

# Request for Proposals

## RFP-MLET-2022-001

**Activity Title: “Technical assistance to the Armenian Electric Power System Operator for revamping its planning and operational processes in response to the new Wholesale Electricity Market”**

**Issuance Date: March 28, 2022**

**Deadline for Receipt of Questions: April 6, 2022**

**Closing Date and Time: April 26, 2022, 10:00 AM EDT**

*Issuance of this RFP does not constitute an award commitment on the Tetra Tech ES, Inc., nor does it commit to pay for any costs incurred in preparation or submission of comments/suggestions of a proposal.*

*Proposals are submitted at the risk of the offerors. All preparation and submission costs are at the offeror’s expense.*

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Technical assistance to the Armenian Electric Power System Operator (EPSO) revamping its planning and operational processes in response to the new Wholesale Electricity Market

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## 1. INTRODUCTION

The purpose of this Request for Proposals (RFP) is to provide technical assistance to support the Armenian Electric Power System Operator (EPSO) in the implementation of its obligations set forth in the Electricity Transmission Network Rules (Grid Code)<sup>1</sup> and, in particular, for the activities described in Section 3: Short Term Planning of the Grid Code (note: the terms Long-Term Planning and TYNDP maybe used interchangeably in this document), and in Section 5: Annual Adequacy Forecast of the Wholesale Electricity Market Rules.

## 2. BIDDER'S QUALIFICATIONS

Bidders must provide the following information in order to be qualified for this procurement process:

1. Company's information, including official registered title, type of business, address, and contact person information.
2. Overall technical approach to fulfill the specifications defined in Attachment A
3. Certification that the company is not owned or controlled in total or in part by any entity of any government.
4. Certification by any subcontractor engaged by the company for this project that the subcontractor is not owned or controlled in total or in part by any entity of any other government.
5. The Offeror shall complete and sign the Representation and Certifications found in Attachments C to this document and include them with the Offeror's proposal. Proposals that do not include these certifications will not be considered.

## 3. SOURCE, ORIGIN AND NATIONALITY RESTRICTIONS

The USAID authorized geographic code for the Market Liberalization and Electricity Trade (MLET) Program is **937** defined as (the United States, the Cooperating Country, and developing countries other than advanced developing countries, but excluding any country that is a prohibited source) and **110** defined as (the United States, the independent states of the former Soviet Union, or a developing country, but excluding any country that is a prohibited source). Please note that Russian companies owned by individuals sanctioned by the USG are precluded from participation in this tender. For accurate identification of developing countries, advanced developing countries, and prohibited sources, please refer to Automated Directives System (ADS) Chapter 310 entitled "Source and Nationality Requirements for Procurement of Commodities and Services Financed by USAID" (<http://www.usaid.gov/policy/ads/300/310.pdf>). All commodities and services supplied under any subcontract resulting from this RFP must meet this geographic code in accordance with the US Code of Federal Regulations 22 CFR §228, or obtain a waiver. A list of "Advanced Developing Countries" may be found at <http://www.usaid.gov/sites/default/files/documents/1876/310mab.pdf>. In the case of this program, Armenia is a qualified country.

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<sup>1</sup> Please refer to Annex 1 to the RFP for the draft document. An updated version will be provided to the successful awardee.

#### 4. SUBMISSION OF PROPOSALS

All proposals are due on the date and time specified on the RFP cover page. Proposals must be submitted as follows:

- In English
- Via e-mail in the following formats: Adobe Acrobat or Microsoft Word and/or Excel
- Proposals submitted via e-mail must be sent to [Mlet.procurement@tetratech.com](mailto:Mlet.procurement@tetratech.com)

All proposals must fully respond to the Scope of Work enclosed as Attachment A, as well as the information requested below, and must include cost proposals in the format provided in Attachment B. Proposals received after the above-stated due date and time will not be considered for this procurement.

For any information inquiry, please contact (via e-mail only) to [Mlet.procurement@tetratech.com](mailto:Mlet.procurement@tetratech.com) and please include “RFP # MLET-2022-01” as the e-mail subject line.

The Technical and Cost Proposals must be submitted in two separate e-mails. The Technical Proposal should not contain any reference to cost or pricing.

#### 5. QUESTIONS AND CLARIFICATIONS

All questions or clarifications regarding this RFP must be in writing and submitted, in English, to [Mlet.procurement@tetratech.com](mailto:Mlet.procurement@tetratech.com) by the time and date specified on the RFP cover page. Questions and requests for clarification, and the corresponding responses, will be circulated to all RFP recipients.

Only written answers from Tetra Tech will be considered official and carry weight in the RFP process and subsequent evaluation. Any answers received outside the official channel, whether received verbally or in writing, from employees or representatives of Tetra Tech, or any other party, will not be considered official responses regarding this RFP.

#### 6. PROPOSAL PREPARATION INSTRUCTIONS

All Offerors must follow the instructions set forth herein in order to be qualified for the procurement process. If an Offeror does not follow the instructions set forth herein, the Offeror’s proposal may be eliminated from further consideration or the proposal may be downgraded and not receive full credit under the applicable evaluation criteria. Offerors are expected to prepare their offers considering the Scope of Work as one integral set of required activities. They may associate with other consultants as appropriate in order to enhance their qualifications.

Separate Technical and Cost Proposals must be submitted. The Technical Proposal should not contain any reference to cost or pricing. All proposals should be submitted in English.

##### *Technical Proposal*

The technical proposal (excluding any provided CVs) shall not exceed 10 pages, single-spaced with 11-point font and not less than 1” (one inch) margins. Proposals will be scored on a 100-point scale. Available points for each evaluation factor are given below. Offerors must address each evaluation factor.

The outline for the technical proposal is stated below:

**A. Organization’s Information**

1. Organization’s information, including official registered title, type of business, list of offices if applicable, address, telephone, fax and website.
2. Organization’s DUNS number (see also Section 9 below)
3. Authorized point of Contact with phone number(s) and email address

**B. Technical Approach**

A brief narrative that describes how the Offeror proposes to implement the Activities to prepare the deliverables as identified in the Scope of Work section in **Attachment A**. This narrative must also include:

1. A brief description of the risks associated with delivery of the Scope of Work and how the Offeror proposes to manage delivery of the services to mitigate those risks, including but not limited to how the Offeror will interact with the MLET Program team and key counterparts at the EPSO and other local stakeholder entities; and
2. A draft work schedule that details the proposed activities over the course of the period of performance, matching the milestone deliverables as described in Attachment A.

