



Request for Proposals

RFP 04

For the provision of
SCADA system and equipment for substations in
Public Utility Enterprise **JKP Energana Sombor**

Contracting Entity:

Serbia Energy Security Activity (Better Energy)
Dubljanska 8, Belgrade, Serbia

Funded by:

United States Agency for International Development (USAID)

Funded under:

Serbia Better Energy Activity

Prime Contract Number 7200AA19D00023/72016922F00001

******* ETHICAL AND BUSINESS CONDUCT REQUIREMENTS *******

Chemonics is committed to integrity in procurement, and only selects suppliers based on objective business criteria such as price and technical merit. Chemonics expects suppliers to comply with our Standards of Business Conduct, available at <https://www.chemonics.com/our-approach/standards-business-conduct/>.

Chemonics does not tolerate fraud, collusion among offerors, falsified proposals/bids, bribery, or kickbacks. Any firm or individual violating these standards will be disqualified from this procurement, barred from future procurement opportunities, and may be reported to both USAID and the Office of the Inspector General.

Employees and agents of Chemonics are strictly prohibited from asking for or accepting any money, fee, commission, credit, gift, gratuity, object of value or compensation from current or potential vendors or suppliers in exchange for or as a reward for business. Employees and agents engaging in this conduct are subject to termination and will be reported to USAID and the Office of the Inspector General. In addition, Chemonics will inform USAID and the Office of the Inspector General of any supplier offers of money, fee, commission, credit, gift, gratuity, object of value or compensation to obtain business.

Offerors responding to this RFP must include the following as part of the proposal submission:

- Disclose any close, familial, or financial relationships with Chemonics or project staff. For example, if an offeror's cousin is employed by the project, the offeror must state this.
- Disclose any family or financial relationship with other offerors submitting proposals. For example, if the offeror's father owns a company that is submitting another proposal, the offeror must state this.
- Certify that the prices in the offer have been arrived at independently, without any consultation, communication, or agreement with any other offeror or competitor for the purpose of restricting competition.
- Certify that all information in the proposal and all supporting documentation are authentic and accurate.
- Certify understanding and agreement to Chemonics' prohibitions against fraud, bribery and kickbacks.

Please contact Daniel Berg at dberg@chemonics.com with any questions or concerns regarding the above information or to report any potential violations. Potential violations may also be reported directly to Chemonics at to BusinessConduct@chemonics.com or by phone/Skype at 888.955.6881.

RFP Table of Contents

List of Acronyms

Section I Instructions to Offerors

- I.1 Introduction
- I.2 Chronological List of Proposal Events
- I.3 Offer Submission Requirements
- I.4 Eligibility Requirements
- I.5 Source of Funding, Authorized Geographic Code, and Source and Origin
- I.6 Validity Period
- I.7 Instructions for the Preparation of the Proposal
- I.8 Evaluation and Basis for Award
- I.9 Negotiations
- I.10 Terms of Subcontract
- I.11 Insurance and Services
- I.12 Privity

Section II Background, Scope of Work, Deliverables, and Deliverables Schedule

- II.1. Background
- II.2. Scope of Work
- II.3. Deliverables
- II.4. Deliverables Schedule

Section III Firm Fixed Price Subcontract (Terms and Clauses)

- Annex 1 Proposal Cover Letter
- Annex 2 Guide to Creating Financial Proposal and Sample Budget
- Annex 3 Required Certifications
- Annex 4 UEI and SAM Registration Guidance
- Annex 5 USAID Exemption Letter
- Annex 6 Technical specifications of the installed equipment with the SCADA software functions specifications and Concept design

List of Acronyms

AIDAR	Agency for International Development (USAID) Acquisition Regulation
CFR	Code of Federal Regulations
CO	USAID Contracting Officer
COP	Chief of Party
COR	USAID Contracting Officer's Representative
CV	Curriculum Vitae
DBA	Defense Base Act
FAR	Federal Acquisition Regulations
MEDEVAC	Medical Evacuation
POC	Point of Contact
RFP	Request for Proposals
SAM	System for Award Management
SOW	Scope of work
UEI	Unique Entity Identifier
U.S.	United States
USAID	U.S. Agency for International Development
USAID/Serbia	USAID Mission in Serbia
USG	U.S. Government
VAT	Value Added Tax

Section I. Instructions to Offerors

I.1. Introduction

Chemonics, the Buyer, acting on behalf of the U.S. Agency for International Development (USAID) and the Serbia Energy Security Activity, under contract number 7200AA19D00023/72016922F00001 is soliciting offers from companies and organizations to submit proposals to participate with Serbia Energy Security Activity to improve energy efficiency in local heating supply to reduce gas consumption and Serbia's dependency on imported natural gas, by implementing pilot projects in district heating system.

Serbia Energy Security Activity (Better Energy) aims to address the lack of incentives and limited investments in renewable energy (RE) and energy efficiency (EE), and therefore address inefficient use of energy resources, a low level of renewables, and limited capacity by government stakeholders to design and implement strategies which support RE and EE expansion. The project will work with and incentivize local partners (both public and private sector) to adopt new products and/or practices. Through technical assistance and targeted grants, the project will encourage expanded use of new practices.

The substations targeted by this project operate with very old and inefficient boilers lacking in automation/controls, and deferred maintenance. The existing system and the equipment are unable to provide optimal delivery of heat energy to consumers. In order to provide assistance to the DHP JKP Energana Sombor to modernize and automatize outdated equipment, the Project will support them with purchasing equipment for 10 substations and implementation automatic control system for all 17 substations.

The subject of this RFP is:

- I. SCADA system for 17 substations, including SCADA license, developing and implementation (license, server, and control cabinet)**
- II. Control box equipment for 10 heat substations**

Offerors are invited to submit proposals in response to this RFP in accordance with **Section I Instructions to Offerors**, which will not be part of the subcontract. The instructions are intended to assist interested Offerors in the preparation of their offer. Any resulting subcontract will be guided by Sections II and III.

This RFP does not obligate Chemonics to execute a subcontract, nor does it commit Chemonics to pay any costs incurred in the preparation and submission of the proposals. Furthermore, Chemonics reserves the right to reject any and all offers, if such action is considered to be in the best interest of Chemonics.

Unless otherwise stated, the periods named in the RFP shall be consecutive calendar days.

I.2. Chronological List of Proposal Events

The following calendar summarizes important dates in the solicitation process. Offerors must strictly follow these deadlines.

RFP announcement/published	22/06/2022
Deadline for written questions	27/06/2022

Answers provided to questions/clarifications	30/06/2022
Proposal due date	13/07/2022

The dates above may be modified at the sole discretion of Chemonics. Any changes will be published in an amendment to this RFP.

Written Questions and Clarifications. All questions or clarifications regarding this RFP must be in writing and submitted by email procurement@serbiabetterenergy.com no later than 27/06/2022. Questions and requests for clarification, and the responses thereto, will be circulated to all RFP recipients who have indicated an interest in this RFP. **Please indicate the RFP 04 -question, in the email Subject.**

Only written answers from Chemonics 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 Chemonics International, the Serbia Energy Security Activity project, or any other party, will not be considered official responses regarding this RFP.

Proposal Submission Date. All proposals must be received by the date and time and complying with the instructions as provided in Section I.3.

Oral Presentations. Chemonics reserves the option to have select offerors participate in oral presentations with the technical evaluation committee. Interviews may consist of oral presentations of offerors' proposed activities and approaches. Offerors should be prepared to give presentations to the technical evaluation committee at the Serbia Better Energy Security Activity office within 2 days of receiving notification.

Subcontract Award (estimated). Chemonics will select the proposal that offers the best value based upon the evaluation criteria stated in this RFP.

I.3. Offer Submission Requirements

Offerors shall submit their offers electronically only.
Emailed offers must be received by the same time and date at the following address:

Serbia Energy Security Activity (Better Energy)
Procurement
Email subject: **RFP 04 – proposal submission**
procurement@serbiabetterenergy.com

Faxed offers will not be considered.

Offerors are responsible for ensuring that their offers are received in accordance with the instructions stated herein. Late offers may be considered at the discretion of Chemonics. Chemonics cannot guarantee that late offers will be considered.

Proposals must be submitted electronically only. Late offers will be considered at the discretion of Chemonics.

Separate technical and cost proposals must be submitted by email no later than the time and date specified in I.2. The proposals must be submitted to the point of contact designated in I.2.

The Offeror must submit the proposal electronically with up to 3 attachments (5 MB limit) per email compatible with MX Word, MS Excel, readable format, or Adobe Portable Document (PDF) format in a Microsoft XP environment. Offerors must not submit zipped files. Those pages requiring original manual signatures should be scanned and sent in PDF format as an email attachment or signed by using e-signatures.

