Payment of Invoices

- A. T&M, Labor Hour and Cost Reimbursement Subcontracts: Subcontractor shall submit invoices monthly for reasonable, allowable, and allocable costs incurred in the performance of work under a Subcontract.
- B. Fixed Price Subcontracts: Subcontractor shall submit invoices in accordance with each individual Subcontract's Milestone Payment Schedule contained therein.
- C. RTI shall make any payments due under this agreement within thirty (30) calendar days after its receipt of a proper invoice from Subcontractor provided Subcontractor complied with requirements of the Subcontract and such invoice from Subcontractor complies with all requirements, which may be amended from time to time after this Agreement's execution, delineated at the following link: https://www.rti.org/sites/default/files/supplier_invoicing_instructions_for_rti_org_.pdf
- D. Allowable Costs for Subcontracts funded via Federal Contracts: Except as provided in this Article, payment for Subcontracts issued under Federal Contracts will be made in accordance with the following clauses of the Federal Acquisition Regulation (FAR), which are incorporated by reference. In each of the following clauses, "Contractor" means Subcontractor, "Contracting Officer" means the RTI Subcontract Administrator, and "Government" means RTI and "Disputes Clause" means the "Disputes Clause" of this Agreement.
 - 1) FAR 52.216-7 Allowable Cost and Payment
 - 2) FAR 52.216-8 Fixed Fee (Applicable to Cost Plus Fixed Fee Subcontracts)
 - 3) FAR 52.216-10 Incentive Fee (Applicable to Cost Plus Incentive Fee Subcontracts)
 - 4) FAR 52.232-7 (Applicable to Time-and-Materials Subcontracts)

E. Final Payment and Closeout

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Subcontractor's final invoice for the Subcontract and release and assignment shall be submitted to RTI within sixty (60) calendar days following completion of the period of performance of the Subcontract. In the event that quick closeout is requested by RTI, Subcontractor shall comply with FAR Part 42.708 to complete the Subcontract closeout. Payment of the **final invoice** will be withheld pending:

- Completion, submission, and acceptance by RTI of all work performed under the Subcontract's Statement of Work
- Completion of Subcontract Release and Assignment Form including patent/invention report, and property report; and
- Clear, visible, and proper marking of "**final invoice**" on the actual final invoice.

ARTICLE 15. Travel

For Subcontracts under nonfederal agreements, costs incurred for lodging, meals and incidental expenses shall be as agreed upon between the parties. For Subcontracts under Federal agreements, and to the extent travel is not restricted by the Subcontract, costs incurred for lodging, meals and incidental expenses shall be considered to be reasonable, allowable, and allocable only to the extent that they do not exceed, on a daily basis, the maximum per diem rates in effect on the day of travel as set forth in the current version of the Federal Travel Regulations (FTR).

ARTICLE 16. Taxes

All taxes applicable to the proceeds received by Subcontractor shall be the liability of Subcontractor, and RTI shall not withhold nor pay any amounts for federal, state or municipal income tax, social security, unemployment or workman's compensation unless required by law. RTI shall withhold and remit any amount, regardless of its description as a tax or otherwise, in countries where local laws require that such amounts be withheld and timely remitted by RTI. In accordance with law, RTI shall annually file with the Internal Revenue Service, or any other tax agency, whether domestic or not, any applicable tax forms reflecting the gross annual payments made by RTI to Subcontractor. Gross annual payments shall be the total compensation for labor and reimbursement of expenses; therefore, it is the Subcontractor's responsibility to retain copies of expenses incurred during the performance of services under this Agreement for tax reporting purposes. It is the Subcontractor's responsibility to determine if a value added tax (VAT) is applicable to services provided to RTI, and to timely remit the VAT charged to RTI per the invoicing instructions included in Article 10. The invoice tendered to RTI for payment shall comply with the applicable local country's VAT regulations.

ARTICLE 17. Record Retention and Access

Subcontractor shall maintain books, records, documents, program and individual service records and other evidence of its compliance with laws and regulations as well as accounting and billing procedures with respect to this Agreement and the Scope of Work set forth herein. These records shall be subject at all reasonable times to monitoring, inspection, review or audit by authorized employees or agents of RTI, or by the United States government, as applicable. Subcontractor shall retain all such records concerning this contract for a period of five (5) years or other statutory requirement, whichever is longer, after the completion of the Subcontract. If any litigation, claim or audit is started before the expiration date of this three-year period, the records shall be retained until all litigation, claims or audit findings involving the records have been resolved.

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ARTICLE 18. Confidential Information

- A. During the term of this Subcontract, Subcontractor and its employees may receive or have access to data and information that is confidential and proprietary to RTI or its Client. All such data and information ("Confidential Information") made available to, disclosed to, or otherwise made known to Subcontractor as a result of services under this Subcontract shall be considered confidential and shall be considered the sole property of RTI and/or RTI's Client. Confidential Information may be used by Subcontractor or its employees only for purposes of performing the obligations hereunder and such persons shall be advised of the obligations set forth in this Agreement and shall agree to be obligated in like manner. Subcontractor shall not reveal, publish or otherwise disclose Confidential Information to any third party without the prior written consent of the disclosing party and shall use at least the same degree of care in safeguarding the Confidential Information as the party uses in safeguarding its own confidential information but in no event less than a reasonable standard of care. Nothing herein shall be construed or interpreted to limit or in any way restrict the rights of any Client including the federal government of the United States regarding data such Client owns or has a right to use, including the right to authorize Subcontractor's use of such data in direct contracts between Subcontractor and such Client.
- B. Confidential and/or proprietary information includes trade secrets, the structure, sequence, and organization of the Products, marketing plans, blueprints, techniques, processes, procedures and formulae, price lists, specifications, prints, and Product plans. Intellectual Property may include, without limitation, information relating to research and development, formulations, inventions, discoveries, improvements, methods, and processes, techniques, methodologies, know-how, algorithms, compositions, works, concepts, designs, ideas, prototypes, models, samples, writings, notes, patent applications, and trade secrets. Business practices may include, without limitation, information relating to business plans, financial information, products, and services, manufacturing processes and methods, costs, sources of supply, strategic marketing plans, customer lists, sales profits, pricing methods, personnel, and business relationships ("Confidential Information").

The foregoing obligations shall not apply to Confidential Information which:

- is or becomes generally available to the public other than as a result of a disclosure by Subcontractor;
 - becomes available to Subcontractor on a non-confidential basis from a third-party source which is not prohibited from disclosing such information by a legal, contractual or fiduciary agreement to a third party;
 - Subcontractor develops independently without use of the disclosing party's Confidential Information, as demonstrated by written records and evidence;
 - was in Subcontractor's possession or known to it prior to its receipt from the disclosing party; or
 - is required by law to be disclosed, provided Subcontractor notifies the disclosing party promptly and gives the disclosing party an opportunity to seek an appropriate protective order.
- C. These obligations of confidentiality and non-disclosure shall remain in effect for a period of five (5) years after the termination of this Subcontract and indefinitely for any Trade Secrets. Subcontractor shall return or destroy all copies of any Confidential Information it has received from RTI within thirty

(30) business days after the effective date of the termination. At the request of RTI, an authorized officer of the Subcontractor will certify in writing that it has complied with its obligations hereunder.

- D. In the event of any breach or suspected breach of the obligations contained herein, the Receiving Party shall, as applicable and at its expense: (a) notify the Disclosing Party as soon as practicable but no later than seventy-two (72) hours of determination; (b) reasonably cooperate with the Disclosing Party in investigating the occurrence, including making available all relevant records, logs, files, data reporting and other materials required of Disclosing Party to comply with applicable law or as otherwise reasonably required by Disclosing Party; (c) provide all notifications and credit monitoring that may be required of Receiving Party under applicable law; and (d) perform or take any other actions required of Receiving Party to comply with applicable law as a result of the occurrence.

ARTICLE 19. Conflicts of Interest

- A. Subcontractor warrants that, to the best of the Subcontractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to a conflict of interest or that the Subcontractor has disclosed all such relevant information.
- B. Subcontractor agrees that if an actual or potential conflict of interest is discovered after execution of this Subcontract, the Subcontractor will make a full disclosure in writing to the RTI Subcontract Administrator. This disclosure shall include a description of activities that the Subcontractor has taken or proposes to take, after consultation with the RTI Subcontract Administrator, to avoid, mitigate, or neutralize the actual or potential conflict.

