TETRA TECH

Request for Proposals

RFP-UESP-2021-045

Activity Title: "Development of Heat Supply Scheme for Zaporyzhzhia city"

Issuance Date: August 20, 2021
Deadline for Receipt of Questions: September 03, 2021 at 14:00
Closing Date and Time: September 17, 2021 at 14:00

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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1. INTRODUCTION

The purpose of this RFP is to solicit proposals for **Development of Heat Supply Scheme for Zaporyzhzhia city** within the Scope of Work (SOW) specified in the Attachment A – Technical Specification within the Energy Security Project implementation funded by the U.S. Agency for International Development (USAID) and implemented by Tetra Tech ES, Inc. (Tetra Tech).

2. OFFEROR'S QUALIFICATIONS

Offeror must provide the following information and references in order to be qualified for the procurement process:

1. Company's information, including official registered title, type of business, address, and contact person information.
2. A short description of the company and of past similar experience in providing the services described in the Attached A -Technical Specification.
3. Overall technical approach to fulfill the specifications defined in Attachment A – Technical Specifications.
4. Certification that company is not owned or controlled in total or in part by any entity of any government.
5. 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 government.
6. 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.
7. A certificate of current cost or pricing data – Attachment D
8. Offerors listed in the Excluded Parties List System will not be considered. The Excluded Parties List can be found at https://sam.gov/search/

3. SOURCE, ORIGIN AND NATIONALITY RESTRICTIONS

The USAID authorized geographic code for the Energy Security Project is 935. Code 935: Consists of any area or country including the cooperating country, but excluding the "prohibited sources"

Reference: USAID ADS Chapter 310, and all its sub-sections. These documents are available on the Internet.

4. SUBMISSION OF PROPOSALS

All proposals are due on **September 17, 2021** by no later than **14:00** local time in Ukraine. Proposals must be submitted via e-mail at the address **UESPprocurement@tetratech.com** in the following formats: Adobe Acrobat and Microsoft Word and/or Excel.

All proposals must fully respond to the Technical Specifications enclosed as **Attachment A** and must include quotes in the format provided in the **Attachment B** - **Table 1 – Detailed Budget**. Proposals received after the above-stated due date and time will not be considered for this procurement.

5. QUESTIONS AND CLARIFICATIONS

All questions or clarifications regarding this RFP must be in writing and submitted, in English, to **UESPprocurement@tetratech.com** on **September 03, 2021** no later than **14:00** local time in Ukraine. Questions and requests for clarification, and the responses thereto, will be circulated to all RFP recipients.

Only written answers from ESP Procurement Office of 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. PROPOSALS 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.

Separate Technical and Cost Proposals must be submitted. All proposals should be submitted in English and be signed by Offerors.

I. TECHNICAL PROPOSAL

The technical proposal (excluding CVs) shall not exceed **11** pages. 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 suggested outline for the technical proposal is stated below:

A. Organization's Information (maximum 2 pages)

- Organization's information, including official registered title, type of business, list of offices if applicable, address, telephone, fax and website.
- Organization's DUNS number.
- Authorized point of Contact with phone number(s) and email address.

B. Company Technical Capability (maximum 2 pages)

Description of organization, including activities/qualifications carried out like the scope of work requested.

C. Technical Approach (maximum 3 pages)

Present a narrative that describes how the Offeror would implement the tasks identified in the scope of work. This narrative must also include:

- A management approach which describes how the Offeror will manage the delivery of the services and how the Offeror will interact with ESP.
- A draft work plan that outlines the proposed activities over the course of the period of performance.
- Proposed performance indicators to measure the impact of the Offeror's planned activities and the progress of the Awardees as a result of the Offeror's assistance.

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.

D. Proposed Staff (maximum 2 pages, excluding CVs)

Present a narrative that includes the following:

- Team composition (names, specialties/area of expertise, position/role, etc.), with detailed bios, and task assignments to perform the activities described in the SOW.
- Curriculum Vitae (CV) for all labor categories named in the Attachment A. (CVs shall be limited to 3 pages each) that describes their experience and lists the following:
  - Affiliation/Organization
  - Education
  - Years of Professional Experience
  - Relevant Experience to the SOW in this RFP
  - Fluency in English

In addition to presenting the CVs, offerors should complete and include the table below:

Proposed Personnel's Name, Last Name	Proposed Position Under This Assignment	Qualification	Years of Professional Experience

E. Company Past Performance (maximum 2 pages)

Offerors should provide a summary of relevant studies or other assignments including the Title, Client, Date, and a brief description. The qualifications section is limited to 5 of the most relevant studies or other assignments performed in the last 5 years, presented in the following table format. If the client is confidential, simply list "confidential".

Project (task) name (title)	Description of the project (task) and services provided	Client name, phone number and email address	Dates of execution

II. FINANCIAL PROPOSAL

a. Detailed Budget

Offeror shall complete the **Table 1 of the Attachment B "Detailed Budget"** 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 with unlocked cells and formula.

A price must be provided for each project component to be considered compliant with this request. The price proposal should include the individual line items shown in the template, e.g., fully-burdened daily rates, travel costs, and other direct costs. Offers must show unit prices, quantities, and total price. 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 of the reasonableness, realism, or completeness of an Offeror's proposed price.

Offeror shall provide unit pricing in **US dollars (USD).** Prices quoted in this document shall be valid for a 60-day time period, include all taxes and other costs but excluding the VAT tax originated in Ukraine.

b. 1420 Forms for the proposed personnel

For each staff member proposed, the Offeror shall submit a completed and signed USAID 1420 forms.

USAID form 1420 can be downloaded here: https://2012-2017.usaid.gov/forms/aid-1420-17

c. Proposed Billing Rates Certification

Document on company letterhead certifying the labor rates being proposed 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.

e. Non-government owned certification

Certification that company is not owned or controlled in total or in part by any entity of any government.

f. Certificate of current cost or pricing data

These documents can be found in Attachments D 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.