Technical proposals must not make reference to pricing data in order that the technical evaluation may be made strictly on the basis of technical merit.

I.4. Eligibility Requirements

To be determined responsive, an offer must include all of documents and sections included in I.4.A and I.4.B.

Chemonics anticipates issuing a subcontract to company or organization provided it is legally registered and recognized under the laws of the Republic of Serbia, and is in compliance with all applicable civil, fiscal, and other applicable regulations. Such a company or organization could include a private firm, non-profit, or university.

The award will be in the form of a firm fixed price subcontract (hereinafter referred to as “the subcontract”). The successful Offeror shall be required to adhere to the statement of work and terms and conditions of the subcontract, which are incorporated in Section III herein.

Companies and organizations that submit proposals in response to this RFP must meet the following requirements:

- (i) Companies or organizations, whether for-profit or non-profit, must be legally registered under the laws of Republic of Serbia upon award of the subcontract.
- (ii) Firms operated as commercial companies or other organizations or enterprises (including nonprofit organizations) in which foreign governments or their agents or agencies have a controlling interest are not eligible as suppliers of commodities and services.
- (iii) Companies or organizations must have a local presence in Serbia at the time the subcontract is signed.
- (iv) Companies or organizations, whether for-profit or non-profit, shall be requested to provide a UEI number if selected to receive a subaward valued at USD\$30,000 or more, unless exempted in accordance with information certified in the Evidence of Responsibility form included in the required certifications in Annex 3.

Offerors may present their proposals as a member of a partnership with other companies or organizations. In such cases, the subcontract will be awarded to the lead company in the partnership. The leading company shall be responsible for compliance with all subcontract terms and conditions and making all partnership arrangements, including but not limited to division of labor, invoicing, etc., with the other company(ies). A legally registered partnership is not necessary for these purposes; however, the different organizations must be committed to work together in the fulfillment of the subcontract terms.

I.5. Source of Funding, Authorized Geographic Code,

- a) Any subcontract resulting from this RFP will be financed by USAID funding and will be subject to U.S. Government and USAID regulations. All goods and services offered in response to this

RFP or supplied under any resulting award must meet USAID Geographic **Code 935 in** accordance with the United States Code of Federal Regulations (CFR), 22 CFR §228, available at: <http://www.gpo.gov/fdsys/pkg/CFR-2012-title22-vol1/pdf/CFR-2012-title22-vol1-part228.pdf>.

The cooperating country for this RFP is Republic of Serbia.

- b) Offerors may not offer or supply any products, commodities or related services that are manufactured or assembled in, shipped from, transported through, or otherwise involving any of the following countries: Cuba, Iran, North Korea, Syria. Related services include incidental services pertaining to any/all aspects of this work to be performed under a resulting contract (including transportation, fuel, lodging, meals, and communications expenses).
- c) Any and all items that are made by Huawei Technology Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company will not be accepted. If quotes include items from these entities, please note that they will be deemed not technically responsive and excluded from competition.
- d) The USG has implemented a blanket prohibition on providing direct government financing to international solar projects that source from suppliers that are the subject of a [withhold release order](#) (Hoshine Silicon Industry), on the Commerce Entity List, or otherwise sanctioned for their use of forced labor. The PRC energy companies that were added to the Commerce Entity List for their ties to forced labor are found below. NOTE: Offerors may not purchase from any of the Suppliers listed below without advance written approval from Chemonics/USAID.
 - Hoshine Silicon Industry (metallurgical grade silicon and silicon products) - also subject to a WRO
 - Xinjiang Daqo New Energy (polysilicon, wafers)
 - Xinjiang East Hope Nonferrous Metals (polysilicon, ingots, wafers)
 - Xinjiang GCL-New Energy Material (polysilicon, ingots, wafers, cells, modules)
 - Xinjiang Production and Construction Corps (state-owned paramilitary organization, electricity supplier)

This does not mean that all PRC-produced solar panels are immediately blocked. Currently, the restriction is just on any panels or products that are directly purchased using USG funds from any of those above companies. Should the purchase of any solar panels or components be required, Chemonics/USAID prior review and written approval is required.

I.6. Validity Period

Offerors' proposals must remain valid for 90 calendar days after the proposal deadline.

I.7. Instructions for the Preparation of the Proposal

1. Cover Letter

The offeror shall use the cover letter provided in Annex 1 of this RFP, which confirms organizational information and consent to the validity of this proposal.

2. Technical Proposal

The technical proposal shall comprise the parts below. Please note that the proposal must be responsive to the detailed information set out in Section II of this RFP, which provides the background, states the scope of work, describes the deliverables, and provides a deliverables schedule.

- Part 1: Technical Approach, Methodology and Detailed Work Plan. This part shall be between 5 and 10 pages long but may not exceed 15 pages.

Offerors may include the following:

- Corporate brochure or Link to official web site
 - Explanation of working approach for the required tasks (interpretation of objectives), demonstrating their experience and technical ability in task implementing.
 - Methodology and detailed work plan should be in accordance with the Project task (Annex No. 6) and compliance with the DHP regulations
- Part 2: Management, Key Personnel, and Staffing Plan. This part shall be between 3 and 5 pages long but may not exceed 7 pages. CVs for key personnel may be included in an annex to the technical proposal, should clearly reflect fulfillment of the requirements listed below and will not count against the page limit.

Offerors shall propose staff for the following key personnel positions necessary for the implementation of the scope of work:

1. Holder of the license no. 352 (Responsible developer of electromotor drives, automation, measurement, and regulation) issued by the Serbian Chamber of Engineers. The proposed expert should have minimum 10 years of experience
 2. Holder of the license no. 353 (Responsible telecommunications network and system designer). The proposed expert should have minimum 10 years of experience
 3. Holder of the license no. 330 (Responsible Developer thermo technique, thermo energetic, process and gas technique. The proposed expert should have minimum 10 years of experience
 4. Holder of the license no. 340 (Responsible executor of Developer thermo technique, thermo energetic, process and gas technique works). The proposed expert should have minimum 10 years of experience
 5. Holder of ISO 50001
 6. Experience technical support staff located in Serbia
 7. At least 5 engineers full time employees and at least 1 engineer with license with SCADA implementation experience
- Part 3: Corporate Capabilities, Experience, and Past Performance. This part shall be between 4 and 6 pages long but may not exceed 7 pages.

Part 3 must include a description of the company and organization, with appropriate reference to any parent company and subsidiaries. Offerors must include details demonstrating their experience and technical ability in implementing the technical approach/methodology and the detailed work plan.

Additionally, offerors must include 3 past performance references of similar work (under contracts or subcontracts) previously implemented as well as contact information for the companies for which such work was completed. Contact information must include at a minimum: name of point of contact who can speak to the offeror’s performance, name and address of the company for which the work was performed, and email and phone number of the point of contact. Chemonics reserves the right to check additional references not provided by an offeror.

Furthermore, the offerors should be legally registered under the laws of the Republic of Serbia, minimum 10 years prior to award of subcontract and provide the Annual Financial Statements for the past 3 years (P&L and Balance sheet)

3. Cost Proposal

The cost proposal is used to determine which proposals represent the best value and serves as a basis of negotiation before award of a subcontract.

The price of the subcontract to be awarded will be an all-inclusive fixed price. Nevertheless, for the purpose of the proposal, offerors must provide a detailed budget showing major line items as well as a budget narrative. Please refer to Annex 2 for detailed instructions and a sample cost structure.

No profit, fees, taxes, or additional costs may be added after award. Because Serbia Better Energy Activity is a USAID funded project and is implemented under a bilateral agreement between the Government of Serbia and the U.S. Government, offerors must not include VAT and customs duties in their cost proposal. USAID has provided an exemption letter to this effect, a copy of which is included in [Annex 5](#).

I.8 Evaluation and Basis for Award

This RFP will use the tradeoff process to determine best value as set forth in FAR 15.101-1. That means that each proposal will be evaluated and scored against the evaluation criteria and evaluation sub-criteria, which are stated in the table below. Chemonics will award a subcontract to the offeror whose proposal represents the best value to Chemonics and the Serbia Better Energy Activity project. Chemonics may award to a higher priced offeror if a determination is made that the higher technical evaluation of that offeror merits the additional cost/price.

Evaluation points will not be awarded for cost, but for overall evaluation purposes of this RFP, technical evaluation factors other than cost, when combined, are considered approximately equal to cost factors. Cost will primarily be evaluated for realism and reasonableness. If technical scores are determined to be nearly equal, cost will become the determining factor.