Information which the Offeror considers proprietary, if any, should be clearly marked “proprietary” next to the relevant part of the text and it will then be treated as such.

**C. Company Past Performance**

Provide at least three (3) examples of past projects of similar scope and size, undertaken within the last seven (7) years. More examples can be provided, but the sum total of pages for all past projects shall not exceed nine (9) pages. Tetra Tech may contact clients to verify past performance information.

| Title of Assignment | Description of the support services provided | Client Name, Point of Contact, Phone and Email | Validity Dates (MM/DD/YYYY) |
|---------------------|--|--|-----------------------------|
|                     |  |  |                             |
|                     |  |  |                             |
|                     |  |  |                             |
|                     |  |  |                             |

**D. Staffing Proposal**

Provide CVs of core experts that cover at least the following three subject matters related to the solicitation, i.e.: 1) power system planning and operations, 2) data management/database and data analysis, and 3) power system modeling. The sum total of pages of all CVs provided shall not exceed nine (9) pages.

The team of experts proposed by the Subcontractor shall collectively cover the areas of expertise required for the assignment. More specifically, the team shall at a minimum comprise:

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- a. Power System Planning Engineer/Project Manager: Must be an Electrical Engineer with an advanced qualification (MSc or PhD) and at least 10 years of relevant experience in the design and implementation of power system planning and generation adequacy studies. S/he must at least have good knowledge and capability to perform the power system analysis for power system planning, determination of reserves and economic dispatch demonstrated by at least 5 years in the implementation of previous assignments dealing with hydro-thermal scheduling and coordination, in a European or Energy Community country. S/he must possess professional command of the English language, with excellent writing and communication skills;
- b. Data management/Database & Data Analyst Expert: S/he must possess a minimum of a Bachelors' Degree in Electrical Engineering, Computer Science or related field, with at least 5 years' experience in energy sector related information and communication systems. S/he must have at least 3 years' experience in programming languages and ability to write short scripts and/or applications required to achieve interoperability and data interchange between power system models (e.g. Python) web services, data management and structured data interchange, database and a computer based document management systems demonstrated by at least 5 relevant ongoing or previous assignments, implemented for a utility (electricity, gas, water, etc.);
- c. Power system modelling experts (preferably a team comprised of more than 3 experts): Must be Electrical Engineers, preferably with an advanced qualification (MSc or PhD) and at least 10 years of relevant experience in the design and implementation of power system planning, network analysis and generation adequacy studies. They must have at least a good knowledge and capability to perform power system simulations, demonstrated by at least 3 previous or ongoing assignments over the past 5 years in a European or Energy Community country using:
  - a. ANTARES model
  - b. PLEXOS model
  - c. PSS/E model
  - d. POWERFACTORY model
  - e. JROS model, having experience in using the available Siemens Spectrum Online Software system for Supervisory Control and Data Acquisition (SCADA) and Energy Management System comprising of Network Analysis, Generation Control & Scheduling, Expert system and Dispatcher Training Simulation applications.
- d. Local experts with knowledge of the Armenian power sector and at least 5 years' work experience in a field relevant to the assignment is desired.

All technical experts will be considered Key Personnel, meaning that prior to replacing specified individuals, the Subcontractor must notify Tetra Tech reasonably in advance, and submit written justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on activities. No replacement shall be made by the Subcontractor without Tetra Tech's prior written approval.

## *Cost Proposal*

### **A. Detailed Budget**

Bidder shall complete the **detailed budget template in Annex 2** in order to allow Tetra Tech ES, Inc. to compare all quotes and make a competitive selection. The budget should be provided in Excel format, formulas intact, and with unlocked cells.

The price proposed must cover each project component to be considered compliant with this request. The cost proposal should include the individual line items shown in the template, e.g., fully-burdened daily rates, travel costs, and any other direct costs. Offers must show unit prices, quantities, and total price with formulas intact. All items, services, etc. must be clearly labeled and included in the total offered price. The price proposal shall also include a budget narrative that explains the basis for the estimate of every cost element or line item. Supporting information must be provided in sufficient detail to allow for a complete analysis of each cost element or line item. Tetra Tech reserves the right to request additional cost information if the evaluation committee has concerns about the reasonableness or completeness of Offeror's proposed price.

Bidders shall provide unit pricing in U.S. dollars. Prices quoted in this document shall be valid for 60 days and include all relevant taxes and other costs. Note that the MLET project is VAT exempt, so prices quoted should be exclusive of VAT.

**B. 1420 Forms for the proposed personnel**

For each staff member proposed, the Offeror shall submit a completed and signed USAID 1420 form, which can be downloaded here: <https://www.usaid.gov/forms/aid-1420-17>

**C. Proposed Billing Rates Certification**

Document on company letterhead certifying that the proposed labor rates are standard rates and have been previously billed to clients for similar work.

**D. Representations and Certifications**

These documents can be found in Attachments C of this RFP and must be submitted as part of the Cost Proposal.

Under no circumstances may cost information be included in the technical proposal. No cost information or any prices, whether for deliverables or line items, may be included in the technical proposal. Cost information must only be shown in the cost proposal. Failure to comply with this requirement will make the technical proposal invalid and not subject to further consideration.

## **7. EVALUATION CRITERIA**

Award will be made to the bidder representing the best value in consideration of technical, past performance, and cost factors. Technical criteria are more important than cost, although prices must be reasonable and will be considered in the evaluation. Bidders are encouraged to provide a discount to their standard commercial rates.

Tetra Tech reserves the right to conduct negotiation with selected bidder(s) in order to identify the best value offer. Award of a Subcontract Agreement shall be made by Tetra Tech on a best value trade-off basis. Tetra Tech reserves the right to request a test assessment from bidders to assess their qualifications.

The submitted technical information will be scored by an evaluation committee using the following technical evaluation criteria (75 points).

Given the specific expertise required to perform the services in question, only bids with a technical score of 50 points or more will be considered for evaluation of their cost proposals.

Proposals will be scored on a 100-point scale. Available points for each evaluation factor are given below.

**Technical Proposal (75 points)**

| Evaluation Criteria for Technical Proposal   |  | Points    |
|--|--|-----------|
| <b>I. Company Past Performance</b>   |  | 15        |
| <b>II. Proposed Staffing</b>   |  | 20        |
| a) Demonstrated knowledge, skills, and experience of proposed personnel relevant to their assigned roles   |  |           |
| <b>III. Technical Approach</b>   |  | 40        |
| a) Narrative description of and proposed approach to prepare the deliverables as detailed in the SOW   |  |           |
| b) Demonstrated experience in assisting TSOs or vertically integrated electricity undertakings with generation expansion and transmission planning (preferably in the EU or Energy Community Treaty Signatory Parties) |  |           |
| <b>TOTAL</b>   |  | <b>75</b> |

**Cost Proposal (25 points)**

The lowest cost proposal from technically qualified bidders will receive the maximum score of 25 points.