7. EVALUATION CRITERIA

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

Tetra Tech reserves the right to conduct discussions with selected offeror (s) in order to identify the best value offer. Award of any resulting Subcontract Agreement shall be made by Tetra Tech on a best value basis. Tetra Tech reserves the right to request a test assessment from offerors to assess their qualifications.

The submitted technical information will be scored by an evaluation committee using the following technical evaluation criteria (70 points) and cost proposal (30 points).

Given the specific expertise required to perform the services in question only offers 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 (70 POINTS)

	Evaluation Criteria for Technical Proposal	Points
I.	Technical Approach	35
II.	Proposed Staff	20
III.	Company Past Performance	15
	TOTAL	**70**

FINANCIAL PROPOSAL (30 POINTS)

The lowest qualified financial proposal will receive the maximum score of 30 points.

The other proposals will be scored inversely proportional to their price and computed as follows:

Sf = 30 * Fm/F

where

Sf = financial Score of the proposal evaluated

Fm = price of the lowest priced Financial Proposal among those qualified

F = price of the Financial Proposal under consideration

Offeror should submit a Detailed Budget reflecting the cost of completing the scope. Offerors shall complete the Attachment B – Detailed Budget. Labor rates quoted in this document shall be fully-burdened with all indirect costs, taxes and fee, if any. The period of performance is **42 weeks**.

Tetra Tech reserves the right to conduct discussions with selected offeror(s) in order to identify the best value offer. Award of any resulting Subcontract Agreement shall be made by Tetra Tech on a best value basis, with evaluation of proposed price as well as proposed services and implementation schedule.

8. TERMS OF PAYMENT

Payment terms for the awarded Subcontract Agreement shall be forty-five (45) days after satisfactory completion and acceptance and of services and deliverables according to the schedule

in the Table 2. Payment shall be made by Tetra Tech ES, Inc. via bank wire transfer in **Ukrainian Hryvnias** per National Bank of Ukraine exchange rate on the effective date of the subcontract **or US dollars**.

9. DUNS NUMBER AND SAM.GOV REGISTRATION

Active DUNS number or evidence of process of registering for DUNS number is required at stage of submitting proposal. DUNS Number shall be active and SAM.gov registration completed before finalization of subcontract agreement. All second-tier subcontractors must comply with the requirements outlined in the RFP, including obtaining DUNS and SAM numbers if the proposed second-tier subcontract price is above $30,000. Only legal entities need DUNS numbers. 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 and to limit the number of 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 AWARDS/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.

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ATTACHMENT A – TECHNICAL SPECIFICATION

SCOPE OF WORK: Development of Heat Supply Scheme for Zaporyzhzhia city

PERIOD OF PERFORMANCE: 45 weeks

PLACE OF PERFORMANCE: Zaporyzhzhia, Ukraine

1. BACKGROUND

Energy security project is USAID project implemented by Tetra Tech ES, Inc. Energy security project works with Ukrainian government, private sector, and civil society leaders to improve Ukraine's energy security, and transform Ukraine's energy sector into a modern, market-oriented, EU-integrated, engine of growth. Energy security project's goals include *inter alia* promoting competitive energy markets, facilitating European integration, strengthening energy independence, facilitating renewable energy development, supporting empowered sector regulation, increasing public trust and ensuring environmental and social responsibility.

One of specific directions of the Energy security project is to provide technical assistance to municipal stakeholders in the implementation of DH sector reforms and projects to improve overall performance and management of their DH systems, and the efficiency, affordability, and reliability of heat supply.

Energy security project, Zaporizhzhia City Council concluded for partnership. Specifically, the Memorandum of Understanding on international technical assistance between the Zaporizhzhia City Council and Tetra Tech ES, Inc., ESP USAID, was signed on 16 February, 2021. The partnership provisions include, *inter alia*, support by Energy Security Project to be provided for Heat Supply Scheme development and subsequent endorsement.

The following is the basis for the development of Heat Supply Scheme for Zaporizhzhia city:

- <u>Legislative, regulatory and guidance documents:</u>
  - Law of Ukraine "On Heat Supply";
  - Order of the Ministry of Communities and Territories Development of Ukraine No. 235 of 10/02/2020 "On Approval of the Methodology for Development of Heat Supply Schemes of Population Centers of Ukraine";
  - Law of Ukraine "On Energy Saving";
  - Law of Ukraine "On combined heat and power generation (cogeneration) and use of waste energy potential";
  - Law of Ukraine "On Alternative Energy Sources";
  - Program of state support for the development of unconventional and renewable energy sources and small hydro and heat energy;
  - DBN B.2.5-39: 2008 "Heat networks"
  - DBN B.2.5-77: 2014 "Boiler houses"
  - Guidelines for the design of rooftop, built-in and attached boiler units and installation of domestic heat generators running on natural gas, 2nd edition revised and supplemented;
  - DBN B.2.5-20-2001 "Gas supply"
  - DSTU-N B B.1.1-27: 2010 "Construction climatology"
  - DBN B.2.5-67: 2013 "Heating, ventilation and air conditioning"
  - DBN B.2.2-15-2005 "Residential houses";
  - DBN B.2.2-9: 2018 "Public buildings and structures";
  - Specifications and instructions on standardization of fuel and heat energy consumption for heating of residential and public buildings, as well as for household needs in Ukraine, KTM 204 of Ukraine 244-94;

- Manual and additions to the " Specifications and instructions on standardization of fuel and heat energy consumption for heating of residential and public buildings, as well as for household needs in Ukraine", KTM 204 of Ukraine 244-94;
- ISO 50001: 2019 "Energy Management System"
- Other Ukrainian legal acts, if applicable.