In evaluating proposals, Chemonics will use the following evaluation criteria and sub-criteria:

Evaluation Criteria	Evaluation Sub-criteria	Maximum Points
	Technical Approach, Methodology, and Detailed Work Plan	
	Technical know-how – Chemonics will assess whether the proposal explains,	20 points

	understands, and responds to the objectives of the project as stated in the Scope of Work	
	Approach and Methodology – Chemonics will assess whether the proposed program approach and detailed activities and suggested timeline fulfill the requirements of executing the Scope of Work effectively and efficiently?	10 points
	Sector Knowledge – Chemonics will assess whether the proposal demonstrates the offeror’s knowledge related to technical sectors required by the SOW?	10 points
Total Points – Technical Approach		40 points
Management, Key Personnel, and Staffing Plan		
	Personnel Qualifications – Chemonics will evaluate the curriculum vitae (CVs) of the proposed team members and evaluate if the Offeror has the license, standards, experience, and capabilities carry out the Scope of Work?	20 points
Total Points – Management		20 points
Corporate Capabilities, Experience, and Past Performance		
	Company Background and Experience – Chemonics will evaluate whether the company experience is relevant to the project Scope of Work?	20 points
	Chemonics will assess the past performance of the Offerors by contacting three references who may indicate the Offeror's past performance for projects of similar size and scope	20 points
Total Points – Corporate Capabilities		40 points
Total Points		100 points

I.9 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, Chemonics reserves the right to conduct discussions, negotiations and/or request clarifications prior to awarding a subcontract. Furthermore, Chemonics 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. At the sole discretion of Chemonics, offerors may be requested to

conduct oral presentations. If deemed an opportunity, Chemonics reserves the right to make separate awards per component or to make no award at all.

I.10 Terms of Subcontract

This is a request for proposals only and in no way obligates Chemonics to award a subcontract. In the event of subcontract negotiations, any resulting subcontract will be subject to and governed by the terms and clauses detailed in Section III. Chemonics will use the template shown in section III to finalize the subcontract. Terms and clauses are not subject to negotiation. By submitting a proposal, offerors certify that they understand and agree to all of the terms and clauses contained in section III.

I.11 Insurance and Services

Within two weeks of signature of this subcontract, the Offeror shall procure and maintain in force, on all its operations, insurance in accordance with the charts listed below. The policies of insurance shall be in such form and shall be issued by such company or companies as may be satisfactory to Chemonics. Upon request from Chemonics, the Supplier shall furnish Chemonics with certificates of insurance from the insuring companies which shall specify the effective dates of the policies, the limits of liabilities there under, and contain a provision that the said insurance will not be canceled except upon thirty (30) days' notice in writing to Chemonics. The Supplier shall not cancel any policies of insurance required hereunder either before or after completion of the work without written consent of Chemonics. Note DBA is reimbursable to the Offeror.

DEFENSE BASE ACT (DBA) INSURANCE

a) FAR 52.228-3 WORKER'S COMPENSATION INSURANCE (DEFENSE BASE ACT INSURANCE) (Jul 2014) [Updated by AAPD 05-05 — 02/12/04]

The Subcontractor shall (a) provide, before commencing performance under this Subcontract, such workers' compensation or security as the Defense Base Act (DBA) (42 U.S.C. 1651, et seq.) requires and (b) continue to maintain it until performance is completed. The Subcontractor shall insert, in all lower-tier subcontracts authorized by Chemonics under this Subcontract to which the Defense Base Act applies, a clause similar to this clause imposing upon those lower-tier subcontractors this requirement to comply with the Defense Base Act. DBA insurance provides critical protection and limits on liability. The Subcontractor shall provide a proof of DBA insurance coverage to Chemonics upon request. Chemonics will verify coverage for, at least, projects in high-risk environments and where Chemonics may be providing security.

(b) AIDAR 752.228-3 WORKERS' COMPENSATION (DEFENSE BASE ACT) [Updated by AAPD 05-05 — 02/12/04] As prescribed in AIDAR 728.308, the following supplemental coverage is to be added to the clause specified in FAR 52.228-3.

(1) The Subcontractor agrees to procure DBA insurance pursuant to the terms of the contract between USAID and USAID's DBA insurance carrier unless the Subcontractor has a DBA self-insurance program approved by the U.S. Department of Labor or has an approved retrospective rating agreement for DBA.

(2) If USAID or Subcontractor has secured a waiver of DBA coverage (See AIDAR 728.305-70(a)) for Subcontractor's employees who are not citizens of, residents of, or hired in the United States, the Subcontractor agrees to provide such employees with worker's compensation benefits as required by the laws of the country in which the employees are working, or by the laws of the employee's native country, whichever offers greater benefits.

(3) The Subcontractor further agrees to insert in all lower-tier subcontracts hereunder to which the DBA is applicable a clause similar to this clause, including the sentence, imposing on all lower-tier subcontractors authorized by Chemonics a like requirement to provide overseas workmen's compensation insurance coverage and obtain DBA coverage under the USAID requirements contract.

(4) USAID's DBA insurance carrier. Pursuant to the clause of this Subcontract entitled "Worker's Compensation Insurance (Defense Base Act)" (AIDAR 752.228 03), the Subcontractor shall obtain DBA coverage from USAID's current insurance carrier for such insurance. This insurance carrier as of the effective date of this Subcontract is Starr Indemnity and Liability Company. The agent and program administrator is Marsh MMA. Point of contact is: USAID@marshmma.com. Coverage should be request in accordance with USAID Contract No. 7200AA19D00023/72016922F00001 with Starr/Marsh MMA. The costs of the DBA insurance are allowable and reimbursable as a direct cost to this subcontract.

(c) AIDAR 752.228-7 INSURANCE ON PRIVATE AUTOMOBILES Pursuant to the clause of this Subcontract entitled "Insurance Liability to Third Persons" (AIDAR 752.228-07), if the Subcontractor or any of its employees, consultants, or their dependents transport or cause to be transported (whether or not at Subcontract expense) privately owned automobiles to the Cooperating Country, or if any of them purchase an automobile within the Cooperating Country, the Subcontractor shall, during the period of this Subcontract, ensure that all such automobiles during such ownership within the Cooperating Country will be covered by a paid-up insurance policy issued by a reliable company providing minimum coverage of US\$10,000/US\$20,000 for injury to persons and US\$5,000 for property damage, or such other minimum coverages as may be set by the cognizant Mission Director, payable in U.S. dollars or its equivalent in the currency of the Cooperating Country. The premium costs of such insurance shall not be a reimbursable cost under this Subcontract.

(d) AIDAR 752.228-70 Medical Evacuation Services (MEDEVAC) Services (July 2007) [Updated by AAPD 06-01].

(1) The Subcontractor shall provide MEDEVAC service coverage to all U.S. citizen, U.S. resident alien, and Third Country National employees and their authorized dependents (hereinafter "individual") while overseas under a USAID-financed direct contract. Chemonics will reimburse reasonable, allowable, and allocable costs for MEDEVAC service coverage incurred under this Subcontract. The USAID Contracting Officer through Chemonics will determine the reasonableness, allowability, and allocability of the costs based on the applicable cost principles and in accordance with cost accounting standards.

(2) Exceptions: (i) The Subcontractor is not required to provide MEDEVAC insurance to eligible employees and their dependents with a health program that includes sufficient MEDEVAC coverage as approved by Chemonics. (ii) The USAID Mission Director through Chemonics, may make a written determination to waive the requirement for such coverage. The determination must be based on findings that the quality of local medical services or other circumstances obviate the need for such coverage for eligible employees and their dependents located at post.

(3) If authorized to issue lower-tier subcontracts, the Subcontractor shall insert a clause similar to this clause in all lower-tier subcontracts that require performance by Subcontractor employees

e) In addition to the foregoing insurance requirements, the Supplier shall, as a minimum, obtain the following insurance in form and substance satisfactory to Chemonics that are covered by the standard fixed rates in Section 3.

TYPE	MINIMUM LIMIT
(a) Defense Base Act or equivalent for waived nationals per FAR 52.228-3 and 52.228-4. The coverage shall extend to Employers Liability for bodily injury, death, and for occupational disease.	As required by DBA
(b) Comprehensive General Liability Each Occurrence Combined Single Limit for Personal Injury and/or Property Damage.	\$1,000,000 \$2,000,000
(c) Automobile Liability Combined Single Limit each occurrence	As per AIDAR 752.228-7 and \$1,000,000
(d) Other Required Insurance- Umbrella Insurance additive to (b) and (c) above	\$1,000,000/ \$2,000,000

I. 12 Privity

By submitting a response to this request for proposals, offerors understand that USAID is NOT a party to this solicitation and the offeror agrees that any protest hereunder must be presented—in writing with full explanations—to Chemonics International for consideration, as USAID will not consider protests made to it under USAID-financed subcontracts. Chemonics, at its sole discretion, will make a final decision on the protest for this procurement

Section II Background, Scope of Work, Deliverables, and Deliverables Schedule

II.1. Background

JKP Energana Sombor lacks fundamental control systems required for proper boiler control and improved system efficiencies needed to control the firing of the boiler safely, reliably and efficiently.