[Insert the following paragraph if the prime is a PHS funded project]

- C. Subcontractor has separately certified that it either has its own Financial Conflicts of Interest ("FCOI") policy compliant with 42 CFR § 50 Subpart F or 45 CFR § 94, or that it will comply with RTI's FCOI policy. If following its own compliant policy, Subcontractor warrants that it has submitted any required FCOI management plans to RTI and will continue to submit FCOI management plans throughout the term of this Subcontract as required. If following RTI's policy, individuals performing on behalf of Subcontractor that are responsible for the design, conduct, or reporting of research funded by the Public Health Service ("Investigators") shall complete RTI's FCOI training and submit Significant Financial Interest disclosure forms prior to beginning work and either annually thereafter or as new reportable Significant Financial Interests are obtained, whichever occurs first.
- D. The RTI Subcontract Administrator may terminate this Subcontract for convenience, in whole or in part, if it deems such termination necessary to avoid a conflict of interest. If the Subcontractor was aware of a potential conflict of interest prior to award, or discovered an actual or potential conflict after award and did not disclose or misrepresented relevant information to the RTI Subcontract Administrator, RTI may terminate the contract for default, and/or forward the relevant information to the Government Contracting Officer, who may debar the Subcontractor from Government contracting, and/or pursue such other remedies as may be permitted by law or this Subcontract.

Subcontractor further agrees to insert provisions which shall conform substantially to the language of

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this Section, including this paragraph (d), in any lower-tier subcontract or consultant agreement hereunder.

ARTICLE 20. Work for Hire

The work contributed by Subcontractor exclusively hereunder shall be considered a "work made for hire" as defined by the copyright laws of the United States. RTI shall be the sole and exclusive owner and copyright proprietor of all rights and title in and to the results and proceeds of Subcontractor's Subcontract deliverables hereunder in whatever stage of completion. If for any reason the results and proceeds of Subcontractor's services hereunder are determined at any time not to be a "work made for hire", Subcontractor hereby irrevocably transfers and assigns to RTI all right, title and interest therein, including all copyrights, as well as all renewals and extensions thereto. Subcontractor agrees that RTI may make any changes or additions to the work prepared by Subcontractor hereunder, which RTI in its sole discretion may consider necessary, and may engage others to do any or all of the foregoing, with or without attribution to Subcontractor. Subcontractor represents that, except with respect to material furnished to Subcontractor by RTI, Subcontractor's services are original with Subcontractor, and does not knowingly violate the right of privacy or publicity, or any other rights of any person, firm, or Subcontractor. To the extent that the work is the subject of or a deliverable under a state or Federal contract, the terms of such contract shall supersede the terms of this paragraph.

ARTICLE 21. Patents and Inventions

Subject to Federal or state laws and regulations, to the extent applicable, all ideas, inventions (whether or not patentable), and improvements whatsoever, conceived, discovered, or developed by Subcontractor, Subcontractor's employees or Subcontractor's subcontractors or subrecipients, specifically and exclusively related to performance of this Subcontract, shall be and remain the sole and exclusive property of RTI. Subcontractor agrees to promptly disclose to RTI all such ideas, inventions, and improvements, and, on demand and at RTI's expense, assist and require and bind Subcontractor's employees to assist, in preparation, execution, and delivery of any disclosures, patent applications or other papers required by RTI to obtain and enforce patents in the United States and foreign countries, and to execute and deliver to RTI any reasonably stated assignment or other document which RTI deems necessary to perfect RTI's right, title and interest in and to said ideas, inventions, and improvements.

ARTICLE 22. Right to Publish/Release of Information

- A. Subcontractor agrees that it will not publish, have published or otherwise disseminate any information of whatever nature resulting from the work being performed under this Agreement except as may be approved by the Subcontract Administrator; provided, however, that Subcontractor may for internal use only and without the approval of RTI disseminate such information within its own organization on a "need-to-know" basis.
- B. Subcontractor and RTI mutually agree not to use the other party's name or make reference to the other party or any of its employees in publications, news releases, advertising, speeches, technical papers, photographs, sales promotions, or publicity purposes of any form related to this work or data developed hereunder, unless such materials have received prior written approval of the other party. Approvals shall not be unreasonably withheld. Unless specifically restricted in the Subcontract, use

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of either party's name may be made in internal documents, annual reports, and data bases which are not available to the public and which identify the existence of the research project by title, principal investigator, sponsor, period of funding, amount of award and abstract of the project.

- C. Subcontractor shall not use or duplicate any proprietary information including trade secrets belonging to or supplied by RTI, except as authorized by RTI in the performance of services or work under this Agreement.
- D. Any program, document, data or information supplied by Subcontractor to Client through RTI may be used, copied or disclosed by Client as necessary in the normal course of its business, subject to any copyright of Subcontractor in such materials and any notices or legends appearing thereon, provided (1) Subcontractor is entitled to place such notices or legends and (2) no other provisions of this Subcontract (including, if applicable, any FAR Clauses set forth in, or incorporated into, this agreement) prohibit or limit the effectiveness of such copyright or notice or legend.
- E. Nothing herein shall be construed or interpreted to limit or in any way restrict the rights of any Client including the federal government of the United States regarding data such Client owns or has a right to use, including the right to authorize Subcontractor's use of such data in direct contracts between Subcontractor and such Client.

ARTICLE 23. Infringement Representation

Subcontractor represents (a) that in preparing or presenting any deliverables under this Subcontract, Subcontractor will not knowingly infringe any intellectual property rights held by others; (b) that all deliverables developed by Subcontractor personnel under this Subcontract will be original works, and that Subcontractor will not incorporate any material not developed by Subcontractor personnel in preparing or presenting such works without clearly indicating such third party materials; and (c) that Subcontractor will notify RTI of any third party rights of which Subcontractor is aware that are necessary for RTI and RTI's Client(s) to use any such deliverables in accordance with the Subcontract.

ARTICLE 24. Indemnification

- A. Subcontractor shall defend, indemnify, and hold harmless RTI from any loss, damage, liability, claims, demands, suits, or judgments ("Claims") including any reasonable attorney's fees, and costs, as a result of any damage or injury to RTI or its employees, directors, officers, or agents, or properties, or for any injury to third persons (including, but not limited to Claims by Subcontractor's employees, directors, officers or agents) or their property which is directly or indirectly caused by the negligence, willful misconduct, breach of this Subcontract, or violation of statutory duties of Subcontractor, or its employees, officers, directors, or agents, arising out of or in connection with the performance of this Subcontract unless such Claim is solely caused by, or resulting from, a material breach of this Agreement by RTI.
- B. RTI shall promptly notify Subcontractor of any claim which is covered by this provision. Subcontractor shall, in a diligent and timely manner, (i) brief RTI on all material information pertaining to a Claim and Subcontractor's efforts to defend against the Claim; and (ii) respond to reasonable inquiries by RTI regarding such Claim or defense. Any cooperation which an Indemnitee provides Subcontractor at Subcontractor's request with regard to defending against a Claim shall be at the sole expense of

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Subcontractor. RTI may, in its sole discretion, participate in any defense or settlement of a Claim and/or appoint adequate counsel, at Subcontractor's sole expense, to defend an Indemnitee against a Claim. Subcontractor shall not enter into any settlement, consent or other like resolution of a Claim without RTI's written approval, which RTI shall not unreasonably withhold. The issuance of such approval shall not waive or otherwise limit the indemnity rights of an Indemnitee under this Article.

ARTICLE 25. Governing Law

This Subcontract shall be governed by and construed in accordance with the laws of the State of North Carolina, excluding its principles of choice of laws, except as to any provisions hereof which are governed by the laws of the United States of America, as to which provisions such laws of the United States shall govern. If this Subcontract involves the sale of good, then this Subcontract excludes the application of the 1980 United Nations Convention on Contracts for the International Sale of Goods.

ARTICLE 26. Compliance with Laws

Subcontractor, in the performance of this Subcontract, shall comply with all applicable local, state, and federal laws, orders, rules, regulations and ordinances of the United States and all countries where Subcontractor will be performing the Subcontract.

ARTICLE 27. Excusable Delays

- A. Neither Party hereto shall be in default because of any failure to perform under the terms of this Subcontract if the failure arises from any incident or circumstance beyond the affected Party's control. A United States (U.S.) government shutdown and any interruption in the U.S. government's operations shall constitute an incident or circumstance beyond the affected Party's control if the Party affected informs the other Party immediately in accordance with the requirements of Paragraph (B) below.
- B. If any such case occurs, the Party affected shall inform the other Party immediately indicating the presumable duration and extent of such contingency. Moreover, the Party affected shall promptly use all reasonable efforts to settle such contingencies so that the performance of its obligations under this Subcontract can be resumed as soon as possible.

ARTICLE 28. Stop Work Order

- A. RTI may at any time, by written notice to Subcontractor, require Subcontractor to stop all or any part of the work called for by this Subcontract. Upon receipt of the notice, Subcontractor shall immediately cease all work in accordance with the written notice and shall take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the written notice during the period of work stoppage.
- B. Once the Stop Work order is no longer necessary, RTI shall either terminate in accordance with the Termination/Cancellation Article of this Subcontract or cancel the stop work order by written notice to Subcontractor. Subcontractor shall resume work upon cancellation or expiration of any stop work order. In the event Subcontractor is given notice to continue performing work on the Subcontract, an equitable adjustment in accordance with the principles of the Changes and Modifications Article of this Subcontract shall be made to the Subcontract price, the delivery schedule, or both, if applicable, provided that the claim for equitable adjustment is made as soon as possible but no later than twenty-five (25) calendar days after date of notice to continue.