- Program documents of the city in the field of heat supply:
  - Municipal energy plan of the city of Zaporizhzhia for 2014-2030, approved by the decision of the city council of June 24, 2014, No. 6

For the purposes of this procurement:

- Customer – TETRA TECH ES, Inc., ESP USAID.
- Recipient – ZAPORIZHZHIA CITY COUNCIL.
- Financing SOURCE – Customer's funds.
- Subcontractor – the winner of the procurement

2. THE PURPOSE

The purpose of this procurement is: to develop heat supply scheme of Zaporizhzhia city for 10 years period, between 2022 and 2032. The developed heat supply scheme (HSS) shall enable:

- Improving energy efficiency, quality, reliability, and environmental sustainability of the municipal heating system;
- The most cost-effective heat supply of the settlement, which compared to the baseline scenario will reduce the use of energy resources needed for the production, transportation, and supply of a unit of thermal energy to consumers;
- Gradual replacement of conventional fossil-fuels-based sources of thermal energy with the use of natural gas for waste heat recovery, renewable energy, waste heat and heat from cogeneration.

3. INDICATORS

During the development of the heat supply scheme (HSS), the Contractor shall analyze and determine values of the following indicators for the baseline year (2020) and for the end of the design period (2032), as provided below:

SOW 3.1 Heat supply composition (based on actual consumption):

- Share of district heating, %;
- Share of thermal energy generated from alternative energy sources, %;
- Share of thermal energy generated using waste heat, %;
- Share of combined heat and power generation, %;
- extent of heat networks integration, %;

SOW 3.2 Indicators of heat energy generation efficiency:

- Specific conventional fuel consumption for production of heat energy, t.o.e./Gcal;
- Cost of heat energy production, UAH/Gcal (in prices at the time of scheme development);
- The number of production staff per 1,000 Gcal released from heat energy sources;

SOW 3.3 Indicators of heat energy transportation efficiency:

- Heat energy losses in heat networks, in physical terms and as % (determined on an annual basis);

- Specific water consumption for feeding heat networks, in physical terms and as % (determined on an annual basis);
- The number of production personnel directly involved in the production process of heat energy transportation per 10 km of heat networks in a two-pipe dimension;
- Specific electricity consumption for heat energy transportation, kWh / Gcal;
- Cost of heat energy transportation, UAH / Gcal (in prices at the time of scheme development);

SOW 3.4 Indicators of reliability of the district heating system;

- The share of sections of the heat pipeline networks with expired estimated service life, including the share of fault sections of heat networks, km and %;
- Specific failure rate of heating pipeline network by separate heat supply zones, number of failures per year per 1 km of heat networks;
- Detection of areas with the highest failure rates;
- Compliance of levels of reliability of heat supply sources and networks with the requirements of regulatory documents; elimination of incompliances, if any;

SOW 3.5 Analysis of quality indicators of heat supply:

- Compliance (incompliance) of the actual amount of supplied heat energy with the estimated (projected) amount of supplies;
- Statistical analysis of the correspondence of fuel consumption and heat generation with ambient air temperature, by individual heat sources;
- Statistical analysis of the number of interruptions in the heat supply to consumers due to damages in heat networks and other reasons (please, specify);
- Statistical analysis of the average duration of interruptions in the heat supply to consumers due to damages in heat networks and other reasons (please, specify);
- Statistical analysis of registered complaints of heat consumers regarding the service quality falling short and falling to meet the terms of contracts;

SOW 3.6 Analysis of environmental indicators (provided separately for the city's DH system and for the city overall;

- specific emissions of nitrogen oxides (NO_x) per 1 Gcal of released heat energy;
- specific emissions of sulfur oxides (SO_2) per 1 Gcal of released heat energy:
- specific emissions of solid particles, non differentiated by dust composition per 1 Gcal of released heat energy;
- specific emissions of greenhouse gases (carbon dioxide CO_2, nitrogen monoxide (I) N_2O, and methane CH_4) recalculated as CO_2 equivalent;
- specific emissions of carbon monoxide (CO) per 1 Gcal of released/consumed heat energy;
- specific indicator of primary energy consumption per 1 Gcal of released heat energy.

SOW 3.7 Cost of thermal energy for the end consumer (considering the cost of production, supply, and distribution), UAH / Gcal (in prices at the time of scheme development);

4. SCOPE OF WORK

The objects of the survey of the Heat Supply scheme shall include:

- Existing and potential consumers of heat energy;
- Existing and potential sources of energy resources for the heat supply system;
- Heat sources;
- Heat networks;

- Pumping stations;
- Central heat substations;
- Heat substations of heat energy consumers connected to the district heating system.

Composition of the Heat Supply Scheme

The scheme of heat supply of the city of Zaporizhzhia is designed using the "Methodology of development of heat supply schemes in population centers of Ukraine" and consists of the following:

- explanatory note;
- graphic part;
- heat supply scheme passport;
- financing and projects implementation plan;
- summary environmental impact analysis; and
- annexes.

SOW 4.1. Development of Explanatory Note

The subcontractor is expected to organize an establishing meeting with participation of representatives of the ESP, Zaporizhzhia local government bodies, Zaporizhzhia heat supply organization, and other stakeholders, as relevant. The purpose of meeting shall be to inform on this project (development of Heat Supply Scheme of Zaporizhzhia), phases of the project, timeline for actions, roles of engaged parties, milestones, etc. The subcontractor will organize the meeting in close coordination with the ESP team.