JKP Energana Sombor main power plant – „Kotlarnica Nova Toplana“ – has installed capacity of 30 MW (using natural gas and as reserve fuel the boiler will use fuel oil). The plant has 3 gas boilers, each 10 MW. Each boiler has dual fuel capability, but has never been operated on fuel oil. While each boiler has necessary sensors and data loggers from which to monitor boiler operation, changes to operating parameters are made manually. This kind of control of production systems is very inefficient and calls for an immediate installation of automatic control and SCADA systems. Automation and control of substations needs to be conducted in order to overcome the lack of optimal heat delivery to consumers, which is currently impossible due to the fact that substations are inadequately equipped.

During this phase of the project, it was estimated that it is possible to automate 15 substations out of a total of 136 substations that supply MABs, and 2 substations located in the boiler room.

II.2. Scope of Work

According to provided terms of reference in Project task (Annex 6), the successful offeror will perform the following task:

- 1) Supply of SCADA platform license, server and software installation

SCADA system should imply complete automation and monitoring of the entire boiler facility so that all subsystems (burner, boiler, pressure regulating systems, electromechanical drive of circulating pumps, chemical water treatment, internal substation) work in a synchronized control made depending on external influences and in accordance with the consumer needs.

The offerors should provide solution for SCADA platform with control logic to integrate all data from **existing sensors** in Kotlarnica Nova Toplana

- 2) Delivery of Control box equipment to 10 heat substations.
Control box equipment contains (the detail specification in Annex6):
 - Complete electronics and automation equipment
 - Pressure gauge. This gauge helps determine if the boiler is properly filled with water and if the expansion compensation in the system is operating
 - Temperature sensors to measure exhaust gas temperatures, make-up water temperatures and boiler outlet temperatures
 - Flow meters to measure feedwater flow, return water flow and boiler output
 - An automatic low-water fuel cutoff
 - Pressure safety relief valve to ensure operating pressure limits are not exceeded

The contractor must visit the site before giving the offer.

The offeror is obliged to submit a detailed Dynamic Plan (Gantt chart) for the performance within the Bid subject works, with a deadline for completion of the SCADA upgrade.

The offeror is obliged to submit complete written instructions with the project of the performed condition. Upon completion of the works, the offeror must submit the documentation of the executed works. Furthermore, the contractor must provide 1 year warranty for the performed services and 2 years of warranty for the equipment.

II.3. Deliverables

The successful offeror shall deliver to Chemonics the following deliverables, in accordance with the schedule set forth in II.4 below.

Deliverable No. 1: **Legitimate SCADA License**

Deliverable No.2: **Software installation and startup**

Deliverable No. 3: **Server and control cabinet**

Hardware specified in Annex 6

Deliverable No.4: **Control box equipment delivery and installation (10 heat substations)**

Equipment specified in Annex 6

Deliverable No.5: **Testing and training**

The successful offeror should provide the deliverables in accordance with regulations on the operation of the power plant and it must be done in accordance with details provided in Annex 6.

II.4. Deliverables Schedule

The successful offeror shall submit the deliverables described above in accordance with the following deliverables schedule:

Deliverable Number	Deliverable Name	Due Date
1.	Legitimate SCADA License	September 01 st 2022
2.	Software installation and startup	September 01 st 2022
3.	Server and control cabinet	September 01 st 2022
4.	Control box equipment delivery and installation (10 heat substations)	September 01 st 2022
5.	Testing and training	October 01 st 2022

*Deliverable numbers and names refer to those fully described in II.3 above.

Section III Firm Fixed Price Subcontract (Terms and Clauses)

Subcontract Fixed Price, Invoicing and Payment

D.1. Subcontract Fixed Price

As consideration for the delivery of all of the products and/or services stipulated in Section A., Chemonics will pay the Subcontractor a total of **US\$ XX,XXX** (Amount must be denominated in local currency if a local subcontract) . This figure represents the total price of this subcontract and is fixed for the period of performance outlined in Section C., Period of Performance. Chemonics will pay the total price through a series of installment payments. Chemonics will make each payment subject to Section D.3, below, after Subcontractor's completion of the corresponding deliverable indicated in the following table:

Installment Number and Amount	Corresponding Deliverable Number(s) and Name(s)*
1. \$XX,XXX	1. (Deliverable No. 1 Name)

*Deliverable numbers and names refer to those fully described in Section A.3, above.

D.2. Invoicing

Upon technical acceptance of the contract deliverables described in Section A., Background, Scope of Work, Deliverables and Deliverables Schedule, by the Chemonics representative identified herein, the Subcontractor shall submit an original invoice to (insert project name) for payment. The invoice shall be sent to the attention of (insert name and designation of person who will receive invoices) and shall include the following information: a) subcontract number, b) deliverables delivered and accepted, c) total amount due in (choose either US dollars or specify a local currency if this is a local subcontract) , per Section D.1., above; and d) payment information corresponding to the authorized account listed in D.3, below.

D.3. Payment Account Information

Chemonics shall remit payment corresponding to approved, complete invoices submitted in accordance with the terms herein payable to the Subcontractor via check sent to the Subcontractor's official address or to the following authorized account:

Account name: (INSERT Account name provided by the Subcontractor)

Bank name: (INSERT Subcontractor's bank name)

Bank address or branch location: (INSERT Subcontractor's bank address or branch location)

Account number: (INSERT Subcontractor's bank account SWIFT and IBAN reference as applicable)

D.4. Payment

Chemonics will pay the Subcontractor's invoice within thirty (30) business days after both a) Chemonics' approval of the Subcontractor's deliverables, and b) Chemonics' receipt of the Subcontractor's invoice. Payment will be made in (choose either US dollars or specify a local currency if this is a local subcontract) , paid to the account specified in Section D.3.

Section E. Branding Policy

The Subcontractor shall comply with the requirements of the USAID “Graphic Standard Manual” available at www.usaid.gov/branding, or any successor branding policy, and the Project specific branding implementation and marking plan, which shall be conveyed to the Subcontractor by Chemonics in writing.

Section F. Authorized Geographic Code; Source and Nationality Requirement [AIDAR 752.225-70 (Feb 2012) as altered]

(a) The authorized geographic code for procurement of goods and services under this subcontract is **935**

(b) Except as may be specifically approved by Chemonics, the Subcontractor must procure all commodities (e.g., equipment, materials, vehicles, supplies) and services (including commodity transportation services) in accordance with the requirements at 22 CFR Part 228 —Rules on Procurement of Commodities and Services Financed by USAID Federal Program Funds. Guidance on eligibility of specific goods or services may be obtained from Chemonics.

(c) Ineligible goods and services. The Subcontractor shall not procure any of the following goods or services under this subcontract:

- (1) Military equipment
- (2) Surveillance equipment
- (3) Commodities and services for support of police and other law enforcement activities
- (4) Abortion equipment and services
- (5) Luxury goods and gambling equipment, or
- (6) Weather modification equipment.

(d) Restricted goods. The Subcontractor shall not procure any of the following goods or services without the prior written approval of USAID obtained through Chemonics:

- (1) Agricultural commodities,
- (2) Motor vehicles,
- (3) Pharmaceuticals and contraceptive items
- (4) Pesticides,
- (5) Fertilizer,
- (6) Used equipment, or
- (7) U.S. government-owned excess property.

If Chemonics determines that the Subcontractor has procured any of these specific restricted this subcontract without the prior written authorization of USAID through Chemonics and has received payment for such purposes, Chemonics may require the Subcontractor to refund the entire amount of the purchase.

(e) The USG has implemented a blanket prohibition on providing direct government financing to international solar projects that source from suppliers that are the subject of a [withhold release order](#) (Hoshine Silicon Industry), on the Commerce Entity List, or otherwise sanctioned for their use of forced labor. The PRC energy companies that were added to the Commerce Entity List for their ties to forced labor are found below. NOTE: the subcontractor may not purchase from any of the Suppliers listed below without advance written approval from Chemonics/USAID.

- Hoshine Silicon Industry (metallurgical grade silicon and silicon products) - also subject to a WRO
- Xinjiang Daqo New Energy (polysilicon, wafers)
- Xinjiang East Hope Nonferrous Metals (polysilicon, ingots, wafers)
- Xinjiang GCL-New Energy Material (polysilicon, ingots, wafers, cells, modules)

- Xinjiang Production and Construction Corps (state-owned paramilitary organization, electricity supplier).

This does not mean that all PRC-produced solar panels are immediately blocked. Currently, the restriction is just on any panels or products that are directly purchased using USG funds from any of the above companies. Should the purchase of any solar panels or components be required, Chemonics/USAID prior review and written approval is required.