All other proposals which meet the minimum technical evaluation threshold will be scored inversely proportional to their price and computed as follows:

$$S_f = 25 * (F_m/F), \text{ where}$$

$S_f$  = Cost Proposal Score of the proposal evaluated

$F_m$  = Price of the lowest priced Cost Proposal among those qualified

$F$  = Price of the Cost Proposal under consideration

The Offeror should submit a **Detailed Budget** reflecting the cost of completing the Technical Approach to deliver the SOW. Bidders shall complete **Attachment B – Detailed Budget** in Microsoft Excel format with formulas intact and all cells unlocked. Labor rates quoted in this document shall be fully-burdened with all indirect costs, taxes and fee, if any.

Tetra Tech reserves the right to conduct negotiations with selected bidder(s) in order to identify the best value offer. Award of a Subcontract Agreement shall be made by Tetra Tech based on a best value basis, considering the proposed price, services, and implementation schedule.

**8. TERMS OF PAYMENT**

Payment terms for the awarded Subcontract Agreement shall be net forty-five (45) days after satisfactory completion and acceptance and of services and deliverables. Payment shall be made by Tetra Tech ES, Inc. via bank wire transfer.

**9. DUNS NUMBER AND SAM.GOV REGISTRATION**





If the proposed fixed price is above \$30,000, the successful bidder will be required to furnish a DUNS number and proof of SAM.gov registration within 24-48 hours of notice of award. Information regarding obtaining a DUNS number may be found here: <https://fedgov.dnb.com/webform>

## **10. NEGOTIATIONS**

Best offer proposals are requested. It is anticipated that a subcontract will be awarded solely on the basis of the original offers received. However, Tetra Tech reserves the right to conduct discussions, negotiations and/or request clarifications prior to awarding a subcontract. Furthermore, Tetra Tech reserves the right to conduct a competitive range process, to determine the best offerors in the competitive range, to permit an efficient evaluation environment among the most highly-rated proposals. Highest-rated offerors, as determined by the technical evaluation committee, may be asked to submit their best prices or technical responses during a competitive range.

## **11. MULTIPLE AWARD/NO AWARD**

Tetra Tech ES, Inc. reserves the right to issue multiple awards. Tetra Tech ES, Inc. also reserves the right to issue no awards.

## ATTACHMENT A – TECHNICAL SPECIFICATION

Activity Title: Technical Assistance to the Armenian Electric Power System Operator (EPSO) for revamping its planning and operational processes in response to the new Wholesale Electricity Market

### Background and Purpose

The Market Liberalization and Electricity Trade (MLET) project funded by the United States Agency for International Development (USAID) is supporting multiple energy sector activities in Armenia. These activities work in tandem with many on-going electricity sector activities funded either by Government of Armenia (GoAM) internal resources or through development assistance. EPSO avails and uses a series of software packages including SIEMENS PSS/E and jROS as well as DIGSILENT's POWERFACTORY. For the adequacy studies required under the Ten-Year Network Development Plan, EPSO intends to use ANTARES in the future. On a separate activity MLET program has been assisting the Electricity Market Operator to develop a Market Management System in which the Electricity System Operator has specific functions that enable and facilitate power system security and reliability in the new market environment. The major process to which EPSO's current planning practices need to be aligned and cross-integrated with include:

- The activities described in **Section 5: Annual Adequacy Forecast** of the Wholesale Electricity Market Rules
- The activities described in **Section 3: Short Term Planning** of the Grid Code for the part of calculation of transmission losses in timelines corresponding to the year ahead and to day ahead (interchangeably referred to as "D-1" herewith in this document).

MLET and EPSO have initiated activities aimed at the development of the pilot Ten-Year Network Development Plan (TYNDP) and Annual Adequacy Forecast (AAF) which are envisaged as standardized reports to be renewed at a biennial and annual basis, respectively. However, additional efforts are needed for linking calculation, data collection and data exchange, particularly in connection with the activities provided in Section 3 of the Grid Code: Short Term Planning. Therefore, the Subcontractor shall work in close collaboration and coordination with MLET, EPSO and its experts, by exchanging information and responding to each other's queries, and developing the activities requested below while taking into account the existing TYNDP and AAF development and modelling tools and capabilities within EPSO, the guidance provided by MLET, and the relevant EU best practices.

### Objectives

The objectives of this Technical Assistance (TA) are to:

- Ensure that EPSO avails the proper and calibrated baseline Armenian power system models to support its functions under the new electricity market environment;

- Provide on-the-job training to and capacity building of the EPSO staff on the use of appropriate power system models;
- Develop any automation scripts and/or implement software solutions for increasing the efficiency and reducing the time in achieving integration and interoperability between the MMS and EPSOs software and systems;
- Demonstrate adequately calibrated models for the simulation of the Armenian power system and desired levels of interoperability between the Market Management System, joint Resource Optimization and Scheduler (jROS), ANTARES, PSSE/E, POWERFACTORY and other associated software and systems operated by EPSO;
- Assist in preparation, consultation and approval of the Annual Adequacy Forecast 2023; and
- Record, analyze and propose recommendations for the improvement of the processes pertinent to the secure and reliable operation of the Armenian power system under the new market and increased RES penetration prospects, and its comparability with EU best practices.

## Scope of Work

The assignment shall take place in EPSO's headquarters in Yerevan, Armenia, and the Subcontractor's base of operations. The Subcontractor shall coordinate and collaborate with EPSO and its experts in performing its tasks laid out in this Scope of Work (SOW). As general requirements, the Subcontractor has to ensure that the:

- Designated Project Manager is present in the field (ideally in the offices of EPSO in Yerevan, Armenia) for at least 25% of his/her time and devoted to the assignment, and is available to hold on-site or remote weekly progress review and management meetings as required;
- Power system modelling expert(s) is/are present in the field (ideally in the offices of EPSO in Yerevan, Armenia) for at least 65% of their time, and devoted to their specifically assigned modelling tasks in the assignment; and
- Local power system expert(s) is/are present in the field (ideally in the offices of EPSO in Yerevan, Armenia) for at least 65% of their time, and devoted to the assignment.

The working language of this assignment is English, and the deliverables must be presented in designated USAID format, per template to be provided by MLET.