The subcontractor shall conduct necessary data collection and data analysis to develop the Explanatory Note to the Heat Supply Scheme of Zaporizhzhia city. To collect necessary data, the subcontractor will conduct purposeful data collection. For data collection, the subcontractor will develop questionnaires and other forms, as needed, to determine and refine necessary indicators. The subcontractor will use other available trusted sources of information on Zaporizhzhia heat supply system. The subcontractor will be shared with results of consumer survey, conducted under subcontract of ESP, when the results are available.

Explanatory Note to the Heat Supply Scheme of Zaporizhzhia should include:

A. Executive summary, in particular.

- Overview on the main issues in heat supply of the settlement;
- Information on the defined target indicators of heat supply of the settlement and their compliance with energy goals at the national and / or regional and / or local levels;
- Summary information on possible modernization scenarios; and Information on the recommended scenario of heat supply of the population center.

B. General overview of the Zaporizhzhia City, including but not limited to:

- City description:
  - Information on the number of population and its dynamics;
  - Information on the volume, location, composition, and condition of the housing stock, taking into account the administrative and social development (existing condition and for the design period) based on the division of the city into administrative, residential and industrial areas;
  - Information on the composition of municipal heat supply: the share of heat energy produced from renewable energy sources, %; the share of heat energy produced using waste heat, %; the share of heat energy produced as a result of combined heat and power generation, %; level of integration of heat networks, %; share of DH, as a % of the total demand for heat energy in the city of Zaporizhzhia;

- Information and analyses on consumers disconnected from the DH system in apartment buildings;
- Analysis of implemented and contemplated projects and programs on thermal renovation of buildings;
- Major infrastructural objects of the city with identification of characteristic features, problems, and potential opportunities (gas supply systems, electricity supply, water supply and sewerage, solid waste management);
- Climatological characteristics of the city;
- Brief description of the industrial complex of the city.

▪ Current condition and plans for new construction, current condition and plans for thermal renovation of buildings; plans to switch residential buildings to individual or autonomous heating, if any;

▪ Information on the developed plans of residential blocks, industrial and social and business areas, other materials on zoning of the city territory;

▪ Analysis of the availability and potential use of conventional fuel and energy resources at present and in the future;

▪ Analysis of the availability and potential use of renewable and alternative energy sources, local fuels at present and in the future.

▪ Heat balance of the Zaporizhzhia city with identification of the primary fuel, types of heat supply (district, individual, autonomous, etc.) and categories of consumers (residential buildings, public buildings, etc.), in t.o.e. /year, and as a %;

▪ Current and projected demand heat energy in the city considering dynamics of new construction, thermal renovation of the existing buildings and implementation of other energy efficiency measures.

C. Analytical description and assessment of the existing heating system of the city of Zaporizhzhia, including the municipal DH system (baseline scenario):

▪ Description of the current composition of heat supply:
- Analysis of the existing city programmatic documents in the field of heat supply, as well as implemented and contemplated projects and programs to overhaul the municipal heating system (DH system);
- Overview of the existing sources of DH system: heat supplying systems of waste incineration installations, district-wide, block-wide, industry-wide, and separate heating boilers, installations that use secondary resources, unconventional heat supply sources, etc.;
- Overview of the existing main and distribution heat networks stemming from heat sources of the city:
- Overview of heat energy consumers by categories (apartment buildings, single-family houses, public buildings, industrial consumers) with indication of connected load (heating, hot water supply, ventilation, cold supply);
- Description of heating modes of buildings that are not fully or partially connected to the district heating system:
- Availability of heat metering devices at the level of the house (or apartment, if such information is available) and output of heat energy to the network from heat supply sources;
- Availability of heat control systems at the inputs of consumer:
- Availability and characteristics of control systems on heat sources.

▪ Analysis of indicators of the existing and forecast demand for heat energy (heat load) considering connection / disconnection of consumers, construction of new and thermal renovation of existing buildings:
- Analysis of the use of thermal energy in buildings according to aggregated indicators;
- Analysis of the structure and magnitude of existing (actual) and determination of projected (for billing periods) heat loads of consumers, taking into account the connection / disconnection of consumers, new construction and thermal modernization of existing

buildings, including other energy efficiency measures, for example, IHS, by categories of consumers; when determining forecast loads, take into account the implementation of projects for complex thermal modernization of public sector facilities in the framework of cooperation with the European Investment Bank (EIB) and the State Development Bank of the Federal Republic of Germany (KFW)

- Display of heating types of buildings, completely or partially disconnected from the DH system;
- Analysis of the throughput of heating networks under the existing and prospective heat load, including when switching to a low-temperature mode of operation;

- Definition and substantiation of heat supply zones of the city of Zaporizhzhia:
  - Design of a layout diagram of heat supply zones, including zones of district (centralized), moderately centralized, decentralized, autonomous, individual heat supply; when determining the heat supply zones, the Contractor must properly assess the practicality of the transfer of residential buildings to individual or autonomous heating: For each of the proposed heat supply zones, to determine the installed capacity and the connected heat load. The Contractor must provide data on the existing condition and projected heat load, considering the proposed transfer of consumers of apartment buildings to individual or autonomous heating, commissioning of new buildings and the implementation of programs for thermal renovation of buildings;
  - The Contractor must draw balances of fuel and heat energy use for each heat supply zone and a comprehensive balance sheet for the heating system of the city of Zaporizhzhia as a whole. In case of detection of a shortage of heat energy, the Contractor must provide appropriate heat generation capacity for specific heat supply zones. The information is developed for each year of the design period of the Heat Supply Scheme;
  - The Contractor must determine the heat energy customer density for the heat supply zones and the heat supply system of the city of Zaporizhzhia as a whole.
- Analysis of fuel and energy balances for previous periods (5 years) for the whole city;
- Analysis of indicators of the current state of the existing heat supply system, indicators of composition, efficiency, reliability, redundancy, quality, compliance with environmental requirements in accordance with the requirements of section 3;
- Conclusion on the results of the analysis of indicators of the current state of the heating system of the city of Zaporizhzhia in general and the DH system in particular.