Section G. Intellectual Property Rights

(a) Subcontractor warrants that the Work performed or delivered under this Subcontract will not infringe or otherwise violate the intellectual property rights of any third party in the United States or any foreign country. Except to the extent that the U.S. Government assumes liability therefor, Subcontractor shall defend, indemnify, and hold harmless Chemonics and its clients from and against any claims, damages, losses, costs, and expenses, including reasonable attorneys' fees, arising out of any action by a third party that is based upon a claim that the Work performed or delivered under this Subcontract infringes or otherwise violates the intellectual property rights of any person or entity. This indemnity and hold harmless shall not be considered an allowable cost under any provisions of this Subcontract except with regard to allowable insurance costs.

(b) Subcontractor's obligation to defend, indemnify, and hold harmless Chemonics and its customers under Paragraph (a) above shall not apply to the extent FAR 52.227-1 "Authorization and Consent" applies to Chemonics' Prime Contract for infringement of a U.S. patent and Chemonics and its clients are not subject to any actions for claims, damages, losses, costs, and expenses, including reasonable attorneys' fees by a third party.

(c) In addition to any other allocation of rights in data and inventions set forth in this agreement, Subcontractor agrees that Chemonics, in the performance of its prime or higher tier contract obligations (including obligations of follow-on contracts or contracts for subsequent phases of the same program), shall have under this agreement an unlimited, irrevocable, paid-up, royalty-free right to make, have made, sell, offer for sale, use, execute, reproduce, display, perform, distribute (internally or externally) copies of, and prepare derivative works, and authorize others to do any, some or all of the foregoing, any and all, inventions, discoveries, improvements, mask works and patents as well as any and all data, copyrights, reports, and works of authorship, conceived, developed, generated or delivered in performance of this Contract.

(d) The tangible medium storing all reports, memoranda or other materials in written form including machine readable form, prepared by Subcontractor and furnished to Chemonics pursuant to this Subcontract shall become the sole property of Chemonics.

Section H. Indemnity and Subcontractor Waiver of Benefits

The Subcontractor shall defend, indemnify, and hold harmless Chemonics from any loss, damage, liability, claims, demands, suits, or judgments ("Claims") including any reasonable attorney's fees, and costs, as a result of any damage or injury to Chemonics or its employees, directors, officers, or agents, or properties, or for any injury to third persons (including, but not limited to Claims by Subcontractor's employees, directors, officers or agents) or their property which is directly or indirectly caused by the negligence, willful misconduct, breach of this Subcontract, or violation of statutory duties of Subcontractor, or its employees, officers, directors, or agents, arising out of or in connection with the performance of this

Subcontract unless such Claim is caused by, or resulting from, a material breach of this Subcontract by Chemonics.

Section I. Compliance with Applicable Laws and Regulations

(a) The Subcontractor shall perform all work, and comply in all respects, with applicable laws, ordinances, codes, regulations, and other authoritative rules of the United States and its political subdivisions and with the standards of relevant licensing boards and professional associations. The Subcontractor shall also comply with the applicable USAID regulations governing this subcontract, which are incorporated by reference into this subcontract, and appear in Section Z, Clauses Incorporated by Reference.

(b) This contract shall be governed and construed under the laws of the District of Columbia, except that subcontract provisions and requirements that are based on government contract laws, regulations, or Federal Acquisition Regulation clauses shall be construed in accordance with the federal common law of Government Contracts as represented by decisions of the Federal Courts, and the Armed Services and Civilian Boards of Contract Appeals.

(c) The Subcontractor shall further undertake to perform the services hereunder in accordance with the highest standards of professional and ethical competence and integrity in Subcontractor's industry and to ensure that Subcontractor's employees assigned to perform any services under this subcontract will conduct themselves in a manner consistent therewith.

1. The Subcontractor shall exercise due diligence to prevent and detect criminal conduct and otherwise promote an organizational culture that encourages ethical conduct and a commitment to compliance with law.
2. The Subcontractor shall timely disclose, in writing, to Chemonics and the USAID Office of the Inspector General (OIG), whenever, in connection with this subcontract, or any Order issued hereunder, if applicable, the Subcontractor has credible evidence that a principal, employee, agent, or subcontractor of the Subcontractor has committed a violation of the provisions against fraud, conflict of interest, bribery or gratuity, or false claims found in this subcontract.
3. The Subcontractor shall refer to FAR 52.203-13 Contractor Code of Business Ethics and Conduct incorporated by reference herein for applicability of additional requirements.

Section J. Privity of Contract and Communications

The Subcontractor shall not communicate with Chemonics' client in connection with this Subcontract, except as expressly permitted, in writing, by Chemonics. All approvals required from USAID shall be obtained through Chemonics.

This provision does not prohibit the Subcontractor from communicating with the client with respect to:

- (a) matters the Subcontractor is required by law to communicate to the U.S. Government;
- (b) an ethics or anti-corruption matter;
- (c) any matter for which this Subcontract, including a FAR or AIDAR clause is included in this Subcontract, provides for direct communication by the Subcontractor to the U.S. Government; or
- (d) if Subcontractor is a U.S. small business concern, any material matter pertaining to payment or utilization.

Section K. Protecting Chemonics' Interests when Subcontractor is Named on Suspected Terrorists or Blocked Individuals Lists, Ineligible to Receive USAID Funding, or Suspended, Debarred or Excluded from Receiving Federal Funds

In addition to any other rights provided under this subcontract, it is further understood and agreed that Chemonics shall be at liberty to terminate this subcontract immediately at any time following any of the following conditions:

- (a) the Subcontractor is named on any list of suspected terrorists or blocked individuals maintained by the U.S. Government, including but not limited to (a) the Annex to Executive Order No. 13224 (2001) (Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or (b) the List of Specially Designated Nationals and Blocked persons maintained by the Office of Foreign Assets Control of the U.S. Department of the Treasury;
- (b) USAID determines that the Subcontractor is ineligible to receive USAID funding pursuant to U.S. laws and regulations; or
- (c) the Subcontractor is identified on the U.S. Government's Excluded Party List System, or successor listing, as being suspended, debarred, or excluded from receiving federal awards or assistance.

Notwithstanding any other provision of the Subcontract, upon such termination the Subcontractor shall have no right to receive any further payments.

Section L. Governing Law and Resolution of Disputes

(a) *Governing law.* This Subcontract shall be governed and construed under the laws of the District of Columbia, except that subcontract provisions and requirements that are based on government contract laws, regulations, or Federal Acquisition Regulation clauses shall be construed in accordance with the federal common law of Government Contracts as represented by decisions of the Federal Courts, and the Armed Services and Civilian Boards of Contract Appeals.

(b) *Disputes based on Client Actions.*

(1) Any decision of the Government under the Prime Contract, if binding on Chemonics, shall also bind the Subcontractor to the extent that it relates to this Subcontract, provided that Chemonics shall have promptly notified the Subcontractor of such decision and, if requested by Subcontractor, shall have brought suit or filed claim, as appropriate against the Government, or, in alternative, agreed to sponsor Subcontractor's suit or claim. A final judgment in any such suit or final disposition of such claim shall be conclusive upon the Subcontractor.

(2) For any action brought, or sponsored, by Chemonics on behalf of the Subcontractor pursuant to this clause, the Subcontractor agrees to indemnify and hold Chemonics harmless from all costs and expenses incurred by Chemonics in prosecuting or sponsoring any such appeal.

(c) *Other Disputes.* All disputes not covered under subparagraph (b) above shall be resolved by arbitration administered by the American Arbitration Association in accordance with its Commercial Arbitration Rules. Arbitration shall be conducted in Washington, DC. Arbitrators shall be empowered to award only direct damages consistent with the terms of this Agreement. Each party shall bear its own costs of arbitration, including attorneys' and experts' fees. An arbitration decision shall be final and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction.

(d) *Duty to Continue to Perform.* Notwithstanding any such dispute, the Subcontractor shall proceed diligently with performance under this Subcontract in accordance with the Contractor's directions.

(e) *Limitations.* Chemonics' entire liability for claims arising from or related to this Subcontract will in no event exceed the total subcontract fixed price. Except for indemnification obligations, neither the Subcontractor or Chemonics will have any liability arising from or related to this Subcontract for (i) special, incidental, exemplary, or indirect damages, or for any economic consequential damages, or (ii) lost profits, business, revenue, goodwill or anticipated savings, even if any of the foregoing is foreseeable or even if a party has been advised of the possibility of such damages.

The Subcontractor acknowledges and agrees that it has no direct action against the U.S. Government or USAID for any claims arising under this Subcontract.

Section M. Set-Off Clause

Chemonics reserves the right of set-off against amounts payable to Subcontractor under this Subcontract or any other agreement the amount of any claim or refunds Chemonics may have against Subcontractor.