- C. If the Subcontract includes Human Subjects research, the Subcontractor will take all necessary steps to bring the study to a medically safe termination. RTI understands that it is important that the welfare of human subjects is protected and that subjects are not put at risk. As soon as practicable but not more than seven (7) days after receipt of the Stop Work Order, Subcontractor shall present the facts and circumstances to RTI regarding requirements for medically safe termination of the study. The final decision on either stopping, continuing, or winding down the study will be made jointly by RTI and the Subcontractor. Expenses resulting from ensuring medically safe termination shall be subject to equitable adjustment in accordance with the principles of the Changes and Modifications Article of this Subcontract.

ARTICLE 29. Disputes

- A. Any dispute arising under this Subcontract shall be settled by mutual agreement of the parties or pursuant to paragraph (b) below.
- B. If the parties cannot resolve the dispute amongst themselves within a reasonable time, the parties may, by mutual agreement, settle such dispute by arbitration in accordance with the Rules of the American Arbitration Association in the City of Raleigh, North Carolina, and judgment upon the award rendered by the arbitrators may be entered in any court having jurisdiction. Except as expressly set forth in this Agreement, Subcontractor shall not acquire any direct claim of action against any Client including without limitation the federal government of the United States without the express, prior written consent of the Client's contracting officer. Any dispute involving the federal government of the United States shall be heard in a federal court.
- C. Pending completion of the Subcontract or final resolution of a dispute which releases Subcontractor from performance hereunder, the Subcontractor shall, at all times, proceed diligently with the performance of the Subcontract.

ARTICLE 30. Litigation and Labor Disputes

- A. Subcontractor shall provide written notice to RTI of any litigation that relates to the services directly or indirectly financed under this contract or that has the potential to impair the ability of the Subcontractor to fulfill the terms and conditions of this Subcontract, including but not limited to financial, legal or any other situation which may prevent the Subcontractor from meeting its obligations on the Subcontract.
- B. Whenever Subcontractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this Subcontract, Subcontractor shall immediately (within 5 calendar days) give notice thereof, including all relevant information, to RTI.

ARTICLE 31. Termination/Cancellation

Termination for Default

- A. RTI may terminate this Subcontract or any part thereof in the event of any default by Subcontractor, breach of contract or insolvency, or if Subcontractor fails to comply with any of the terms and conditions of the Subcontract. In the event of termination for default, RTI shall not be liable to Subcontractor for any amount, and Subcontractor shall be liable to RTI for any and all damages

sustained by reason of the default which gave rise to the termination. RTI shall have right thereafter to take possession of all materials, equipment and the like, the costs of which have been reimbursed by RTI to Subcontractor. RTI shall be relieved of all further obligations hereunder. In the event that RTI incurs any additional costs as a result of the default by Subcontractor, RTI shall have the right to hold Subcontractor accountable for any such additional costs or damages incurred by RTI.

Termination for Bankruptcy

- B. If either party shall be adjudged bankrupt, or become insolvent or file for voluntary bankruptcy or be subjected to involuntary bankruptcy proceedings, or enter receivership proceedings, or make an assignment for the benefit of creditors, then the other party, without prejudice to any of the other rights or remedies expressly provided by law, may cancel this Subcontract, or any part hereof, by written notice to the bankrupt party and shall have the right there to retain possession of all materials, equipment and the like, the cost of which has not been reimbursed by the bankrupt party to the other party. In such cases of termination, the other party shall be relieved of all further obligations hereunder.

Termination for Convenience

- C. RTI reserves the right, upon written notice, in its own best interest or at the direction of any client or ultimate government customer, and without liability may, upon written notice to Subcontractor, terminate this Subcontract, in whole or in part, at any time, whether or not Subcontractor is in default of any of its obligations hereunder. Upon such cancellation, Subcontractor agrees to waive any claim for damages, including loss of anticipated profits on account hereof. However, RTI agrees that Subcontractor shall be paid an amount which when added to all installments previously paid will equal the sum of all costs properly incurred up to the date of cancellation, and any reasonable cost incurred as a result of such cancellation as agreed to between RTI and Subcontractor. Subcontractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided. In no event shall such payments be greater than the original Subcontract price or authorized funding, whichever is less. All earned profit shall bear the same relationship to such incurred costs as the profit increment of the purchase price bears to the cost increment of such purchase price.
- D. Subcontractor shall provide RTI and Client, within thirty (30) days from the effective date of RTI's termination for convenience, any supporting information necessary to document the reasonableness of Subcontractor's claim for costs incurred. RTI and Client reserve the right to verify the amounts of any cost and profit increments claimed by Subcontractor, through an audit of Subcontractor's records.

ARTICLE 32. Insurance [For international subcontractors, update the levels below as appropriate per World Bank at the link in B.]

- A. Upon execution of this Agreement, Subcontractor certifies that it maintains and also that it shall require any lower-tier subcontractor or subrecipient to maintain throughout this Agreement the following insurance at, or in excess of, the limits detailed below.
- Worker's compensation and employer's liability insurance as required by the state or province where the work is performed.
 - Comprehensive automobile and vehicle liability insurance covering claims for injuries to members of the public and/or damages to property of others arising from use of motor vehicles, including

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on-site and off-site operations, and owned, non-owned, or hired vehicles, with \$1,000,000 combined single limits.

- Commercial general liability insurance covering claims for injuries to members of the public or damage to property of others arising out of any negligent act or omission of the Subcontractor or of any of its employees, agents, or lower-tier subcontractors or subrecipients, with \$1,000,000 combined single limits.

- B. The required levels of insurance coverage for work performed outside of the United States by non-U.S. vendors shall be based on the customary insurance practices in the country of the vendor and the country where the work is being performed, as directed by the RTI Subcontract Administrator, and as provided by the World Bank. These requirements currently can be found at the following link: <http://www.worldbank.org/en/about/corporate-procurement/vendors/insurance-requirement>. This link is not maintained by RTI and as such may not remain active. In no event shall the failure of the link relieve the Subcontractor/Subrecipient from its obligation to maintain insurance at levels directed by the RTI Subcontract Administrator.

- A. Subcontractor's insurance policy shall name as an additional insured:

"RTI International and its subsidiaries, affiliates, officers, directors, and employees"

- B. Subcontractor shall provide to RTI, upon Subcontract execution and upon each renewal or replacement thereof a certificate of insurance depicting the insurance requirements set forth in this Article. Subcontractor shall send the insurance certificate or renewal certificate(s) via mail or electronic mail (preferred). If the mail is used, please send certificates to the following address:

RTI International
Global Supply Chain
3040 Cornwallis Road
Research Triangle Park, NC 27709
Attention: [INSERT SUBCONTRACT SPECIALIST NAME]
Email: [INSERT]

ARTICLE 33. Standards of Ethics and Business Conduct

- A. RTI has established high ethical standards for its employees, subcontractors and vendors. RTI considers adherence to the RTI Code of Conduct as well as strict observance of all U.S. and non-U.S. laws and regulations to be both a legal requirement and an ethical obligation for its employees. All RTI Subcontractors are required to maintain a Code of Business Ethics and Conduct in compliance with FAR 52.203-13.
- B. If Subcontractor has a good faith reason to believe that any violation of its Code of Business Ethics and Conduct has been committed by an employee(s) of either RTI or Subcontractor or anyone affiliated with Subcontractor, Subcontractor shall report such violation to RTI by calling the RTI's Ethics Helpline toll-free at 1-877-212-7220 or sending an e-mail to Ethics@rti.org.

ARTICLE 34. Executive Order on Terrorism Financing

Subcontractor is reminded that U.S. Executive Orders and U.S. law prohibits transactions with, and the provisions of resources and support to, individuals and organizations associated with terrorism. It is the legal responsibility of Subcontractor to ensure compliance with these Executive Orders and laws. This provision must be included in all subcontracts issued under this Subcontract.