## Activity 1: Finalizing energy system models and review of documents and practices pertinent to power system planning and operations at different timescales

The Subcontractor shall commence activities on or about June 1, 2022, and under Activity 1, conduct an inception visit to EPSO in Yerevan, and provide by June 10, 2022 a brief inception report. Furthermore, the Subcontractor is expected to review the status and workable condition of modelling tools available within EPSO in terms of their suitability to support the processes, as defined in the background and purpose section of this SOW, and as described in the relevant section of the Grid Code and WEM Rules. In parallel, the Subcontractor is expected to conduct a review and analysis of the policy, legal and regulatory framework including the Republic of Armenia Energy Sector Development Strategic Program to 2040, the

Energy Law, the Wholesale Electricity Market Rules and the Grid Code, which describe the expected results, information provision, consultation and approval processes pertinent to the Annual Adequacy Forecast (AAF), the Ten Year Network Development Plan (TYNDP), and the Short Term Planning. In addition, the Subcontractor should review the relevant section of the MMS Design Document to identify and documenting the actions required to be performed by EPSO in fulfilling WEM operation.

In collaboration with the MLET and EPSO teams, the Subcontractor will review the existing template forms for the information that needs to be provided to EPSO by various stakeholders.

Most importantly, within this activity, the Subcontractor is expected to deliver workable and calibrated baseline power system models within EPSO. The energy models that will emerge should be able to produce accurate and interpretable results reflecting on realistic energy balances that have been recorded in the annual operation of the power system (out of which a baseline year should be selected). Delivery of the power system models described above should be completed within 2 months from the commencement of the assignment. The subcontractor must follow three (3) parallel workstreams:

- 1) Finalize the jROS model for the power system of Armenia by using the:
  - a. Short-term and Mid-term demand forecast modules available with EPSO's jROS and SCADA/EMS modules;
  - b. Maintenance optimization module available with EPSO's jROS and SCADA/EMS module;
  - c. Mid-term Inflow forecast module available with EPSO's jROS system for developing hydro inflow scenarios across timelines ranging from a year ahead to day ahead and use them (following a topology validation exercise) in the hydro-cascade models included in the jROS model;
  - d. Resource Optimization (RO) module available with EPSO's jROS system for developing annual dispatch simulations of an hourly resolution, taking into account the specific conditions related to cross-border exchanges, network losses, must run generation, and operating reserves; and
  - e. Hydro-thermal coordination (HTC) module for the relevant planning horizons that relate mostly to short-term planning and operations
- 2) Develop a PLEXOS model for the power system of Armenia using its own model license as a fully interchangeable option for modelling across the multi-year, annual, monthly and day ahead timeframes.
- 3) Develop and compare the results with ANTARES model for the power system as a fully interchangeable option for modelling across the multi-year and annual timeframes.

Based on the outcomes of the parallel modelling workstreams, the recommendations of the Subcontractor and the comments from MLET and EPSO, the EPSO should decide on its final preference in using jROS, PLEXOS or a combination of the two for carrying out its duties and responsibilities, as described in the relevant sections of the WEM Rules and the Grid Code. To the extent that new software licenses will be required (e.g. PLEXOS), advise should be provided to EPSO in procuring the license. EPSO will provide all

necessary data and information to support simulations of hourly granularity based on the data requests provided by the Subcontractor. It is anticipated that the decision on the appropriate modelling alternative will affect the implementation of Activity 3 below.

**Deliverable 1:** A Brief Inception report summarizing the mission results, data requirements and any additional aspect that the Subcontractor needs to communicate at the start of the assignment. **Due Date: 10 June 2022**

**Deliverable 1a:** A summary report on the review of requirements, expected results, information provision, consultation and approval process of EPSOs outputs, considering the year ahead and day ahead timeframes under the Grid Code and the WEM Rules, and responsibilities and functions assigned to EPSO in the MMS. The report should also include the review of the policy and legal framework governing power system planning and operations and propose recommendations for improvements of existing practices based on the EU best practice. **Due Date: 24 June 2022**

**Deliverables 1b, 1c, 1d:** Fully operational power system models of jROS, PLEXOS and ANTARES. These deliverables shall comprise baseline workable calibrated models on jROS, PLEXOS and ANTARES that are able to adequately simulate the Armenian power system. To facilitate and improve the existing practices, EPSO will share with the Subcontractor information on its current tools, methodologies, and data collection practices. **Due Date: 15 July 2022**

## Activity 2: Training and capacity building activities

EPSO is required to develop several reports and analyses through a robust techno-economic modelling process, and communicate them appropriately, either through the MMS or through an organized consultation process. The Subcontractor should build capacity of EPSO and other relevant Armenian stakeholders on the implementation of the relevant provisions of the WEM Rules and Grid Code through appropriate methodologies and modelling approaches in the MMS, jROS, PSS/E and associated software and systems. The Subcontractor should assist EPSO in upgrading its planning and operational capabilities as outlined in the recommendations and guidance prepared under Activity 1.

**Deliverable 2:** Training and Capacity Building Activity Report. This deliverable shall comprise a summary report comprising the needs assessment, plan and implementation of training and capacity building, as well as their evaluation thereof. The deliverable shall also include electronic copies of the training material and recommendations for any future actions needed. **Due Date: 15 July 2022.**

## Activity 3: Development of the Annual Adequacy Forecast

Based on the preferred calibrated model (e.g. jROS/PLEXOS and PSS/E, POWERFACTORY as appropriate), the Subcontractor will support the preparation of the Annual Adequacy Forecast. The AAF comprises a fundamental prerequisite required under the Wholesale Electricity Market Rules in order to: a) enable the sector regulator to review and approve the hourly schedules of the Independent Power Producers (IPP) and Regulated Power Plants (RPP), and b) serves as a non-committing year ahead indication to all market actors on how the Armenian power system would use all available resources to cover the forecasted demand on an economically optimal way.

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For the purposes of developing the Annual Development Forecast, the Subcontractor is anticipated to take stock of past and on-going activities carried out by EPSO and where appropriate coordinate the timing of data collection, calculation and reporting actions to meet the deadlines foreseen in the WEM Rules.