Section N. Assignment and Delegation

This Subcontract agreement may not be assigned or delegated, in whole or in part, by the Subcontractor without the written consent of Chemonics. Absent such consent, any assignment is void.

Section O. Organizational Conflicts of Interest

It is understood and agreed that some of the work performed under this subcontract may place the Subcontractor or its personnel in the position of having an organizational conflict of interest. Such an organizational conflict of interest may impair the objectivity of the Subcontractor or its personnel in performing the work. To preclude or mitigate any potential conflicts of interest, Subcontractor agrees not to undertake any activity which may result in an organizational conflict of interest without first notifying Chemonics of such potential conflict of interest and receiving Chemonics written approval to undertake such activities.

Section P. Gratuities and Anti-Kickback

(a) Subcontractor shall not offer or give a kickback or gratuity (in the form of entertainment, gifts, or otherwise) for the purpose of obtaining or rewarding favorable treatment as a Chemonics supplier.

(b) By accepting this Subcontract, Subcontractor certifies and represents that it has not made or solicited and will not make or solicit kickbacks in violation of FAR 52.203-7 or the Anti-Kickback Act of 1986 (41 USC 51-58), both of which are incorporated herein by this specific reference, except that paragraph (c)(1) of FAR 52.203-7 shall not apply.

Section Q. Terrorist Financing Prohibition/ Executive Order 13224

The Subcontractor (including its employees, consultants and agents) by entering into this subcontract certifies that it does not engage, support or finance individuals and/or organizations associated with terrorism. The Subcontractor is reminded that U.S. Executive Orders and U.S. law prohibits transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. A list of entities and individuals subject to restrictions, prohibitions and sanctions can be found at the web

site of the Department of Treasury's Office of Foreign Assets Control (OFAC), at <http://treasury.gov/ofac>. It is the legal responsibility of the Subcontractor to ensure compliance with the Executive Order 13224 and other U.S. laws prohibiting terrorist financing. This provision must be included in all subcontracts or subawards issued under this subcontract.

Section R. Restrictions on Certain Foreign Purchases (FAR 52.225-13)

Except as authorized by the Department of Treasury's Office of Foreign Assets Control (OFAC), the Subcontractor shall not acquire for its use in the performance of this subcontract, any supplies or services if any proclamation, U.S. Executive Order, U.S. statute, or OFAC's implementing regulations (31 CFR Chapter V), would prohibit such a transaction by a U.S. person, as defined by law.

Except as authorized by OFAC, most transactions involving Cuba, Iran, North Korea, and Syria are prohibited, including importing/exporting to/from the United States, engaging in financial transactions, or facilitating any prohibited transactions by third parties. Lists of entities and individuals subject to economic sanctions – which are updated routinely - are included in OFAC's List of Specially Designated Nationals and Blocked Persons at <https://home.treasury.gov/policy-issues/financial-sanctions/specially-designated-nationals-and-blocked-persons-list-sdn-human-readable-lists>.

It is the Subcontractor's responsibility to remain informed as to sanctioned parties and to ensure compliance with all relevant U.S. sanctions and trade restrictions. More information about these restrictions, as well as updates, is available in the OFAC's regulations at 31 CFR Chapter V and/or on OFAC's website at <https://home.treasury.gov/policy-issues/office-of-foreign-assets-control-sanctions-programs-and-information>.

The Subcontractor shall insert this clause, including this paragraph, in all subcontracts and subawards issued under this subcontract.

Section S. Compliance with U.S. Export Laws

Subcontractor warrants and agrees to comply with all U.S. export laws and regulations and other applicable U.S. law and regulations, including but not limited to: (i) the Arms Export Control Act (AECA), 22 U.S.C. 2778 and 2779; (ii) Trading with the Enemy Act (TWEA), 50 U.S.C. App. §§ 1-44; (iii) International Traffic in Arms Regulations (ITAR), 22 C.F.R. Parts 120-130.; (iv) Export Administration Act (EAA) of 1979 and the Export Administration Regulations (EAR) 15 C.F.R. Parts 730-774, (including the EAR anti-boycott provision); (v) the International Emergency Economic Powers Act (IEEPA), 50 U.S.C. 1701-1706 and Executive Orders of the President under IEEPA, 50 U.S.C. app. §§ 2401-2420; (vi) Office of Foreign Asset Controls (OFAC) Regulations, 31 C.F.R. Parts 500-598; and (vii) other applicable U.S. laws and regulations.

As required, subject to Chemonics' prior approval for all exports or imports under the Subcontract, Subcontractor shall determine any export license, reporting, filing or other requirements, obtain any export license or other official authorization, and carry out any customs formalities for the export of goods or services. Subcontractor agrees to cooperate in providing any reports, authorizations, or other documentation related to export compliance requested by Chemonics. Subcontractor agrees to indemnify, hold harmless and defend Chemonics for any losses, liabilities and claims, including as penalties or fines as a result of any regulatory action taken against Chemonics as a result of Subcontractor's non-compliance with this provision.

Section T. Compliance with U.S. Anti-Corruption Regulations

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

- (a) *any foreign official* (or foreign political party) for purposes of either influencing any act or decision of such foreign official in his official capacity, or inducing such foreign official to do or omit to do any act in violation of the lawful duty of such official, or securing any improper advantage, or inducing such foreign official to use his influence with a foreign government, or instrumentality thereof, to affect or influence any act or decision of such government or instrumentality in order to assist such person in obtaining or retaining business for or with, or directing business to any person; or
- (b) *any person*, while knowing that all or a portion of such money or thing of value will be offered, given, or promised, directly or indirectly, to any foreign official (or foreign political party), or to any candidate for foreign political office, for any of the prohibited purposes described above.

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

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

Section U. Subcontractor Performance Standards

(a) Subcontractor agrees to provide the services required hereunder in accordance with the requirements set forth in this Subcontract. Subcontractor undertakes to perform the services hereunder in accordance with the highest standards of professional and ethical competence and integrity in Subcontractor’s industry and to ensure that employees assigned to perform any services under this subcontract will conduct themselves in a manner consistent therewith. The services will be rendered by Subcontractor: (1) in an efficient, safe, courteous, and businesslike manner; (2) in accordance with any specific instructions issued from time to time by Chemonics; and (3) to the extent consistent with items (1) and (2), as economically as sound business judgment warrants. Subcontractor shall provide the services of qualified personnel through all stages of this subcontract. Subcontractor represents and warrants that it is in compliance with all the applicable laws of the United States and any other Jurisdiction in which the services shall be performed. Subcontractor shall perform the services as an independent Subcontractor with the general guidance of Chemonics. The Subcontractor’s employees shall not act as agents or employees of Chemonics.

(b) Chemonics reserves the right to request the replacement of Subcontractor personnel and may terminate the subcontract due to nonperformance by the Subcontractor.

(c) Chemonics will use a variety of mechanisms to stay abreast of the Subcontractor’s performance under

the subcontract, and of general progress toward attainment of the subcontract objectives. These may include:

- 1) Business meetings between the subcontract team, Chemonics and/or USAID
- 2) Feedback from key partners
- 3) Site visits by Chemonics personnel
- 4) Meetings to review and assess periodic work plans and progress reports
- 5) Reports

Section V. Subcontractor Employee Whistleblower Rights

This Subcontract and Subcontractor employees working on this subcontract will be subject to the whistleblower rights and remedies in the pilot program on Contractor employee whistleblower protections established at 41 U.S.C. 4712 by section 828 of the National Defense Authorization Act for Fiscal Year 2013 (Pub. L.112-239) and FAR 3.908.

The Subcontractor shall inform its employees in writing, in the predominant language of the workforce, of employee whistleblower rights and protections under 41 U.S.C. 4712, as described in section 3.908 of the Federal Acquisition Regulation.

If lower tier subcontracting is authorized in this subcontract, the Subcontractor shall insert the substance of this clause in all subcontracts over the simplified acquisition threshold.

Section W. Reporting on Subcontractor Data Pursuant to the Requirements of the Federal Funding Accountability and Transparency Act

a) **Public Availability of Information.**

Pursuant to the requirements of FAR 52.204-10, Chemonics is required to report information regarding its award of subcontracts and sub-task orders under indefinite delivery/indefinite quantity subcontracts to the Federal Funding Accountability and Transparency Act Subaward Reporting System (FSRS). This information will be made publicly available at <http://www.USASpending.gov>.