ARTICLE 35. International Trade Compliance (Exports and Imports)

- a. Each Party agrees to comply with applicable federal, state or local laws, orders, regulations and/or ordinances, including without limitation, those of their respective countries of incorporation or principal place of business, as applicable under these Terms, including without limitation, International Trade Compliance (ITC) Laws. "ITC Laws" mean the import, customs, export control, sanctions and U.S. anti-boycott laws, regulations, and orders applicable at the time of the import, export, re-export, transfer, disclosure, or provision of Technical Data, goods or Services including, without limitation, the (i) Export Administration Regulations ("EAR") administered by the Bureau of Industry and Security, U.S. Department of Commerce, 15 Code of Federal Regulations (C.F.R.) Parts 730-774; (ii) International Traffic in Arms Regulations (the "ITAR") administered by the Directorate of Defense Trade Controls, U.S. Department of State, 22 C.F.R. Parts 120-130; (iii) Foreign Assets Control Regulations and associated Executive Orders administered by the Office of Foreign Assets Control, U.S. Department of the Treasury, 31 C.F.R. Parts 500-598; (iv) Internal Revenue Code, 26 U.S.C. § 999, enforced by the U.S. Department of Treasury; (v) International Emergency Economic Powers Act ("IEEPA"), 50 U.S.C., § 1701 et. Seq.; (vi) Customs regulations administered by U.S. Customs and Border Protection, 19 United States Code (U.S.C.) and Title 19 C.F.R.; and (vii) applicable import, customs and export laws and regulations of other countries, except to the extent they are inconsistent with the U.S. laws.
- b. **Export Licensing Responsibility.** If this Agreement requires either Party to obtain government-approved export authorization to facilitate activities and obligations set forth under this Agreement, the Parties shall mutually exercise reasonable efforts to support the preparation and management of the authorization in full compliance with applicable government regulations. The Parties shall without delay respond to requests for supporting documentation, including clarifying questionnaires or any other requested information necessary to secure government authorization. Each Party, as applicable, shall be individually responsible for obtaining required documentation or other information from any third party required by such Party to perform its obligations under this Agreement. Failure to obtain any required documentation or information from a third party shall result in the third party's exclusion from the government authorization. The Parties shall exchange copies of all government export authorizations related to the Technical Data, or Services, and all provisions or conditions or information relating to the authorization, including but not limited to, any restriction on sublicensing, retransfer, resale or re-export, any requirement for non-disclosure agreements, and any limitation on individuals having access to Technical Data, or Services. Each Party, as applicable, shall be individually responsible for compliance with all government export authorizations, including without limitation ensuring that all export-related paperwork and documentation (e.g., Destination Control Statements, Electronic Export Information filed via Automated Export System) are properly completed and timely filed.
- c. **Export and Import Classification.** Where known, or where either Party is the design authority for the Technical Data or Services that are subject to this Agreement, such Party shall provide the other Party with (i) the applicable Harmonized Tariff Schedule Number, (ii) either (a) the United States Munitions

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List ("USML") category of such Technical Data or Services that are controlled by the ITAR, or (b) the Export Control Classification Number ("ECCN") of such Technical Data or Services that are controlled by the EAR, including the ECCN of components comprising the Technical Data and/or Services if such classification differs from the ECCN of the Technical Data and/or Services, and (iii) any analogous classification under any other applicable law. Upon request, either Party shall provide the other Party annually with its DDTC registration expiration date.

- d. Marking of Technical Information: Sensitive, export-controlled technical information shall be marked as "Export-controlled, [ECCN or ITAR category ref.] applicable" in accordance with the above paragraph classification and/or marked according to applicable U.S. government agency policy guidelines governing Controlled Unclassified Information "CUI".
- e. Client shall immediately notify the RTI Contractual Contact if Client, or any lower-tier subcontractor is, or becomes, listed in any Denied or Restricted Parties list or if Client's export privileges are otherwise denied, suspended or revoked in whole or in part by any U.S. Government entity or agency. The Client shall also notify RTI of any pending administrative enforcement action concerning Client, or any lower-tier subcontractor, that may result in inclusion on any restricted list.
- f. Client shall be responsible for all losses, costs, claims, causes of action, damages, liabilities and expenses, including attorney's fees, all expenses of litigation and/or settlement, and court costs, arising from any act or omission of Client, its officers, employees, agents, or subcontractors at any tier, in the performance of any of its obligations under this Section.
- g. The Subcontractor shall include the substance of this clause in all lower-tier subcontracts and subawards.

ARTICLE 36. Foreign Corrupt Practices Act

Subcontractor represents and warrants that it shall comply fully with the anti-bribery provisions of the U.S. Foreign Corrupt Practices Act, as amended ("FCPA"), as well as the a) UN Convention against Corruption (UNICAC), b) OECD Convention on the Bribery of Foreign Public Officials (OECD Convention); and c) any other applicable local anti-corruption laws, rules, and regulations if any part of this subcontract will be performed outside of the United States of America. Specifically, Subcontractor understands and agrees that it shall be unlawful for the Subcontractor and/or any officer, director, employee or agent of the Subcontractor to make any kind of offer, payment, promise to pay, or authorization of the payment of any money, or offer, gift, promise to give, or authorization of the giving of anything of value to:

- (a) any foreign official (or foreign political party) for purposes of either influencing any act or decision of such foreign official in his official capacity, or inducing such foreign official to do or omit to do any act in violation of the lawful duty of such official, or securing any improper advantage, or inducing such foreign official to use his influence with a foreign government, or instrumentality thereof, to affect or influence any act or decision of such government or instrumentality in order to assist such person in obtaining or retaining business for or with, or directing business to any person; or

(b) any person, while knowing that all or a portion of such money or thing of value will be offered, given, or promised, directly or indirectly, to any foreign official (or foreign political party), or to any candidate for foreign political office, for any of the prohibited purposes described above.

For purposes of this Agreement "foreign official" means any appointed, elected, or honorary official or employee of a) a foreign government (or if this Subcontract is to be performed outside the United States than of the Host Country) or political party, or b) of a public international organization, or any person acting in an official capacity for or on behalf of any such government or department, agency, or instrumentality, or for or on behalf of any such public international organization (e.g., the UN, DFID, or WHO, or the World Bank).

For purposes of this Article, the "government" includes any agency, department, embassy, or other governmental entity, and any company or other entity owned or controlled by the government.

ARTICLE 37. Validity and Waiver

The invalidity in whole or in part of any provision of this Agreement shall not affect the validity of other provisions. A waiver of a breach of any provision of this Agreement shall not constitute a waiver of any subsequent breach of that provision or a breach of any other provision of this Agreement. The failure of RTI to enforce at any time or from time to time any provision of this Agreement shall not be construed as a waiver thereof.

ARTICLE 38. Combating Trafficking in Persons

RTI, as well as the United States Government, has adopted a zero-tolerance policy prohibiting trafficking in persons, including any trafficking-related activities. Additional information regarding trafficking in persons may be found at the website for the U.S. Department of State's Office to Monitor and Combat Trafficking in Persons at <http://www.state.gov/j/tip/>.

Additionally, in the event this Subcontract is funded in whole or in part via Federal contract funds, the provisions set forth in FAR 52.222-50 (Combating Trafficking in Persons) and FAR 52.222-56 (Certification Regarding Trafficking in Persons Compliance Plan), may be applicable to this Subcontract.

ARTICLE 39. Electronic Contracting

The parties agree that if this Subcontract is transmitted electronically neither party shall contest the validity of this Subcontract, or any Acknowledgement thereof, on the basis that this Subcontract or Acknowledgement contains an electronic signature.

ARTICLE 40. Debarment and Suspension

In accepting this Subcontract, the Subcontractor certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this type of transaction by any Federal department or agency. Any change in the debarred or suspended status of the Subcontractor during the life of this Subcontract must be reported immediately to RTI. The Subcontractor agrees to incorporate the Debarment and Suspension certification into any lower-tier subcontract that they may enter into as a part of this Subcontract.

ARTICLE 41. Survivability

A. If this Subcontract expires, is completed, or is terminated, Subcontractor shall not be relieved of those obligations contained in the following Articles:

- Independent Contractor
- Governing Law
- Indemnification
- Infringement Representation
- Confidential Information
- Right to Publish/Release of Information
- Insurance
- International Trade Compliance
- Electronic Contracting
- HIPAA Business Associate Agreement
- Indirect Rate Indemnity [Only Applicable to Cost-Type Subcontracts]

B. Those U.S. Government [Federal Acquisition Regulations (FAR) or Code of Federal Regulations (CFR)] and Agency Supplementary Regulation(s) that by their nature should survive.

ARTICLE 42. Order of Precedence

In the event of any inconsistency between or among the provisions, articles, attachments, or requirements which constitute this Subcontract, the following order of precedence shall apply:

1. The relevant provisions of applicable law including without limitation the FAR and the DFAR
2. The incorporated FAR, DFAR, CFR and Agency Supplementary clauses, Appendix C
3. All Special Contract Requirements (SCRs) as set forth in Appendix A, including any attachments referenced or incorporated by those SCRs
4. The General Provisions contained in these Standard Subcontract Terms, Appendix B
5. The Statement of Work, Appendix D; and
6. All other attachments incorporated herein by reference.

ARTICLE 43. Sustainability

Subcontractor shall operate in a manner that complies with United States (U.S.), national, and local environmental laws, regulations and standards including, but not limited to, laws related to energy conservation, greenhouse gas emissions, air emissions, waste management, recycling, water discharge, toxic substances, and hazardous waste disposal. Subcontractor agrees to flow down this requirement in any lower-tier subcontract that it may enter into under this Subcontract.

ARTICLE 44. Language Requirements

The official text of this Subcontract is the English language text, whether or not counterparts hereof are written, executed, or translated into any other language. All notices, communications and submittals between the parties pursuant to the implementation of this Subcontract shall be in the English language, unless otherwise directed in writing by RTI. In the event that this Subcontract is translated into another language, the English version shall prevail.