- **Data collection template forms:** EPSO has developed and provided for consultation a set of data collection forms, which in turn correspond to the data provision requirements set forth in the Wholesale Market Rules and imposed on certain market participants. Subject to any data structure requirements imposed by the selected energy model, the Subcontractor will review the applicability of the existing version of the data collection template forms, verify their applicability and finalize them by describing the overall data collection process and preparing instructions for the respondents.
- **Data verification and validation:** EPSO has provided a set of high-level guidance on how, upon receipt of the hourly schedules provided by the market participants as part of their obligations under the AAF, these responses may be checked, verified and validated. The Subcontractor is anticipated to review and detail the process by setting simple and robust verification and validation procedures on each data template form in order for data quality measures to be minimized.
- **Preparation of the draft AAF:** This activity will include feeding the validated data into the model(s) and performing pilot runs, producing preliminary results, and identifying gaps/issues in the dataset, methodologies, and expected modelling approaches, and, in addition, based on the above initial attempts, organizing the template structure and visualization of key inputs and outputs in the AAF. Based on the results related to the utilization of the interconnections, the EPSO team, under the guidance of the Subcontractor, should be able to determine requirements for technical exchanges and balancing, and opportunities for cross-order trading. These requirements should be linked to the determination of firm access rights on the interconnection between Armenia and Georgia, which is under development.
- **Preparation of the final AAF:** This activity will include a revision of the draft AAF to accommodate any comments, remarks, suggestions, and updates submitted by the authorized state body in the energy sector, the PSRC, and the market participants as provided in the Wholesale Electricity Market Rules. The Subcontractor, upon the finalization of the AAF shall support EPSO to fulfill uploading the schedules to the designated module of the Market Management System and ensure that the process is completed without errors.

**Deliverable 3a:** Finalized data collection forms in MS Excel format accompanied by instructions to market participants on the interpretation of the data requested, and on the process of responding to data collection procedures defined in the WEM Rules. **Due Date: 1 September 2022**

**Deliverable 3b:** A report detailing data validation and verification procedures, comprising appropriate data quality check and correction routines. **Due Date: 1 October 2022**

**Deliverable 3c:** A draft report comprising a summary narrative and presentation of the data, information, assumptions and calculations, and a comprehensive presentation and interpretation of the annual dispatch results including the outage planning, demand forecast, forecast of fuel and hydropower resources, supply/demand balance, use of interconnectors, and determination of operating reserves

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under the AAF. In addition, output files of the hourly dispatch simulation in an appropriate format provided by the MMS should be provided in order for the dispatch results to be uploaded to the designated module of the MMS. **Due Date: 20 October 2022**

**Deliverable 3d:** A final report comprising a summary narrative and presentation of the data, information, assumptions and calculations, and a comprehensive presentation and interpretation of the annual dispatch results including the outage planning, demand forecast, forecast of fuel and hydropower resources, supply/demand balance, use of interconnectors, and determination of operating reserves under the AAF. In addition, output files of the hourly dispatch simulation in an appropriate format provided by the MMS should be provided in order for the dispatch results to be uploaded to the designated module of the MMS. **Due Date: 15 December 2022**

#### Activity 4: Assisting interoperability, including through the implementation of additional software scripts

With a view to fully utilize the data exchange across the various models and to optimize time and resources, EPSO is required to automate and standardize imports and export of data in MS Excel format. The Subcontractor shall identify the needs, establish workflow process, and develop the required software and application scripts to ensure the following level of interoperability:

- **Annual timeline** - the Subcontractor should ensure that outage coordination, demand forecasting, adequacy, transmission losses forecast, hourly dispatch simulations and network analysis simulations can be carried out via MS Excel, jROS/PLEXOS and PSS/E or POWERFACTORY software, ensuring appropriate data exchange and the relevant module of the MMS.
- **Monthly timeline** - the Subcontractor should ensure that outage coordination, demand & RES forecasts are in an appropriate format to be regularly uploaded in the form of MS Excel to the relevant modules of the MMS. Additionally, the Subcontractor should ensure that 24-hour demand and generation profiles are appropriately uploaded in an automated manner in PSS/E or POWERFACTORY software in order for the month-ahead transmission losses hourly schedule to be calculated.
- **D-2 and D-1 timelines** - the Subcontractor should ensure that outage coordination, demand & RES forecasts are forecasts are in an appropriate format to be regularly uploaded in the form of MS Excel to the relevant modules of the MMS. In addition, the Subcontractor should ensure that 24-hour demand and generation profiles are appropriately uploaded in an automated manner in PSS/E or POWERFACTORY software in order for the day ahead transmission losses hourly schedule to be calculated.

**Deliverable 4:** The deliverable(s) include report(s), presentations, specifications, application notes, data structure models, application scripts and software tools as deemed necessary. **Due Date: 15 January 2023.**



## Activity 5: Evaluation and feedback on all planning & operational process of EPSO under the new electricity market

The Subcontractor shall record gaps, limitations, procedural and inter-operability concerns. These concerns shall be identified and, to the extent applicable, addressed during the period of performance. The Subcontractor shall report to the client and EPSO any aspect of the planning and operational coordination process that remain to be addressed for any reason, outside the Subcontractor's control.

**Deliverable 5:** A summary evaluation and feedback report on any aspect that emerges during the implementation of this assignment. This deliverable shall comprise a list of concerns or outstanding issues not addressed during the current assignment and clearly stating the reason for not addressing them. Such concerns and outstanding issues include process-related concerns, and methodological aspects that may not have been sufficiently dealt with or remain unresolved. The report shall also include suggestions and remarks to help improve the overall quality of EPSO's services in the new market environment and the efficiency of the overall process, including short and concise proposals to address these gaps. **Due Date: 17 February 2023.**

### Deliverables' summary table

|     | Activity  | Deliverable  | Estimated Due Date |
|-----|---|--|--------------------|
| 1   | Review of documents and practices pertinent to power system planning and operations at different timescales | <u>Deliverable 1:</u> Brief Inception Report   | June 10, 2022      |
| 1a. | Review of documents and practices pertinent to power system planning and operations at different timescales | <u>Deliverable 1a:</u> Report on review of planning and operation practices under the new electricity market | June 24, 2022      |
| 1b. | Completion of a calibrated jROS model of the Armenian power system  | <u>Deliverable 1b:</u> Report and demonstration of a calibrated jROS power system model                      | July 15, 2022      |
| 1c. | Completion of a calibrated ANTARES model of the Armenian power system                                       | <u>Deliverable 1c:</u> Report and demonstration of a calibrated ANTARES power system model                   | July 15, 2022      |
| 1d. | Completion of a calibrated PLEXOS model of the Armenian power system  | <u>Deliverable 1d:</u> Report and demonstration of a calibrated PLEXOS power system model                    | July 15, 2022      |
| 2.  | Training and capacity building  | <u>Deliverable 2:</u> Training and Capacity Building Activity Report including training material             | July 15, 2022      |
| 3a. | Finalization of data collection template forms and preparation of   | <u>Deliverable 3a:</u> Finalized data collection template forms and related guidance/instructions to users   | September 1, 2022  |