D. Defining long-term goals of sustainable development of the city's heat supply system and its targets, namely:

- The composition of heat supply in the city: the share of DH, %; share of individual heating, %; share of autonomous heating, % at the level of end consumption;
- Composition of heat generation (heat supply sources): share of heat energy produced using renewable energy sources, %; the share of heat energy produced using waste heat, %; the share of heat energy produced at CHP (cogeneration), %; the share of heat energy produced at other facilities that use natural gas, %; the share of heat energy produced at other facilities that use other fuels, %. The Contractor must also display information on the production of heat energy by the DH system, and by autonomous and individual heating;
- Level of integration of the DH system heat networks, %;
- Efficiency indicators of heat energy production by the municipal DH system and autonomous heating: specific consumption of standard fuel for heat energy production, kg of standard fuel / Gcal; cost of heat energy production, UAH / Gcal (in prices of baseline year);
- Efficiency Indicators of heat energy transportation in the municipal DH system: forecasted heat energy losses in heat networks, Gcal and %; projected water consumption for making up heating networks, m3 and %; projected electricity consumption for heat energy transportation, total, MW and

specific, kWh / Gcal; cost of transportation of heat energy, UAH / Gcal (in prices of baseline year);

- Reliability of the municipal DH system: the share of faulty sections of heating pipes, km and %;
- The quality of heat supply by the municipal DH system and autonomous heating, if available: alignment of fuel consumption and heat production with the outdoor air temperature by individual heat sources;
- The projected number of unplanned (emergency) interruptions in heat energy transportation lasting up to and over 6 hours, related to the responsibility of the subject of DH;
- Environmental sustainability of the DH system, autonomous and individual heating of the city of Zaporizhzhia: specific emissions of nitrogen oxides per 1 Gcal of released heat energy; specific emissions of sulfur oxides per 1 Gcal of released heat energy; specific emissions of solid particles per 1 Gcal of released heat energy; specific emissions of greenhouse gases (CO_2, N_2O, CH_4, and CO_2 equivalent) per 1 Gcal of released heat energy; specific emissions of carbon monoxide per 1 Gcal of released heat energy;
- Targets that will be achieved after the implementation of measures contemplated in the District Heating Scheme for the design period should be benchmarked against similar indicators of the baseline year.

*While determining the targets related to the condition and long-term goals of sustainable development of the municipal heating system, (the heat supply scheme should reflect the path to "efficient district heating, meaning a district heating system that uses at least **50%** renewable energy, **50%** waste heat, **75%** heat generated in the process of cogeneration or **50%** of the total power and heat.*

E. Development of at least two options (scenarios) for the development of the district heating system (DHS) in addition to the baseline scenario.

The Contractor shall:

- Evaluate: scenarios for the development of Heat Supply Schemes using a cost-benefit approach; the impact of the tariff in the DH system on the costs of consumers in Zaporizhzhia (by consumer groups and in general); forecast technical and economic indicators of heat supply (both for the DH system and for the entire heat supply system of the city for each Heat Supply Scheme development scenario); environmental indicators (both for the DH system and for the entire heat supply system of the city for each Heat Supply Scheme development scenario);
- Make a comparative analysis of the proposed scenarios; on the basis of exhaustive substantiations to select the recommended (optimal) scenario for the development of heat supply system in the city of Zaporizhzhia:
- Develop a long-term cost balance for the recommended heat supply scenario;
- Perform in-depth technical, economic and environmental analysis of the recommended (optimal) version of the Heat Supply Scheme; assess the technical, technical-economic and technical-environmental interinfluences of individual projects of the recommended option; perform sensitivity analysis, risk analysis and provide recommendations for their mitigation for the recommended scenario of the municipal heat supply;
- Develop a projected fuel and energy balance of the city of Zaporizhzhia for the recommended heat supply scenario.

F. Development and analysis of potential projects for the development (upgrade) of the heat supply system.

The proposed projects must meet the following objectives:

For a period of 3-5 years:

- provision of 100% metering and 50% regulation of heat supply at consumers' inputs;
- ensuring the possibility of adapting the work of the sources for the shift work of consumers.

For a period of 5-7 years:

- provision of 75% regulation of heat supply at consumers' inputs;
- ensuring the possibility of adapting the work of sources for the shift work of consumers;
- reduction of losses in networks to an indicator not higher than 10%;
- ensuring at least 30% of heat generation from renewable sources, efficient cogeneration, and waste heat;

For the period of 7-10 years:

- provision of 100% regulation of heat supply at consumers' inputs;
- ensuring the possibility of adapting the work of sources for the shift work of consumers;
- ensuring at least 50% of heat generation from renewable sources, efficient cogeneration, and waste heat.

The projects should be aimed at implementing the proposed (optimal) Heat Supply Scheme, based on the analysis of parameters of the heat supply system condition, analysis of the availability of conventional fuel and energy resources and the potential of renewable and alternative energy sources, local fuels, including:

- Projects for construction, reconstruction and renovation of heat energy sources, including projects using the low-grade waste energy potential of industrial enterprises; projects for the introduction of heat sources that use alternative fuels; projects on implementation of cogeneration installations;
- Projects for the introduction of heat sources that use alternative fuels;
- Projects for the construction of new sources of heat energy (renewal of the heat economy) using cogeneration units at boiler houses on the Paramonova str, 15v; Tsytrusova str, 9; Dnipropetrovskie highway, 11; Tovaryska str, 47; Ushakova str, 251; St. Mykolaya str, 79a; Admirala Nakhimova str, 4; Metalurgiv av., 32; V. Sergienka str, 7
- Projects to optimize the structure of the heat supply system, including changes to heat supply zones, elimination of inefficient heat sources and connecting consumers to more efficient ones;
- Projects to improve the class of power supply, including switching power supply sources to the I voltage class of boiler houses Admirala Nakhimova str, 4; V. Sergienka str, 7, St. Mykolaya str, 79a; on Paramonova str, 15v;
- Projects for the integration of heat supply areas with the creation of basic boiler houses, including:

a) unification of heating areas for boiler houses on the Tsytrusova str, 9 on Karpenko-Karogo str, 21b, and consumers of the district of the heat supply system of the Shevchenko district are connected to the departmental boiler house;

b) unification of heating areas for boiler houses on Paramonova str, 15v and Zhasminna str, 5,

c) unification of heating areas for boiler houses on Dnipropetrovske highway, 11 on Schaslyva str, 2a on Taganska str, 1 and on Tovaryska str, 47;

- Projects of optimization, construction and reconstruction of heating networks, including those in an unsatisfactory condition and have exhausted their service life (main, distribution, hot water supply).
- Other projects of construction, reconstruction, and renovation of elements of the heating system, pumping stations, heating substations, etc.;
- Projects on installation IHS in residential buildings connected to the DH system;
- Projects for organizing a data collection and remote-control system (SCADA) at the consumer level (data collection from metering devices), central heating centers (process equipment control, data collection from metering devices), and boiler houses (process equipment control, data collection from metering devices);
- Projects for the creation and / or improvement of the energy management system at the level of the municipality and the subject of DH, if relevant;
- Small-scale projects that increase the energy efficiency of the district heating system;
- Each project shall require analysis of sensitivity to potential changes in influencing factors (prices and /or tariffs for fuel and energy resources, expected fuel and energy savings, cost of capital investments, macroeconomic indicators, etc., which significantly impact the expected outcome).

- As part of the evaluation of potential investment projects, the subcontractor should apply cost-benefit analysis and prioritization (ranking) of projects; apply cost-benefit analysis and ranking to each project separately, as well as to project packages (combinations of two or more projects into a set of interdependent projects);
- Projects are grouped into packages prior to implementation and described in the form of investment feasibility studies to be submitted to potential investors and international financial institutions;
- Projects that are planned to be included in the Zaporizhzhia municipal heating scheme and related to changes in electricity load and gas consumption, should be discussed and agreed by the Contractor with the relevant electricity and gas supply organizations.
- Projects that are planned to be included in the heat supply scheme of the city of Zaporizhzhia related to the passage of engineering networks through the territories or through the facilities of third-party organizations and the construction of facilities on the territories or facilities of third-party organizations should be discussed with the Recipient and agreed with the relevant third-party organizations.
- The Contractor must indicate and provide an objective assessment of investment projects that must be commissioned to facilitate implementation of the proposed (optimal) Heat Supply Scheme but go beyond the DH system.

G. Thermal and hydraulic designs of DH heat networks.

Perform thermal and hydraulic designs of heating networks for the recommended heat supply scenario, including piezometric graphs;

Analyze and select temperature graphs for the recommended (optimal) scenario for the development of the city's heating system; provide justification for the choice of temperature graphs.

H. Potential connection points. As part of the heat Supply scheme, they should envisage potential points of connection of additional highly efficient sources of heat energy and propose technical solutions for such connection.

I. Organizational (management) plan for the implementation of the recommended (optimal) Municipal Heat Supply Scheme. Risk analysis and risk management plan to mitigate the identified risks and address the expected consequences.

J. List of assumptions used for the analysis; assessment of the probability of change of influencing factors.

SOW 4.2 Graphical part of the Heat Supply Plan

The graphical part of the Heat Supply Scheme should contain a city plan (M1: 5000, M1: 10000) with the following information for the recommended version of the heat supply scheme:

- existing and perspective development of the city;
- zones of individual, autonomous and district heating with indication of information on the density of heat load of each zone;
- location of heat sources of all types for each heat supply zone with the indication of the catchment area of these sources;
- existing and prospective heat sources (generation facilities) should have key information and characteristics;
- location of alternative energy sources;
- location / scheme of main heat networks;
- location, calculation schemes of renovation of the distribution heat networks with identification of existing and prospective sites.

The graphical part shall be designed using electronic tools for modeling of heat supply systems, including but not limited to GIS.

SOW 4.3 **The heat supply scheme passport** must contain the main indicators of the baseline and recommended options of the heat supply scheme. The form of the passport and the relevant list of indicators must comply with the Methodology.

SOW 4.4 **Financing plans and implementation of the Heat Supply Scheme**

Develop a financing plan that will provide all relevant and systematic information on financial issues of the Heat Supply Scheme implementation: names of projects within the Heat Supply Scheme; capital expenditures; annual savings; financial indicators (NPV, IRR, payback period according to the Methodology, but not limited to, if necessary); identification of potential investors; expected terms of financing; and other.

Develop an implementation plan that will provide up-to-date and systematic information on the implementation of the Heat Supply Scheme: stages of implementation, distribution of specific projects in stages, stakeholders, their roles, timeline and sequence of actions, milestones, etc. Analyze projects for sensitivity to influencing factors.

SOW 4.5 **Summary environmental impact analysis**

Prepare a summary environmental impact analysis (environmental impact assessment) for the recommended (optimal) version of the Heat Supply Scheme. The environmental impact analysis shall include, inter alia, an assessment of the potential for reducing greenhouse gas emissions and other environmental indicators envisaged in the implementation of the recommended (optimal) version of the Municipal Heating Scheme. The section should contain an estimate of the avoided:

- emissions of pollutants into the atmosphere from stationary sources as a percentage of emissions in 2015;
- greenhouse gas emissions in carbon dioxide equivalent for final fuel consumption, % of 2010;
- other environmental indicators for the recommended (optimal) scenario of development of the heat supply system of the settlement.