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ARTICLE 45. HIPAA Business Associate Training Addendum

In the event Subcontractor has been designated as a Business Associate, as defined by 45 CFR 160.103, via operation of another provision contained in this Subcontract, Subcontractor certifies that it has completed, or will complete, a training course as described in 45 CFR 164.530(b) for all employees associated with the work issued under this Subcontract and prior to such employees engaging in any work which involves Protected Health Information ("PHI"), as defined in 45 CFR 160.103.

ARTICLE 46. Equal Opportunity Compliance

During the performance of this Subcontract, Subcontractor agrees to comply with all Federal, state and local laws respecting discrimination in employment and non-segregation of facilities including, but not limited to, applicable provisions of Executive Order (herein "E.O.") 11246, Rehabilitation Act of 1973, Vietnam Era Veterans' Readjustment Assistance Act of 1974, E.O. 13496 and respective regulations including 41 CFR 60-1.4, 41 CFR 61-300.10, 29 CFR Part 471 Appendix A to Subpart A, 41 CFR 60-300.5 (Subcontractor and lower-tier subcontractors and vendors shall abide by the requirements of 41 CFR 60-300.5(a) if if/when this Subcontract exceeds \$100,000. This regulation prohibits discrimination against qualified protected veterans, and requires affirmative action by covered prime contractors, subcontractors, lower-tier subcontractors and vendors to employ and advance in employment qualified protected veterans) and 41 CFR 60-741.5 (Subcontractor and lower-tier subcontractors and vendors shall abide by the requirements of 41 CFR 60-741.5(a) if/when this Subcontract exceeds \$10,000. This regulation prohibits discrimination against qualified individuals on the basis of disability, and requires affirmative action by covered prime contractors, subcontractors, lower-tier subcontractors and vendors to employ and advance in employment qualified individuals with disabilities.).

The above-mentioned referenced regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, or national origin. Moreover, these regulations require that covered prime contractors, subcontractors, lower-tier subcontractors and vendors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

These equal opportunity clauses, and the employee notification clause, are hereby incorporated by reference.

ARTICLE 47. Representations and Certifications (Applicable to Task Orders funded via Federal Contracts)

As set forth below, and then renewed on an annual basis for the duration of this Subcontract, Subcontractor shall provide current, accurate and complete representations and certifications. It shall be Subcontractor's responsibility to complete the RTI-provided Representations and Certifications form on annual basis as measured from the date the Representations and Certifications were initially made, and also to ensure the continued accuracy of Subcontractor's Representations and Certifications. In the event the status of any item which Subcontractor represented or certified changes prior to Subcontractor's required annual renewal, Subcontractor shall promptly notify RTI, which shall be no later than five (5) business days after said change in status.

Subcontractor shall be required to complete an RTI-provided Representations and Certifications form at

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the earlier of following events:

- During the initial proposal with RTI in response to a U.S. Government solicitation; or
- Prior to Agreement execution.

ARTICLE 48. Anti-Kickback (Applicable to Subcontracts funded via Federal Contracts)

Subcontractor warrants that neither it nor any of its employees, agents, or representatives have offered or given, or will offer or give, any gratuities to RTI's employees, associates, agents or representatives for the purpose of securing this Subcontract or securing favorable treatment under this Subcontract. The Anti-Kickback Act of 1986, as referenced in FAR 52.203-7, is hereby incorporated into this Subcontract as a condition of acceptance. If you have reasonable grounds to believe that a violation, as described in paragraph (b) of FAR 52.203-7, may have occurred, you should report this suspected violation to Research Triangle Institute's Ethics Hotline at 1-877-212-7220 or by sending an e-mail to Ethics@rti.org. Subcontractor may report a suspected violation anonymously.

As prescribed in FAR 52.203-7 (Anti-Kickback Procedures), and as later as amended, Subcontractor shall adhere to the following requirements and regulations for all Subcontracts exceeding \$150,000 which are funded via Federal Contracts:

A. Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided to any prime Contractor, prime Contractor employee, subcontractor, subcontractor employee, vendor, vendor employee or consultant for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contractor in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime Contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor" as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action, including purchase orders, task orders and consultant contracts, entered into by a Prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause,

(1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and

(2) includes any person, vendor or consultant who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor, vendor or consultant.

- B. The 41 U.S.C. chapter 87, Kickbacks, prohibits any person from --
- (1) Providing or attempting to provide or offering to provide any kickback;
 - (2) Soliciting, accepting, or attempting to accept any kickback; or
 - (3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.
- C. Administrative Procedures.
- (1) The Subcontractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in Paragraph B of this clause in its own operations and direct business relationships.
 - (2) When the Subcontractor has reasonable grounds to believe that a violation described in Paragraph B of this clause may have occurred, the Subcontractor shall promptly report in writing the possible violation to RTI.
 - (3) The Subcontractor shall cooperate fully with RTI and any Federal agency investigating a possible violation described in Paragraph B of this clause.
 - (4) RTI may
 - (i) offset the amount of the kickback against any monies owed by the United States under the Subcontract and/or
 - (ii) direct that the Subcontractor withhold from sums owed a lower-tier subcontractor under the Subcontract the amount of the kickback. RTI may order that monies withheld under subdivision (C)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (C)(4)(i) of this clause. In either case, the Subcontractor, via RTI, shall notify the Contracting Officer when the monies are withheld.
 - (5) The Subcontractor agrees to incorporate the substance of this clause, including subparagraph (C)(5) in all subcontracts under this Subcontract which exceed \$150,000.

ARTICLE 49. Employment Eligibility Verification (Applicable to Subcontracts funded via Federal Contracts)

As prescribed in FAR 52.222-54 (Employment Eligibility Verification), and as later as amended, Subcontractor shall adhere to the following requirements and regulations for all Subcontracts exceeding \$3,000 which are funded via Federal Contracts:

A. Definitions. As used in this clause—
“Commercially available off-the-shelf (COTS) item” —

- (1) Means any item of supply that is—
 - (i) A commercial item (as defined in paragraph (1) of the definition at 2.101);
 - (ii) Sold in substantial quantities in the commercial marketplace; and
 - (iii) Offered to the Government, without modification, in the same form in which it is sold in the commercial marketplace; and
- (2) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4) such as agricultural products and petroleum products. Per 46 CFR 525.1(c)(2), “bulk cargo” means cargo that is loaded and carried in bulk onboard ship without mark or count, in a loose unpackaged form, having homogenous characteristics. Bulk cargo loaded into intermodal equipment, except LASH or

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Seabee barges, is subject to mark and count and, therefore, ceases to be bulk cargo.

“Employee assigned to the Subcontract” means an employee who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), who is directly performing work, in the United States, under a Subcontract that is required to include the clause prescribed at 22.1803. An employee is not considered to be directly performing work under a Subcontract if the employee—

- (1) Normally performs support work, such as indirect or overhead functions; and
- (2) Does not perform any substantial duties applicable to the Subcontract.

“Subcontract” means any contract, as defined in 2.101, entered into by a subcontractor to furnish supplies or services for performance of a subcontract. It includes but is not limited to purchase orders, task orders, consultant contracts and changes and modifications to purchase orders, task orders and consultant contracts.

“Subcontractor” means any supplier, distributor, vendor, consultant or firm that furnishes supplies or services to or for a prime contractor or another subcontractor.

“United States,” as defined in 8 U.S.C. 1101(a)(38), means the 50 States, the District of Columbia, Puerto Rico, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands.

B. Enrollment and verification requirements.

(1) If the Subcontractor is not enrolled as a Federal Contractor in E-Verify at time of Subcontract award, the Subcontractor shall—

- (i) Enroll. Enroll as a Federal Contractor in the E-Verify program within 30 calendar days of Subcontract award;
- (ii) Verify all new employees. Within 90 calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the Subcontractor, who are working in the United States, whether or not assigned to the Subcontract, within 3 business days after the date of hire (but see paragraph B (3) of this section); and
- (iii) Verify employees assigned to the Subcontract. For each employee assigned to the Subcontract, initiate verification within 90 calendar days after date of enrollment or within 30 calendar days of the employee’s assignment to the Subcontract, whichever date is later (but see paragraph B (4) of this section).

(2) If the Subcontractor is enrolled as a Federal Contractor in E-Verify at time of Subcontract award, the Subcontractor shall use E-Verify to initiate verification of employment eligibility of—

- (i) All new employees.
 - (A) Enrolled 90 calendar days or more. The Subcontractor shall initiate verification of all new hires of the Subcontractor, who are working in the United States, whether or not assigned to the Subcontract within 3 business days after the date of hire (but see paragraph B (3) of this section); or
 - (B) Enrolled less than 90 calendar days. Within 90 calendar days after enrollment as a Federal Contractor in E-Verify, the Subcontractor shall initiate verification of all new hires of the Subcontractor, who are working in the United States, whether or not assigned to the Subcontract, within 3 business days after the date of hire (but see paragraph B (3) of this section); or
- (ii) Employees assigned to the Subcontract. For each employee assigned to the Subcontract, the Subcontractor shall initiate verification within 90 calendar days after date of Subcontract award or within 30 days after assignment to the Subcontract,

whichever date is later (but see paragraph B (4) of this section).