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Technical assistance to the Armenian Electric Power System Operator (EPSO) revamping its planning and operational processes in response to the new Wholesale Electricity Market



|     | <b>Activity</b>  | <b>Deliverable</b>  | <b>Estimated Due Date</b> |
|-----|--|---|---------------------------|
|     | instructions and guidance for their use  |   |                           |
| 3b. | Ensure data quality in respect of the data and information submitted for the preparation of the AAF    | <u>Deliverable 3b:</u> Report on data quality checks for validation and verification of submitted data under the AAF procedures   | October 1, 2022           |
| 3c. | Preparation and support on the consultation of the draft AAF   | <u>Deliverable 3c:</u> Draft AAF  | October 20, 2022          |
| 3d. | Preparation and publish of the final AAF   | <u>Deliverable 3d:</u> Final AAF  | December 15, 2022         |
| 4.  | Assisting interoperability including through the implementation of additional software scrips          | <u>Deliverable 4:</u> Report(s), presentations, specifications, application notes, data structure models, application scripts and software tools as deemed necessary  | January 15, 2023          |
| 5.  | Evaluation and feedback on all planning & operational process of EPSO under the new electricity market | <u>Deliverable 5:</u> A summary evaluation and feedback report on issues and concerns collected throughout the implementation of the assignment (e.g., a running log of gaps, limitations, procedural and inter-operability concerns based on day-to-day engagement). | February 17, 2023         |

## ATTACHMENT B – DETAILED BUDGET

### 1. PROPOSED DETAILED BUDGET, PAYMENT SCHEDULE, AND BUDGET NARRATIVE

Offerors must complete **Annex 2 – Budget Template** as part of their cost proposals. If any subcontractors are being proposed, Offerors must present separate Excel worksheets showing each subcontractor’s detailed budget using the same breakdown as indicated above

The price proposed must cover each project component to be considered compliant with this request. The cost proposal should include the individual line items shown in the template, e.g., fully-burdened daily rates (i.e., incorporating all relevant associated taxes, fringe benefits, indirect charges, and fee), travel costs, and any other direct costs. Offers must show unit prices, quantities, and total price with formulas intact. All items, services, etc. must be clearly labeled and included in the total offered price.

**The price proposal shall also include a budget narrative that explains the basis for the estimate of every cost element or line item.** Supporting information must be provided in sufficient detail to allow for a complete analysis of each cost element or line item. Tetra Tech reserves the right to request additional cost information if the evaluation committee has concerns about the reasonableness or completeness of Offeror’s proposed price.

Bidders shall provide unit pricing in U.S. dollars. Prices quoted in this document shall be valid for 60 days and include all relevant taxes and other costs. Note that the MLET project is VAT exempt, so prices quoted should be exclusive of VAT.

Tetra Tech will issue a Firm Fixed Price deliverables-based subcontract, with a payment schedule to be agreed and defined upon acceptance of deliverables as described in **the SOW in Attachment A**.

**ATTACHMENT C – REPRESENTATIONS AND CERTIFICATIONS**

**Bidder Representations and Certifications**

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**1. Organizational Conflict of Interest Representation**

The offeror represents, to the best of its knowledge and belief, that this award:  
 does [ ] or does not [ ] involve an organizational conflict of interest.

*Please see FAR 52.209-8 for further explanation.*

**2. Data Universal Numbering System (DUNS) Number** *(required if cost proposal is more than USD \$30,000)*

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*(please use one box per number or dash)*

**3. Source and Nationality of Goods and Commodities**

(i) This is to certify that the Bidder is:

- a. an individual who is a citizen or legal resident of \_\_\_\_\_.
- b. a corporation of partnership organized under the laws of \_\_\_\_\_.
- c. a controlled foreign corporation of which more than 50% of the total combined voting power of all classes of stock is owned by United States shareholders; or
- d. a joint venture or incorporated association consisting entirely of individuals, partnerships or corporations. If so, please describe separately the citizenship or legal status of the individuals, the legal status of the partnership or corporations, and the percentage (%) of voting power of the corporations.

(ii) This is to certify that the **Source** (the country from which a commodity is to be shipped from) of the Equipment to be supplied under this Order is:

*name of country or countries*

By signing below, the Bidder certifies that the representations and certifications made, and information provided herein, are accurate, current and complete.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

**1. Name of Subcontractor:**

**2. DUNS Number:**

**3. Nationality of Subcontractor:**

**4. Official address of Subcontractor:**

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**5. Subcontractor Taxpayer Identification Number (TIN) or SSN:**

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(please use one box per number or dash)

This should be the same number the Subcontractor uses for reporting income tax and other returns. The TIN may be used by the U.S. Government to collect and report on any delinquent amounts arising out of the Subcontractor's relationship with the Government (through Tetra Tech), as per 31 USC 7701(c)(3). The TIN number provided may be matched with IRS records to verify the accuracy of the Subcontractor's TIN and income paid under the contract. Failure to provide the information requested may result in backup withholding (currently 30%) on any payments under the contract pursuant to IRS regulations.

*if not provided, please select reason for not providing:*

- Subcontractor is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of trade or business in the United States of America and does not have an office or place of business or fiscal paying agent in the United States of America*
- Subcontractor is an agency or instrumentality of a foreign government*
- Subcontractor is an agency or instrumentality of the US Federal Government*

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

**6. Type of organization:**

- sole proprietorship
- partnership
- corporate entity (not tax-exempt)
- corporate entity (tax-exempt)
- US Government entity (Federal, state, or local)
- foreign government
- international organization (as per 26 CFR 1. 6049-4)
- other (please specify): Limited liability company

**7. Common Parent (for Subcontractors only)**

- Subcontractor is not owned or controlled by a Common Parent as defined below:

*A Common Parent, as used in this Certification, means a corporate entity that owns or controls an affiliated group of corporations, that files its Federal income tax returns on a consolidated basis, and of which the Subcontractor is a member.*

- Name and TIN of Common Parent

Name: \_\_\_\_\_

TIN: \_\_\_\_\_ - \_\_\_\_\_

**8. Place of Performance**

During the performance of services / delivery of supplies under contract with Tetra Tech, the Subcontractor:

- does not intend
- intends

to use one or more plants or facilities located at a different address from the address listed in line 3 of this certification.