SOW 4.6 **Passage Support**

The subcontractor will organize a Round Table meeting with participation of representatives of Zaporizhzhia local government bodies, Zaporizhzhia heat supply organization, and other stakeholders, as relevant, and ESP. The purpose of the Round Table shall be to inform and discuss the recommended (optimal) heat supply scheme developed for Zaporizhzhia city, at its final technical fulfillment, and to agree on next steps to have the HSS approved. The subcontractor will organize the meeting in close coordination with the ESP team.

Approval and clearance of the HSS are performed in accordance with the legal-normative framework of Ukraine.

The HSS is approved by the municipality after its clearance with the central executive body, which implements the state policy in the field of housing and utility services.

The Contractor shall ensure the promotion of the developed HSS until it is adopted by the authorized institutions, including such actions and products as explanatory notes, organization and participation in round tables and discussions, acting as members of working groups, if any, preparation of presentations and other supporting materials. If the HSS received comments from the authorities concerned, the Contractor shall address the comments received.

5. APPENDICES

- schematic city plan (M1: 5000, M1: 10000);
- tables (statements) of the number of population, housing and construction of social and cultural and public facilities;
- information on the existing heat, gas, electricity, and water supply systems of the city;
- overview of the existing boilers and heating networks stemming from them;
- a statement on provision of single-family houses neighborhoods with energy resources (fuel);
- terms of reference for the development of the city's heat supply scheme;
- materials on approval and clearance of the heat supply scheme;
- other materials that are determined by the design organization developing the heat supply scheme.

6. INPUT DATA

6.1 The Recipient shall provide the rest of the input data in accordance with the questionnaires prepared by the Contractor within the period specified in the Contract for the performance of works on the development of the municipal heat supply scheme.

6.2 As part of the input data, the Recipient provides targets to be achieved within three, five and ten-year timespan.

7. PHASES OF WORK PERFORMANCE

7.1 Conducting a kick-off working meeting on the development of the municipal heat supply scheme with participation of representatives of local government bodies, heat supply organizations, and the Contractor.

In close coordination with the Customer’s team the Contractor organizes a kick-off meeting with the participation of representatives of municipality, the heat supply organization, and other stakeholders. The purpose of the meeting is to inform about the District Heating Scheme development project, the project stages, timeline, and milestones, the role of the parties involved, etc.

7.2 Development of questionnaires and collection of input data.

The Contractor must collect and analyze the necessary data to draft an Explanatory Note to the City Heat Scheme. To collect the necessary data, the Contractor develops questionnaires and other templates to determine and clarify the required indicators. The contractor can use other available reliable sources of information about the city heating system.

7.3 Analysis, determination, or fine-tuning of indicators of the condition of the heat supply system for the baseline year.

7.4 Development of potential projects on energy efficient renovation of the municipal heat supply system.

7.5 Development of alternative heat supply scenarios.

7.6 Determination of indicators of the condition of the heat supply system at the end of the design period.

7.7 Conducting a workshop to discuss the intermediate results of the development of the heat supply scheme and to determine the priority scenario.

7.8 Development of the recommended option of the heat supply scheme.

7.9 Preparation of an explanatory note and graphic part.

7.10 Discussion of the preliminary option of the heat supply scheme with the participation of representatives of the municipality, heat supply organizations, the Contractor, and other parties.

Adjustment of the heat supply scheme based on the results of the discussion of the preliminary option.

7.11 Adjustment of the heat supply scheme based on the results of previous discussions.

7.12 Preparation and presentation of the municipal heat supply scheme.

7.13 Approval and clearance of the heat supply scheme in the prescribed manner with the participation of the Contractor's representative.

8. HEAT SUPPLY SCHEME APPROVAL AND CLEARANCE

Approval and clearance of the HSS are performed in accordance with the regulatory and legal acts of Ukraine.

The HSS is approved by the municipality after its clearance with the central executive body, which implements the state policy in the field of housing and utility services.

The Contractor shall ensure support to passage of the developed District Heating Scheme until it is adopted by the authorized institutions, including such actions and products as explanatory notes, organization and participation in round tables and discussions, acting as members of working groups, if any, preparation of presentations and other supporting materials. If the Heat Supply Scheme received comments from the authorities concerned, the Contractor shall address the comments received.

9. DELIVERABLES AND DUE DATES

The subcontractor shall deliver to ESP the following deliverables, in accordance with the schedule set forth below. Deliverables are to be developed in Ukrainian.

- Explanatory note, summary environmental impact analysis, projects financing and implementation plans, and the passport of the district heating scheme shall be provided in electronic text editor format and in 4 printed copies;
- Input data, thermal and hydraulic design and technical and economic calculations are provided in the format of spreadsheets or in the electronic text editor format;
- The graphic part is provided in an electronic format using electronic tools for modeling the heating system, including but not limited to GIS.

The subcontractor will provide all the deliverables in electronic form, when a deliverable does not have the label "Final". The subcontractor will provide all the deliverables in electronic form and 4 printed copies, when a deliverable has the label "Final".

SOW task	Deliverable Name	Due Date
SOW 4.1	1. Kick off meeting, organized with Representatives of Zaporyzhzhia and ESP	2 weeks after signing the subcontract
	2. Development of questionnaires and collection of input data.	2 weeks after signing the subcontract
	3. First Draft Explanatory Note (analytical part)	10 weeks after signing the subcontract.