(3) If the Subcontractor is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State or local government or the government of a Federally recognized Indian tribe; or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the Subcontractor may choose to verify only employees assigned to the Subcontract, whether existing employees or new hires. The Subcontractor shall follow the applicable verification requirements at B (1) or B (2), respectively, except that any requirement for verification of new employees applies only to new employees assigned to the Subcontract.

(4) Option to verify employment eligibility of all employees. The Subcontractor may elect to verify all existing employees hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), rather than just those employees assigned to the Subcontract. The Subcontractor shall initiate verification for each existing employee working in the United States who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), within 180 calendar days of—

(i) Enrollment in the E-Verify program; or

(ii) Notification to E-Verify Operations of the Subcontractor's decision to exercise this option, using the contact information provided in the E-Verify program Memorandum of Understanding (MOU).

(5) The Subcontractor shall comply, for the period of performance of this Subcontract, with the requirement of the E-Verify program MOU.

(i) The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the Subcontractor's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the Subcontractor will be referred to a suspension or debarment official.

(ii) During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the Subcontractor is excused from its obligations under paragraph B of this clause. If the suspension or debarment official determines not to suspend or debar the Subcontractor, then the Subcontractor must reenroll in E-Verify.

C. Web site. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: <http://www.dhs.gov/E-Verify> .

D. Individuals previously verified. The Subcontractor is not required by this clause to perform additional employment verification using E-Verify for any employee—

(1) Whose employment eligibility was previously verified by the Subcontractor through the E-Verify program;

(2) Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or

(3) Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD) -12, Policy for a Common Identification Standard for Federal Employees and Contractors.

E. Subcontracts. The Subcontractor shall include the requirements of this clause, including this paragraph E (appropriately modified for identification of the parties), in each subcontract that—

(1) Is for—

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- (i) Commercial or noncommercial services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or
 - (ii) Construction;
- (2) Has a value of more than \$3,000; and
- (3) Includes work performed in the United States.

ARTICLE 50. Service Contract Reporting Requirements

As set forth in Appendix C, RTI's prime contract incorporates either FAR 52.204-14 or 52.204-15 into this award. Accordingly, Subcontractor shall provide to the RTI Subcontract Administrator the following detailed information for this Subcontract no later than October 15:

- (i) Subcontract number (including subcontractor name and DUNS number), and
- (ii) The number of first-tier subcontractor direct-labor hours expended on the services performed during the previous Government fiscal year.

Reporting is required according to the following thresholds:

- (i) All cost-reimbursement, time-and-materials, and labor-hour service contracts and orders with an estimated total value above the simplified acquisition threshold.
- (ii) All fixed-price service contracts awarded and orders issued according to the following thresholds:
 - (A) Awarded or issued in Fiscal Year 2014, with an estimated total value of \$2.5 million or greater.
 - (B) Awarded or issued in Fiscal Year 2015, with an estimated total value of \$1 million or greater.
 - (C) Awarded or issued in Fiscal Year 2016, and subsequent years, with an estimated total value of \$500,000 or greater.

The information provided by Subcontractor will be made available to the public as required by section 743 of Division C of the Consolidated Appropriations Act, 2010.

ARTICLE 51. Cost Accounting Standards

Cost Accounting Standards, as set forth FAR 52.230-2, are hereby deemed to be applicable to this Subcontract.

ARTICLE 52. Entire Agreement

Both parties acknowledge that they have read this Subcontract, understand it, and agree to be bound by its terms and further agree that it is the entire agreement between the parties hereto which supersedes all prior agreements, written or oral, relating to the subject matter hereof. No modification or waiver of any provision shall be binding unless in writing signed by an Authorized Representative of the Party against whom such modification or waiver is sought to be enforced.

Attachment “D”

EESL GCC & SCC

Please refer to EESL General conditions of contract (GCC) and other Special conditions of contract (SCC)

Attachment “E”

Quick Start Guide for Getting a Unique Entity ID



SAM.gov is an official website of the United States government. There is **no** charge to register or maintain your entity registration in SAM.gov.

You can get a Unique Entity ID for your organization without having to complete an entity registration. If you only conduct certain types of transactions, such as reporting as a sub-awardee, you may not need to complete an entity registration. Your entity may only need a Unique Entity ID. [Learn more about the difference between getting a Unique Entity ID only and registering your entity.](#)

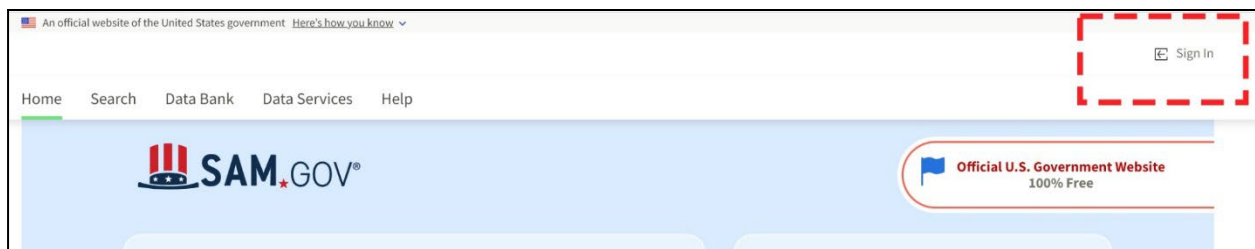
If your entity is registered in SAM.gov, you already have a Unique Entity ID

If you have an active or inactive registration in SAM.gov today, you’ve already been assigned a Unique Entity ID. It’s available on your entity registration record in SAM.gov. [Learn how to view your Unique Entity ID.](#)

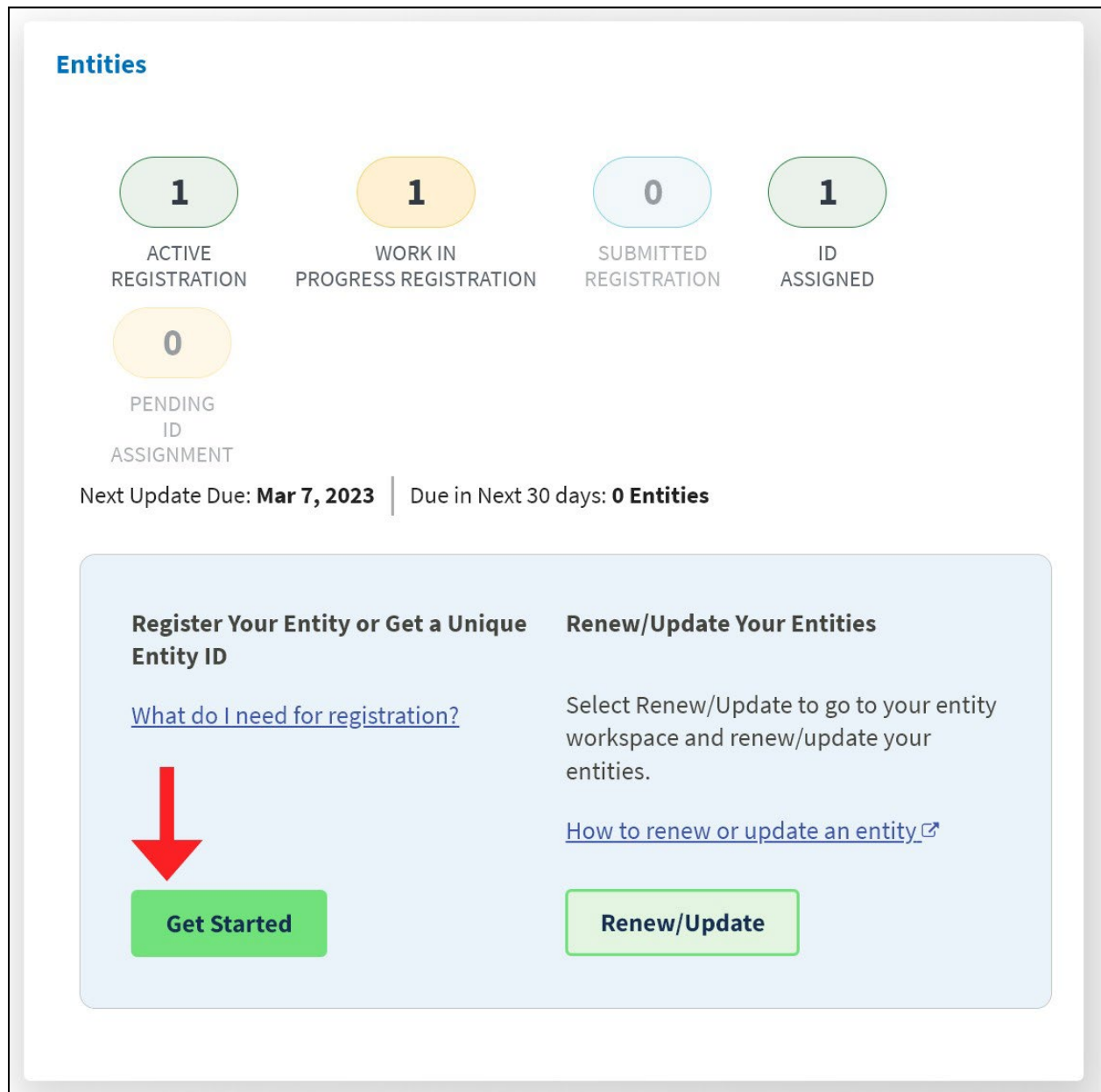
If your entity is not registered in SAM.gov and you only want a Unique Entity ID

If you want only to get a Unique Entity ID and do not want to complete an entity registration in SAM.gov, follow these steps:

1. Go to SAM.gov and select “Sign In” from the upper right corner of the page. If you do not have a SAM.gov account, you must create one. SAM.gov uses Login.gov for usernames and passwords. [View more help with using Login.gov.](#) Once you create your user account, return to SAM.gov to complete your profile.