(b) **Subcontractor's Responsibility to Report Identifying Data.**

Within 7 days of an award of a subcontract or sub-task order with a value of \$30,000 or greater unless exempted, the Subcontractor shall report its identifying data required by FAR 52.204-10 (including executive compensation, if applicable) in the required questionnaire and certification found in Section I.6. If the Subcontractor maintains a record in the System for Award Management (www.SAM.gov), the Subcontractor shall keep current such registration, including reporting of executive compensation data, as applicable. If reporting of executive compensation is applicable and the Subcontractor does not maintain a record in the System for Award Management, Subcontractor shall complete the "FSRS Reporting Questionnaire and Certification" found in Section I.6 within 7 days of each anniversary of the subcontract award date.

(c) **Impracticality of Registration.**

If obtaining a UEI number and reporting data is impractical for the Subcontractor, the Subcontractor must notify Chemonics and shall submit to Chemonics within 7 days of subcontract award a memorandum detailing the attempts made by the Subcontractor to obtain registration and a justification of why registration

and/or data reporting was impractical. Contractual remedies may apply unless Chemonics concurs with the documented impracticality of registration.

(d) Remedy.

Failure to comply with the reporting requirements in a timely manner as required under this section may constitute a material breach of the Subcontract and cause for withholding payment to the Subcontractor until the required information has been supplied to Chemonics or the Subcontractor demonstrates to Chemonics that its System for Award Management record has been updated. In addition to contractual remedies, Chemonics may make the Subcontractor's failure to comply with the reporting requirements a part of the Subcontractor's performance information record.

Section X. Miscellaneous

- (a) This Subcontract embodies the entire agreement and understanding among the parties hereto with respect to the subject matter hereof and supersedes all prior oral or written agreements and understandings between or among the parties relating to the subject matter hereof. No statement, representation, warranty, covenant, or agreement of any kind not expressly set forth in this Subcontract shall affect, or be used to interpret, change, or restrict the express terms and provisions of this Subcontract. Each of the parties hereto agrees to cooperate with the other parties hereto in effectuating this Subcontract and to execute and deliver such further documents or instruments and to take such further actions as shall be reasonably requested in connection therewith.
- (b) All statements, representations, warranties, covenants, and agreements in this Subcontract shall be binding on the parties hereto and shall inure to the benefit of the respective successors and permitted assigns of each Party hereto. Nothing in this Subcontract shall be construed to create any rights or obligations except among the parties hereto, and no person or entity shall be regarded as a third-party beneficiary of this Subcontract.
- (c) In the event that any court of competent jurisdiction shall determine that any provision, or any portion thereof, contained in this Subcontract shall be unenforceable or invalid in any respect, then such provision shall be deemed limited to the extent that such court deems it valid or enforceable, and as so limited shall remain in full force and effect. In the event that such court shall deem any such provision partially or wholly unenforceable, the remaining provisions of this Subcontract shall nevertheless remain in full force and effect.
- (d) The headings and captions contained in this Subcontract are for convenience only and shall not affect the meaning or interpretation of this Subcontract or of any of its terms or provisions.
- (e) Unless otherwise specifically agreed in writing to the contrary: (i) the failure of any party at any time to require performance by the other of any provision of this Subcontract shall not affect such party's right thereafter to enforce the same; (ii) no waiver by any party of any default by any other shall be valid unless in writing and acknowledged by an authorized representative of the non-defaulting party, and no such waiver shall be taken or held to be a waiver by such party of any other preceding or subsequent default; and (iii) no extension of time granted by any party for the performance of any obligation or act by any other party shall be deemed to be an extension of time for the performance of any other obligation or act hereunder.
- (f) Each party has been represented by its own counsel in connection with the negotiation and preparation of this Subcontract and, consequently, each party hereby waives the application of any rule of law that would otherwise be applicable in connection with the interpretation of this Subcontract, including but

not limited to any rule of law to the effect that any provision of this Subcontract shall be interpreted or construed against the party whose counsel drafted that provision.

- (g) This Agreement may be executed in any number of counterparts, and by different parties hereto on separate counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Section Y. Insurance Requirements

Prior to starting work, the Subcontractor at its own expense, shall procure and maintain in force, on all its operations, insurance in accordance with the clause listed below.

The policies of insurance shall be in such form and shall be issued by such company or companies as may be satisfactory to Chemonics. Upon request from Chemonics, the Subcontractor shall furnish Chemonics with certificates of insurance from the insuring companies which shall specify the effective dates of the policies, the limits of liabilities there under, and contain a provision that the said insurance will not be canceled except upon thirty (30) days' notice in writing to Chemonics. The Subcontractor shall not cancel any policies of insurance required hereunder either before or after completion of the work without written consent of Chemonics.

(a) FAR 52.228-3 WORKER'S COMPENSATION INSURANCE (DEFENSE BASE ACT INSURANCE) (JUL 2014)

The Subcontractor shall (a) provide, before commencing performance under this subcontract, such workers' compensation or security as the Defense Base Act (DBA) (42 U.S.C. 1651, et seq.) requires and (b) continue to maintain it until performance is completed. The Subcontractor shall insert, in all lower-tier subcontracts authorized by Chemonics under this subcontract to which the Defense Base Act applies, a clause similar to this clause imposing upon those lower-tier subcontractors this requirement to comply with the Defense Base Act.

(b) AIDAR 752.228-3 WORKERS' COMPENSATION (DEFENSE BASE ACT) [Updated by AAPD 05-05 — 02/12/04]

As prescribed in AIDAR 728.308, the following supplemental coverage is to be added to the clause specified in FAR 52.228-3.

(1) The Subcontractor agrees to procure DBA insurance pursuant to the terms of the contract between USAID and USAID's DBA insurance carrier unless the Subcontractor has a DBA self-insurance program approved by the U.S. Department of Labor or has an approved retrospective rating agreement for DBA.

(2) If USAID or Subcontractor has secured a waiver of DBA coverage (See AIDAR 728.305-70(a)) for Subcontractor's employees who are not citizens of residents of, or hired in the United States, the Subcontractor agrees to provide such employees with worker's compensation benefits as required by the laws of the country in which the employees are working, or by the laws of the employee's native country, whichever offers greater benefits.

(3) The Subcontractor further agrees to insert in all lower-tier subcontracts hereunder to which the DBA is applicable a clause similar to this clause, including the sentence, imposing on all lower-tier subcontractors authorized by Chemonics a like requirement to provide overseas workmen's compensation insurance coverage and obtain DBA coverage under the USAID requirements

contract.

(4) USAID's DBA insurance carrier. Pursuant to the clause of this Subcontract entitled "Worker's Compensation Insurance (Defense Base Act)" (AIDAR 752.228 03), the Subcontractor shall obtain DBA coverage from USAID's current insurance carrier for such insurance. This insurance carrier as of the effective date of this Subcontract is Starr Indemnity and Liability Company. The agent and program administrator is Marsh MMA. Point of contact is: USAID@marshmma.com. Coverage should be request in accordance with USAID Contract No. 7200AA19D00023/72016922F00001 with Starr/Marsh MMA. The costs of the DBA insurance are allowable and reimbursable as a direct cost to this subcontract..

(c) AIDAR 752.228-70 Medical Evacuation Services (MEDEVAC) Services (JULY 2007) [Updated by AAPD 06-01].

(1) The Subcontractor shall provide MEDEVAC service coverage to all U.S. citizen, U.S. resident alien, and Third Country National employees and their authorized dependents (hereinafter "individual") while overseas under a USAID-financed direct contract. Chemonics will reimburse reasonable, allowable, and allocable costs for MEDEVAC service coverage incurred under this subcontract. The USAID Contracting Officer through Chemonics will determine the reasonableness, allowability, and allocability of the costs based on the applicable cost principles and in accordance with cost accounting standards.

(2) Exceptions:

(i) The Subcontractor is not required to provide MEDEVAC insurance to eligible employees and their dependents with a health program that includes sufficient MEDEVAC coverage as approved by Chemonics.

(ii) The USAID Mission Director through Chemonics, may make a written determination to waive the requirement for such coverage. The determination must be based on findings that the quality of local medical services or other circumstances obviate the need for such coverage for eligible employees and their dependents located at post.

(3) If authorized to issue lower-tier subcontracts, the Subcontractor shall insert a clause similar to this clause in all lower-tier subcontracts that require performance by subcontractor employees overseas.

Section YY. Security

(a) Operating Conditions – Assumption of the Risk

Performance of this Subcontract may involve work under dangerous and austere conditions that include, without limitation, social and political unrest, armed conflict, criminal and terrorist activity, unsanitary conditions and limited availability of health care. The Subcontractor warrants that it has assessed and evaluated the location of performance and nature of the work including, without limitation, local laws, regulations, operational and security conditions and assumes all risks of performance including injury to Subcontractor personnel and loss of damage to Subcontractor property, except as expressly provided herein.