*If the Subcontractor's answer is "intends," please provide address or addresses of additional locations. Please also provide name and address of owner and operator of the plant or facility if other than Subcontractor.*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

## 9. Small Business Program Representations

### (i) Representations

#### (a) The Subcontractor represents that it

is  not a small business concern.

[Complete items b-d only if your response to 9.(i)(a) was affirmative.]

(b) The Subcontractor represents, for general statistical purposes, that it  is  is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(c) The Subcontractor represents, for general statistical purposes, that it  is  is not a woman-owned small business concern.

(d) The Subcontractor represents, for general statistical purposes, that it  is  is not a veteran-owned small business concern.

(e) [Complete only if your response to 9.(i)(d) was affirmative.]

The Subcontractor represents that it

is  is not a service-disabled veteran-owned small business concern.

If 9(a) certified, the Subcontractor may be requested to provide further supporting documentation.

### (ii) Definitions, as used in this provision

#### (a) Service-disabled veteran-owned small business concern

##### i. Means a small business concern:

1. not less than fifty-one percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned businesses, not less than fifty-one percent of the stock of which is owned by one or more service-disabled veterans; and
2. the management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

##### ii. Service-disabled veteran means a veteran, as defined in 38 USC 101(2), with a disability that is service-connected, as defined in 38 USC 101(16).

(b) "Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, qualified as a small business under the criteria set forth in 13 CFR Part 121, has less than 500 employees and less than \$5,000,000 in annual revenues.

(c) "Veteran-owned small business concern," means a small business concern:

- i. not less than fifty-one percent of which is owned by one or more veterans, as defined in 38 USC 101(2), or in the case of any publicly owned business, not less than fifty-one percent of the stock of which is owned by one or more veterans; and
- ii. the management and daily business operations of which are controlled by one or more veterans.

- (d) “Woman-owned small business concern,” means a small business concern:
- i. that is at least fifty-one percent owned by one or more women, or in the case of any publicly owned business, at least fifty-one percent of the stock of which is owned by one or more women; and
  - ii. whose management and daily business operations are controlled by one or more women.

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

## 10. Certification Regarding Debarment, Suspension, Proposed Debarment and Other Responsibility Matters (FAR 52.209-5)

The Subcontractor certify, to the best of their knowledge and belief, that:

- (i) The Subcontractor and/or any of its Principals:
  - (A) are  are not  presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any U.S. Federal Government agency
  - (B) have  have not  within the three-year period preceding this certification, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and
  - (C) are  are not  presently indicted for, or otherwise criminally or civilly charged by a governmental entity with commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.
  
- (ii) (A) The Subcontractor, aside from the offenses enumerated in paragraphs (a)(1)(i)(A), (B) & (C) of this provision, has  has not  within the past three years, relative to tax, labor and employment, environmental, antitrust, or consumer protection laws:
  - (1) been convicted of a federal or state felony (or has any Federal or state felony indictments currently pending against them); or
  - (2) had a Federal court judgment in a civil case brought by the United States rendered against them; or
  - (3) had an adverse decision by a Federal administrative law judge, board, or commission indicating a willful violation of the law.(B) if the Subcontractor has responded affirmatively, the Subcontractor shall provide additional information if requested by the Contracting Officer; and
  
- (iii) The Subcontractor has  has not , within a three-year period preceding this certification, had one or more contracts terminated for default by any U.S. Federal Government agency.
  
- (a)(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

- (b) The Subcontractor shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Subcontractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
  
- (c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Subcontractor's responsibility. Failure of the Subcontractor to furnish a certification or provide such additional information as requested by the Contracting Officer, or Tt, may render the Subcontractor non-responsible.



- (d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of a Subcontractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- (e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Subcontractor knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may require Tt to terminate the contract resulting from this solicitation for default.

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_



**11. 52.203-11 Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions.**

As prescribed in 3.808(a), insert the following provision:

**CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS  
(SEPT 2007)**

(a) *Definitions.* As used in this provision—“Lobbying contact” has the meaning provided at 2 U.S.C. 1602(8). The terms “agency,” “influencing or attempting to influence,” “officer or employee of an agency,” “person,” “reasonable compensation,” and “regularly employed” are defined in the FAR clause of this solicitation entitled “Limitation on Payments to Influence Certain Federal Transactions” (52.203-12).

(b) *Prohibition.* The prohibition and exceptions contained in the FAR clause of this solicitation entitled “Limitation on Payments to Influence Certain Federal Transactions” (52.203-12) are hereby incorporated by reference in this provision.

(c) *Certification.* The offeror, by signing its offer, hereby certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on its behalf in connection with the awarding of this contract.

(d) *Disclosure.* If any registrants under the Lobbying Disclosure Act of 1995 have made a lobbying contact on behalf of the offeror with respect to this contract, the offeror shall complete and submit, with its offer, OMB Standard Form LLL, Disclosure of Lobbying Activities, to provide the name of the registrants. The offeror need not report regularly employed officers or employees of the offeror to whom payments of reasonable compensation were made.

(e) *Penalty.* Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by 31 U.S.C. 1352. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure required to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

**12. 52.203-13 Contractor Code of Business Ethics and Conduct (Dec 2008)**

Subcontractor, in accordance with FAR 52.203-13 and 3.1003, Contractor Code of Business Ethics and Conduct certifies that it:

- has established and made available a written code of business ethics and conduct;
- maintains an internal control system that detects and prevents improper conduct;
- timely discloses to the Office of the Inspector General and the Contracting Officer credible evidence of a significant contract overpayment, of a violation of criminal law involving fraud, conflict of interest, bribery, and gratuities, or a violation of the False Claims Act;
- fully cooperates with any U.S. Government agencies responsible for audits, investigations, and corrective actions.

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

**13. Foreign Person, Company, or Entity**

- a. Certification. By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it—
- Does not comply with the Secondary Arab Boycott of Israel; and
  - Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec. 2407(a) prohibits a United States person from taking.

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

#### 14. 52.204-24 Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020).

The Subcontractor shall not complete the representation at paragraph (d)(1) of this provision if the Subcontractor has represented that it “does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument” in the provision at 52.204-26, Covered Telecommunications Equipment or Services—Representation, or in paragraph (v) of the provision at 52.212-3, Subcontractor Representations and Certifications-Commercial Items.