2. After you sign in, the system will navigate you to your Workspace. On the “Entities” widget, select the “Get Started” button.






The screenshot shows the 'Entities' widget in the SAM.GOV system. It features a header 'Entities' and five status categories, each with a count in a colored oval: 'ACTIVE REGISTRATION' (1), 'WORK IN PROGRESS REGISTRATION' (1), 'SUBMITTED REGISTRATION' (0), 'ID ASSIGNED' (1), and 'PENDING ID ASSIGNMENT' (0). Below these is a summary: 'Next Update Due: Mar 7, 2023 | Due in Next 30 days: 0 Entities'. A light blue box contains two main sections: 'Register Your Entity or Get a Unique Entity ID' with a link 'What do I need for registration?' and a red arrow pointing to a green 'Get Started' button; and 'Renew/Update Your Entities' with a description, a link 'How to renew or update an entity', and a green 'Renew/Update' button.


3. Select the “Get Unique Entity ID only” option on the next page.

What do you want to do?

Choose what you need and we will show you what information to prepare.

- Register for Financial Assistance Awards Only
 - To apply for grants and loans as described by [2 CFR 200](#).
 - Includes getting a Unique Entity ID and entity registration.
- Register for All Awards
 - To bid on federal contracts and other procurements, as described by the [Federal Acquisition Regulation \(FAR\)](#).
 - To apply for grants and loans as described by [2 CFR 200](#).
- Get a Unique Entity ID Only
 - May be required to report subawards, such as federal subcontracts or sub-grants.
 - You will get a Unique Entity ID. This is NOT an entity registration.


[What's the difference between getting a UEI only and registration](#)



What do I need for registration?

Download our guide.

[Download](#)

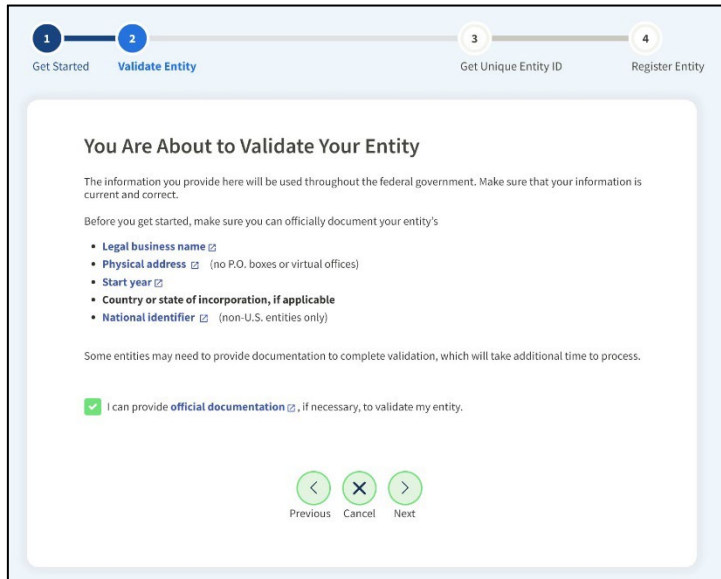


Is your entity based outside of the United States?

If you are registering an entity based outside of the United States, you must get an NCAGE Code before starting a registration. [Go to NCAGE Request](#) to submit a request.

[Previous](#) [Cancel](#) [Next](#)

- Next, the “You Are About to Validate Your Entity” page displays. It lists the information used to validate your entity. You may need to submit documents later in the process to complete validation. Select the checkbox and then select “Next.”



The screenshot shows a progress bar at the top with four steps: 1. Get Started, 2. Validate Entity (highlighted), 3. Get Unique Entity ID, and 4. Register Entity. The main content area is titled "You Are About to Validate Your Entity" and contains the following text:

The information you provide here will be used throughout the federal government. Make sure that your information is current and correct.

Before you get started, make sure you can officially document your entity's

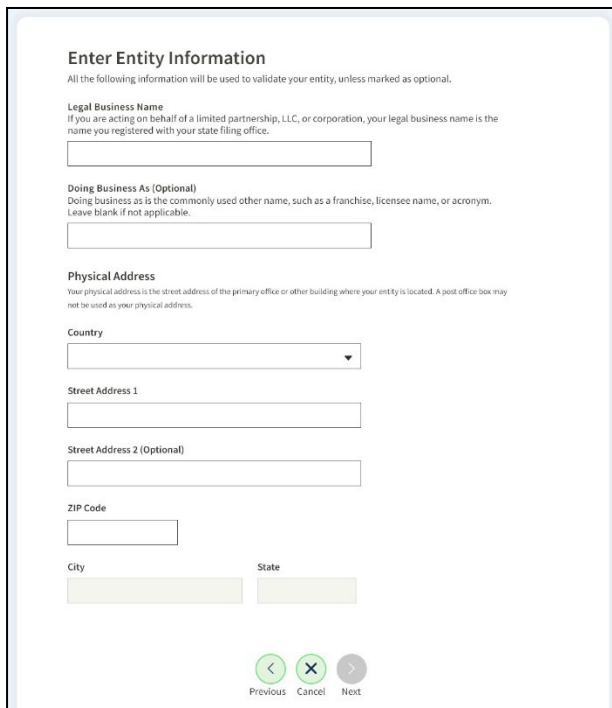
- **Legal business name** [?](#)
- **Physical address** [?](#) (no P.O. boxes or virtual offices)
- **Start year** [?](#)
- **Country or state of incorporation, if applicable**
- **National identifier** [?](#) (non-U.S. entities only)

Some entities may need to provide documentation to complete validation, which will take additional time to process.

I can provide **official documentation** [?](#), if necessary, to validate my entity.

At the bottom, there are three buttons: "Previous" (left arrow), "Cancel" (X), and "Next" (right arrow).

- On the next page, enter your entity’s legal business name, doing business as name (if applicable), and physical address, then select “Next.” All fields are required, unless marked as optional.



The screenshot shows a form titled "Enter Entity Information" with the following fields and instructions:

All the following information will be used to validate your entity, unless marked as optional.

Legal Business Name
If you are acting on behalf of a limited partnership, LLC, or corporation, your legal business name is the name you registered with your state filing office.

Doing Business As (Optional)
Doing business as is the commonly used other name, such as a franchise, licensee name, or acronym. Leave blank if not applicable.

Physical Address
Your physical address is the street address of the primary office or other building where your entity is located. A post office box may not be used as your physical address.

Country

Street Address 1

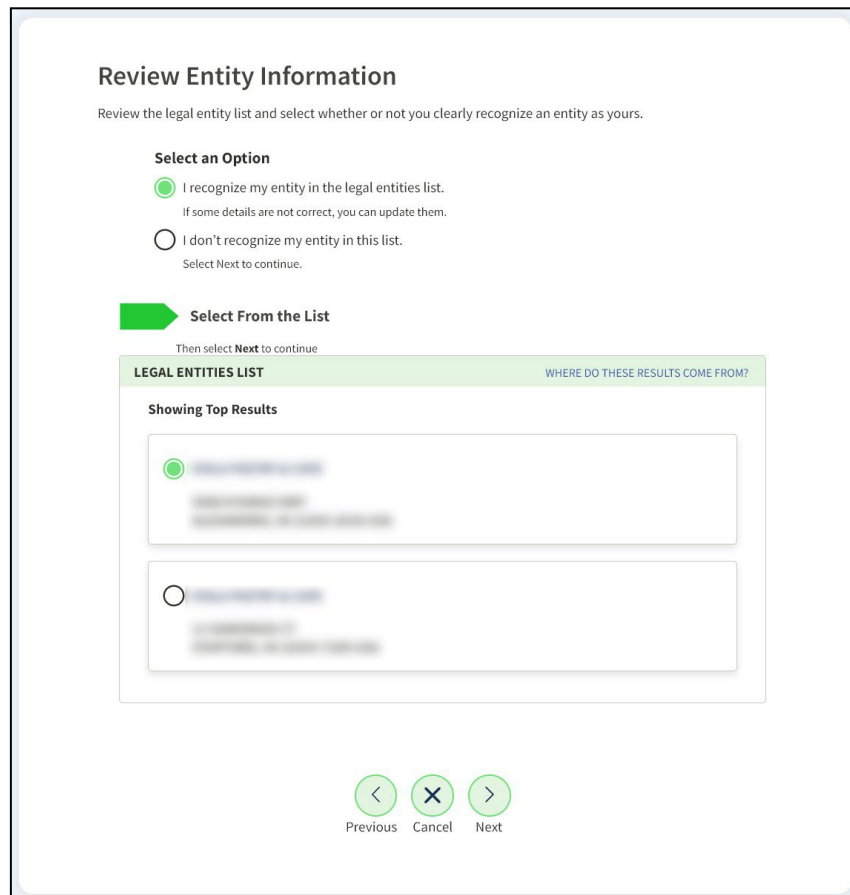
Street Address 2 (Optional)

ZIP Code

City **State**

At the bottom, there are three buttons: "Previous" (left arrow), "Cancel" (X), and "Next" (right arrow).