SOW task	Deliverable Name	Due Date
	4. Second Draft Explanatory Note (analytical part)	20 weeks after signing the subcontract.
	5. Draft: at least two newly developed HSSs and the base option for HSS	24 weeks after signing the subcontract.
	6. Presenting to ESP team the draft deliverables, technical meeting (3, 4, 8)	25 weeks after signing the subcontract
	7. Presenting to Representatives of Zaporyzhzhia the draft deliverables, technical meeting (3, 4, 8)	26 weeks after signing the subcontract
	8. FINAL: Explanatory Note (in entirety)	30 weeks after signing the subcontract.
SOW 4.2	9. Draft: Graphical representation of the Heat Supply Scheme	24 weeks after signing on the subcontract
	10. FINAL: Graphical representation of the Heat Supply Scheme	30 weeks after signing the subcontract
SOW 4.3	11. Draft: Passport of Heat Supply Scheme of Zaporyzhzhia City	24 weeks after signing on the subcontract
	12. FINAL: Passport of Heat Supply Scheme of Zaporyzhzhia City	30 weeks after signing the subcontract
SOW 4.4	13. Draft: HSS project financing plan and implementation plan	24 weeks after signing on the subcontract
	14. FINAL: HSS project financing plan and implementation plan	30 weeks after signing the subcontract
SOW 4.5	15. Draft: Summary Environmental Impact Analysis	24 weeks after signing on the subcontract
	16. FINAL: Summary Environmental Impact Analysis	30 weeks after signing the subcontract

SOW task	Deliverable Name	Due Date
SOW 4.6	17. Round Table organized with Representatives of Zaporyzhzhia, stakeholders, and ESP	32 weeks after signing the subcontract
	18. Acceptance and Approval of the HSS	38 weeks after signing the subcontract.
	19. Transfer of the Documentation to the Customer	42 weeks after signing the subcontract.

TETRA TECH

ATTACHMENT B – DETAILED BUDGET

PROPOSED DETAILED BUDGET

TABLE 1 – Overall Subcontract Detailed Budget

Cost element	unit cost	Total units		cost
Total Direct Labor				
LABOR (rate; level of effort; total)				
Title,Labor Category - Name, Last Name (Full time / Short Term)	$0.00		days	$ -
Title,Labor Category - Name, Last Name (Full time / Short Term)	$0.00		days	$ -
Title,Labor Category - Name, Last Name (Full time / Short Term)	$0.00		days	$ -
Title,Labor Category - Name, Last Name (Full time / Short Term)	$0.00		days	$ -
Subtotal Direct Labor				**$ -**
Travel, Transportation & Per Diem				
Airfare	$0	0	trips	$ -
Per Diem Meal	$0	0	days	$ -
Per Diem Lodging	$0	0	days	$ -
Travel Miscellaneous	$0	0	trips	$ -
Insurance	$0	0	people	$ -
Local Ground Transportation	$0	0	days	$ -
Communications	$0	0	trips	$ -
Subtotal Travel, Transportation & Per Diem				**$ -**
Other Direct Costs				
Subtotal Other Direct Costs				**$ -**
TOTAL ESTIMATED COST				$ -

**LOE = Level of Efforts, budgeted number of days assigned for the work*

Rate = fully loaded daily rate

Prices quoted must be valid for **60** days, and account for ALL remuneration, per diem, travel, communications, report reproduction and other out-of-pocket expenses, taxes and other costs, but excluding the VAT tax that may be originated in **Ukraine**. On this basis Tetra Tech will issue a **Fixed Price Subcontract**, and payment shall be based upon acceptance of services and deliverables described in the Table 2.

TABLE 2 – Payment schedule

Offeror Deliverable	Expected Due Date	Fixed Price Payment Amount

1. 2. Development of questionnaires and collection of input data.	2 weeks	10%
2. 3. First Draft Explanatory Note (analytical part)	10 weeks	10%
3. 4. Second Draft Explanatory Note (analytical part)	20 weeks	10%
4. 6. Presenting to ESP team the draft deliverables, technical meeting (3, 4, 8)	25 weeks	10%
5. 8. FINAL: Explanatory Note (in entirety)	30 weeks	10%
6. 10. FINAL: Graphical representation of the Heat Supply Scheme	30 weeks	10%
7. 12. FINAL: Passport of Heat Supply Scheme of Zaporyzhzhia City	30 weeks	10%
8. 14. FINAL: HSS project financing plan and implementation plan	30 weeks	10%
9. 16. FINAL: Summary Environmental Impact Analysis	30 weeks	10%
10. 19. Transfer of the Documentation to the Customer	42 weeks	10%

ATTACHMENT C – REPRESENTATIONS AND CERTIFICATIONS

Offeror Representations and Certifications

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)*

(please use one box per number or dash)

3. Source and Nationality of Goods and Commodities

(i) This is to certify that the Offeror 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

4. 52.204-24 Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020).

The Offeror shall not complete the representation at paragraph (d)(1) of this provision if the Offeror 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, Offeror 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 Offeror 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 Offeror 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 Offeror shall provide the additional disclosure information required at paragraph (e)(1) of this section if the Offeror responds "will" in paragraph (d)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Offeror 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 Offeror shall provide the additional disclosure information required at paragraph (e)(2) of this section if the Offeror 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 Offeror has responded "will" in the representation in paragraph (d)(1) of this provision, the Offeror 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 Offeror has responded "does" in the representation in paragraph (d)(2) of this provision, the Offeror 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—

(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 Offeror 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: _____

ATTACHMENT D – CERTIFICATE OF CURRENT COST OR PRICING DATA

This is to certify that, to the best of my knowledge and belief, the cost or pricing data (as defined in section 2.101 of the Federal Acquisition Regulation (FAR) and required under FAR subsection 15.403-4) submitted, either actually or by specific identification in writing, to Tetra Tech in support of [**Firm/Organization**] are accurate, complete, and current as of [**DATE**]. This certification includes the cost or pricing data supporting any advance agreements and forward pricing rate agreements between the offeror and the Government that are part of the proposal.

Firm: _____

Signature: _____