(a) *Definitions.* As used in this provision—

*Backhaul, covered telecommunications equipment or services, critical technology, interconnection arrangements, reasonable inquiry, roaming, and substantial or essential component* have the meanings provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) *Prohibition.*

(1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract or extending or renewing a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Cover telecommunications equipment that cannot route or redirect user data traffic or cannot permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(c) *Procedures.* The Subcontractor shall review the list of excluded parties in the System for Award Management (SAM) (<https://www.sam.gov>) for entities excluded from receiving federal awards for “covered telecommunications equipment or services”.

(d) *Representation.* The Subcontractor represents that—

(1) It  will,  will not provide covered telecommunications equipment or services to the Government in the performance of any contract, subcontract or other contractual instrument resulting from this solicitation. The Subcontractor shall provide the additional disclosure information required at paragraph (e)(1) of this section if the Subcontractor responds “will” in paragraph (d)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Subcontractor represents that—

It  does,  does not use covered telecommunications equipment or services, or use any equipment, system, or service that uses covered telecommunications equipment or services. The Subcontractor shall provide the additional disclosure information required at paragraph (e)(2) of this section if the Subcontractor responds “does” in paragraph (d)(2) of this section.

(e) *Disclosures.*

(1) Disclosure for the representation in paragraph (d)(1) of this provision. If the Subcontractor has responded “will” in the representation in paragraph (d)(1) of this provision, the Subcontractor shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the original equipment manufacturer (OEM) or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the Product Service Code (PSC) of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(2) Disclosure for the representation in paragraph (d)(2) of this provision. If the Subcontractor has responded “does” in the representation in paragraph (d)(2) of this provision, the Subcontractor shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(ii) For covered services—

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(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the PSC of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

By signing below, the Subcontractor certifies that the representations and certifications made, and information provided herein, are accurate, current and complete.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_

**52.227-15 REPRESENTATION OF LIMITED RIGHTS DATA AND RESTRICTED COMPUTER SOFTWARE.**

As prescribed in [27.409\(c\)](#), insert the following provision:

Representation of Limited Rights Data and Restricted Computer Software (Dec 2007)

1. (a) This solicitation sets forth the Government's known delivery requirements for data (as defined in the clause at [52.227-14](#), Rights in Data-General). Any resulting contract may also provide the Government the option to order additional data under the Additional Data Requirements clause at [52.227-16](#), if included in the contract. Any data delivered under the resulting contract will be subject to the Rights in Data-General clause at [52.227-14](#) included in this contract. Under the latter clause, a Contractor may withhold from delivery data that qualify as limited rights data or restricted computer software, and deliver form, fit, and function data instead. The latter clause also may be used with its Alternates II and/or III to obtain delivery of limited rights data or restricted computer software, marked with limited rights or restricted rights notices, as appropriate. In addition, use of Alternate V with this latter clause provides the Government the right to inspect such data at the Contractor's facility.
  
2. (b) By completing the remainder of this paragraph, the offeror represents that it has reviewed the requirements for the delivery of technical data or computer software and states [*offeror check appropriate block*]-  
  
 None of the data proposed for fulfilling the data delivery requirements qualifies as limited rights data or restricted computer software; or  
  
 Data proposed for fulfilling the data delivery requirements qualify as limited rights data or restricted computer software and are identified as follows:  
  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
3. (c) Any identification of limited rights data or restricted computer software in the offeror's response is not determinative of the status of the data should a contract be awarded to the offeror.

(End of provision)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of and title of authorized signature: \_\_\_\_\_

Subcontractor: \_\_\_\_\_



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**FIRS CERTIFICATION FOR SUBCONTRACT REPORTING**


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|                 |  |
|-----------------|--|
| Company Name:   |  |
| Address:        |  |
| Address 2:      |  |
| City/State/ZIP: |  |
| County:         |  |
| Country:        |  |
| DUNS Number:    |  |

**Section A.** Under the Federal Funding Accountability and Transparency Act (FIRS) or Transparency Act, Tetra Tech, as prime contractor of U.S. federal government awards, must collect DUNS numbers for all subcontractors to be publicly available on a website. The second part of the provision requires Tetra Tech to report the sub recipient’s compensation levels of the five most highly compensated subcontractor executives to the Federal Funding Accountability and Transparency Act Subaward Report System (FIRS) subject to the following criteria:

- The subcontractor must have generated at least 80 percent of its overall revenue in the preceding fiscal year from U.S. federal government contracts; AND
- The subcontractor must have generated at least USD 25 million in annual gross revenue in the preceding fiscal from U.S. federal government contracts; AND
- The subcontractor *must not* already publicly report executive compensation levels to System for Award Management (SAM.GOV), the Internal Revenue Service (IRS), the Securities and Exchange Commission (SEC), or as mandated by the subcontractor’s status as a non-profit organization or publicly-traded company, respectively.

If any of the above *does not* apply to your firm, then Tetra Tech is exempt from reporting your executive compensation and you need not provide such information to Tetra Tech. Please skip to Section C to certify your status as exempt from reporting executive compensation levels.

**Section B.** If all of the criteria listed in Section A are true of your firm, then Tetra Tech is required to report the full compensation of your firm’s five most highly compensated executives including, but not limited to: salary, stock options, benefits, and fringe. This information must be attested to by an employee at the Chief Financial Officer level or higher and will be made public at <http://www.firs.gov>.

|                                       |  |
|---------------------------------------|--|
| Employee Name:<br>Full Compensation:  | Enter employee name<br>Enter full compensation |
| Employee Name:<br>Full Compensation:  | Enter employee name<br>Enter full compensation |
| Employee Name:<br>Full Compensation:  | Enter employee name<br>Enter full compensation |
| Name:                                 | Enter name                                     |
| Position:                             | Enter position                                 |
| Date:                                 | Select a date.                                 |
| Duly Authorized<br>Company Signatory: |  |

**Section C.** If you are exempt, please certify to your exemption below.

I hereby certify that **Innovation Construction Ltd.** is exempt from reporting executive compensation under Reporting Subawards and Executive Compensation provision (October 2010) for the following reason(s)(check all that apply).

- The subcontractor did not generate at least 80 percent of its overall revenue from U.S. federal government contracts in the preceding fiscal year.
- The subcontractor did not generate at least USD 25 million of annual gross revenue from U.S. federal government contracts in the preceding fiscal year.
- The subcontractor already publicly reports executive compensation levels to:
  - System for Award Management (SAM.GOV)
  - Internal Revenue Service (IRS)
  - Securities and Exchange Commission (SEC)

|                                       |  |
|---------------------------------------|--|
| Name:                                 |  |
| Position:                             |  |
| Date:                                 |  |
| Duly Authorized<br>Company Signatory: |  |