6. Your entity name and address will be [validated](#) by the SAM.gov entity validation service (EVS). The EVS independently verifies the uniqueness of an entity.
 - a. If the EVS has your entity information or has entities with similar information, the next page will show a list of entities.
 - i. If your entity information is shown in the list, select “I recognize my entity in the legal entities list. If some details are not correct, you can update them.” Then select the entity from the list, then select “Next.”
 1. You should select this option if all entity details are correct or if a few details are missing or incorrect. For example, your legal business name is shown, but LLC or Corp is missing, or an old address for your entity is shown. Go to step 7.




- b. If your entity is not listed, select “I don’t recognize my entity in this list.” then select “Next.” Go to step 8.
- c. If the EVS does not have any entities that resemble your information, the next page will ask for your start year and state of incorporation. (You won’t see a list of entities at all.) Go to step 9.



7. If you choose “I recognize my entity in the legal entities list,” the next page will ask you to confirm your entity details. If some information is missing or incorrect, select “No.” If all information is complete and correct, select “Yes” and go to step 11.
 - a. Then, the next page will allow you to update information that needs to be corrected.
 - b. Once corrected, the next page will ask for your entity’s start year and state of incorporation.
8. If you choose “I don’t recognize my entity in this list,” the next page will ask for your entity’s start year and state of incorporation.
9. Enter your start year and state of incorporation, then select “Next.”
 - a. Start year could be your year of incorporation, your “established date,” the year you legally began doing business, or you received your employer identification number (EIN). If your entity is incorporated, use your year of incorporation.
 - b. State of incorporation could be where you incorporated your organization, filed your certificate or articles of formation, or where the organization is located, if not incorporated.
10. If your entity information was not shown in the entity list or if information needs to be updated, you must submit documentation to prove your information. If this is the case for your entity, you will be navigated to a page where the required information will be listed, and you can upload documents. Check your documents against the list to ensure they are acceptable and to avoid unnecessary delays due to unacceptable documents. Once you submit your documents, you will get a reference ID number and you will have to wait until the EVS has entered or updated your validation data before you can proceed.

Document Your Entity Details

1 Review requirements.

 View this list of [acceptable documents](#) to understand the requirements.

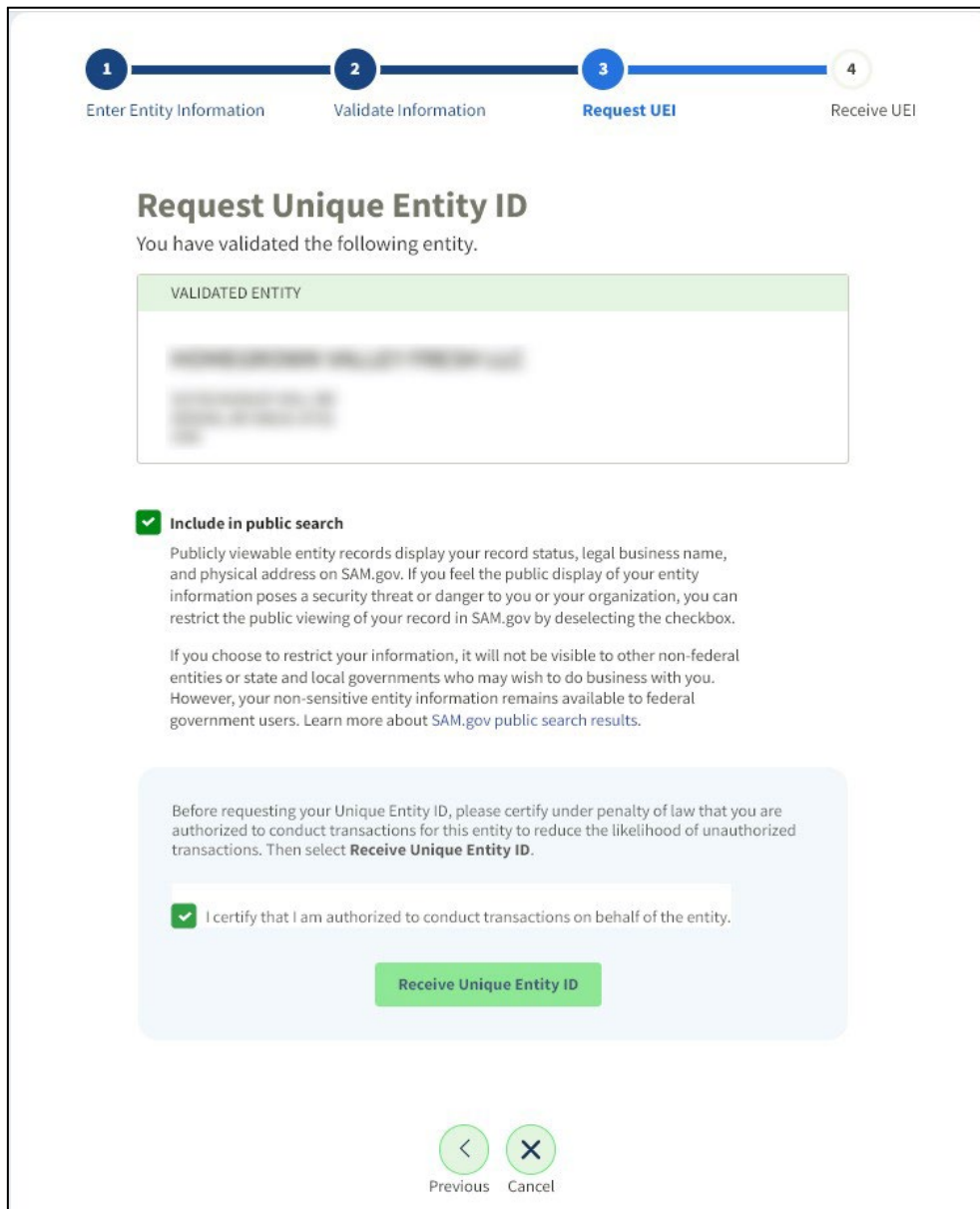
YOU ARE DOCUMENTING

	Year of Incorporation 2015
	State of Incorporation Virginia

2 Attach documents.

You must attach one or more [official documents](#) that prove each of the items listed.

11. For entities that did not need to update entity information, or for those who have passed entity validation with the EVS, on the next page you will choose whether to allow your entity record to be publicly displayed in SAM.gov. Note that if you deselect this box and restrict the public display of your entity, only you and federal government users will be able to search and view your entity record on SAM.gov. However, your non-sensitive entity information remains available to federal government users and is [available through public data services](#).



1 Enter Entity Information 2 Validate Information 3 Request UEI 4 Receive UEI

Request Unique Entity ID

You have validated the following entity.

VALIDATED ENTITY

Include in public search

Publicly viewable entity records display your record status, legal business name, and physical address on SAM.gov. If you feel the public display of your entity information poses a security threat or danger to you or your organization, you can restrict the public viewing of your record in SAM.gov by deselecting the checkbox.

If you choose to restrict your information, it will not be visible to other non-federal entities or state and local governments who may wish to do business with you. However, your non-sensitive entity information remains available to federal government users. [Learn more about SAM.gov public search results.](#)

Before requesting your Unique Entity ID, please certify under penalty of law that you are authorized to conduct transactions for this entity to reduce the likelihood of unauthorized transactions. Then select **Receive Unique Entity ID**.

I certify that I am authorized to conduct transactions on behalf of the entity.

Receive Unique Entity ID

Previous Cancel

12. You must certify under penalty of law that you are authorized to conduct transactions for the entity. Then, select “Receive Unique Entity ID.”
13. The next page will display your Unique Entity ID. If the entity already has a registration or a Unique Entity ID, you will see informational alerts at the top of the page with more details. You can begin to use the Unique Entity ID for your entity right away. Select “Go to Workspace” to exit.