(b) **Access to Chemonics' Facilities – Security Requirements**

Subcontractor's access to property under Chemonics' control is subject to compliance with Chemonics' security requirements. The Subcontractor agrees to provide all necessary information required for

employees to be cleared for access to Chemonics' facilities. When present on Chemonics' property, or when Chemonics is providing transportation, the Subcontractor agrees that its employees will comply with Chemonics' security-related procedures and directions. **Failure to adhere to security procedures may lead to an immediate suspension of work, corrective action, or termination of the subcontract.**

(c) Security Coordination, Reports of Security Threats and Incidents

The Subcontractor agrees to reasonably cooperate and coordinate with Chemonics to ensure the safety and security of personnel, property and project assets. Such coordination shall include providing information concerning Subcontractor's security platform for facilities that may be visited by Chemonics personnel, USAID, or other participants in the project.

The Subcontractor shall report, as soon as possible (in any case no later than 4 hours), any information concerning threats of actions that could result in injury persons, damage to property, or disruption to activities relating to the Subcontract ("Security Threats"). Security Threats must be reported to Chemonics Chief of Party or his/her designee.

The Subcontractor shall promptly report as "Security Incidents" any assault, damage, theft, sabotage, breach of secured facilities, and any other hostile or unlawful acts designed to cause harm to personnel, property, or activities relating to the Subcontract. Such reports must include, at a minimum (a) date, time and place of the location, (b) description of the events, (c) injuries to personnel or damage/loss of property, (d) witnesses, (e) current security assessment, and (f) other relevant information. Security Incident Reports must be sent to Chief of Party or his/her designee.

Section Z. Federal Acquisition Regulation (FAR) And Agency For International Development Acquisition Regulation (AIDAR) Flow-down Provisions For Subcontracts And Task Orders Under USAID Prime Contracts

Z.1 INCORPORATION OF FAR AND AIDAR CLAUSES

The FAR and AIDAR clauses referenced below are incorporated herein by reference, with the same force and effect as if they were given in full text, and are applicable, including any notes following the clause citation, to this Subcontract. If the date or substance of any of the clauses listed below is different from the date or substance of the clause actually incorporated in the Prime Contract referenced by number herein, the date or substance of the clause incorporated by said Prime Contract shall apply instead. The Contracts Disputes Act shall have no application to this Subcontract. Any reference to a "Disputes" clause shall mean the "Disputes" clause of this Subcontract.

Z.2 GOVERNMENT SUBCONTRACT

- (a) This Subcontract is entered into by the parties in support of a U.S. Government contract.
- (b) As used in the AIDAR clauses referenced below and otherwise in this Subcontract:
 - 1. "Commercial Item" means a commercial item as defined in FAR 2.101.

2. "Contract" means this Subcontract.
3. "Contracting Officer" shall mean the U.S. Government Contracting Officer for Chemonics' government prime contract under which this Subcontract is entered.
4. "Contractor" and "Offeror" means the Subcontractor, which is the party identified on the face of the Subcontract with whom Chemonics is contracting, acting as the immediate subcontractor to Chemonics.
5. "Prime Contract" means the contract between Chemonics and the U.S. Government.
6. "Subcontract" means any contract placed by subcontractor or lower-tier subcontractors under this Contract.

Z.3 NOTES

The following notes apply to the clauses incorporated by reference below only when specified in the parenthetical phrase following the clause title and date.

1. Substitute "Chemonics" for "Government" or "United States" throughout this clause.
2. Substitute "Chemonics Procurement Representative" for "Contracting Officer", "Administrative Contracting Officer", and "ACO" throughout this clause.
3. Insert "and Chemonics" after "Government" throughout this clause.
4. Insert "or Chemonics" after "Government" throughout this clause.
5. Communication/notification required under this clause from/to Subcontractor to/from the USAID Contracting Officer shall be through Chemonics.
6. Insert "and Chemonics" after "Contracting Officer", throughout the clause.
7. Insert "or Chemonics Procurement Representative" after "Contracting Officer", throughout the clause.
8. If the Subcontractor is a non-U.S. firm or organization, this clause applies to this Subcontract only if Work under the Subcontract will be performed in the United States or Subcontractor is recruiting employees in the United States to Work on the Contract.

Z.4 MODIFICATIONS REQUIRED BY PRIME CONTRACT

The Subcontractor agrees that upon the request of Chemonics it will negotiate in good faith with Chemonics relative to modifications to this Subcontract to incorporate additional provisions herein or to change provisions hereof, as Chemonics may reasonably deem necessary in order to comply with the provisions of the applicable Prime Contract or with the provisions of modifications to such Prime Contract. If any such modifications to this Subcontract causes an increase or decrease in the cost of, or the time required for, performance of any part of the Work under this Contract, an equitable adjustment may be made pursuant to the "Changes" clause of this Subcontract.

Z.5 PROVISIONS INCORPORATED BY REFERENCE

This Subcontract includes the appropriate flow-down clauses as required by the Federal Acquisition Regulation and the USAID Acquisition Regulation.

The following Federal Acquisition Regulation (FAR) clauses apply to this Subcontract as indicated:

*** The version of the clause in effect as of the date of prime contract award, governs.**

Clause Number	Title	Date*	Notes and Applicability
<u>52.202-1</u>	DEFINITIONS	JUNE 2020	All subcontracts regardless of value
<u>52.203-3</u>	GRATUITIES	APR 1984	All subcontracts regardless of value (Note 4 applies)
<u>52.203-5</u>	COVENANT AGAINST CONTINGENT FEES	MAY 2014	All subcontracts regardless of value (Note 1 applies)
<u>52.203-6</u>	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	JUN 2020	Cost reimbursement subcontracts and cost reimbursement task orders (Note 4 applies)
<u>52.203-7</u>	ANTI-KICKBACK PROCEDURES	JUN 2020	All subcontracts regardless of value (Note 1 applies)
<u>52.203-8</u>	CANCELLATION, RECISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	MAY 2014	All subcontracts equal to or greater than the simplified acquisition threshold (Note 1 applies)
<u>52.203-10</u>	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	MAY 2014	All subcontracts equal to or greater than the simplified acquisition threshold (Note 1 applies)
<u>52.203-11</u>	CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	SEP 2007	All subcontracts equal to or greater than \$150,000 (Note 2 applies)
<u>52.203-12</u>	LIMITATIONS ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	JUN 2020	All subcontracts equal to or greater than \$150,000 (Note 2 applies)
<u>52.203-13</u>	CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT	NOV 2011	All subcontracts that have a value in excess of \$5.5 million and a performance period of more than 120 days. Disclosures made under this clause shall be directed to the agency Office of the Inspector General, with a copy to the Contracting officer.
<u>52.203-14</u>	DISPLAY OF HOTLINE POSTER(S)	NOV 2021	All subcontracts that have a value in excess of \$5.5 million except those performed entirely outside of the U.S. (Note 8 applies)
<u>52.203-17</u>	CONTRACTOR EMPLOYEE WHISTLEBLOWER RIGHTS AND REQUIREMENTS TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS	JUN 2020	All Subcontracts equal to or greater than the simplified acquisition threshold
<u>52.204-06</u>	UNIQUE ENTITY IDENTIFIER	OCT 2016	All Subcontracts equal to or greater than \$30,000
<u>52.204-10</u>	REPORTING EXECUTIVE COMPENSATION AND FIRST TIER SUBCONTRACT AWARDS (Subparagraph (d)(2) does not apply.)	JUN 2020	If the Subcontractor meets the thresholds specified in paragraphs (d)(3) and (g)(2) of the clause, the Subcontractor shall report required

Clause Number	Title	Date*	Notes and Applicability
			executive compensation by posting to the Government's Central Contractor Registration (CCR) database. All information posted will be available to the general public.
<u>52.204-23</u>	PROHIBITION ON CONTRACTING FOR HARDWARE, SOFTWARE AND SERVICES DEVELOPED BY KASPERSKY LAB AND OTHER COVERED ENTITIES	NOV 2021	Applies to all subcontracts, regardless of value or type. "Contractor" and "Contractor Employee" refer to "Subcontractor" and "Subcontractor Employee."
<u>52.204-25</u>	PROHIBITION ON CONTRACTING FOR CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT	NOV 2021	All subcontracts regardless of value (Note 1 applies)
52.209-2	PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS -REPRESENTATION	NOV 2015	All subcontracts regardless of value (Note 1 applies)
<u>52.209-6</u>	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	NOV 2012	All Subcontracts > \$35,000. (Note 2 applies)
<u>52.209-10</u>	PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS	NOV 2015	All subcontracts regardless of value (Note 1 applies)
<u>52.215-2</u>	AUDITS AND RECORDS - NEGOTIATION	JUN 2020	All Subcontracts except those below the simplified acquisition threshold. (Note 3 applies. Alternate II applies if the Subcontractor is an educational or non-profit organization.)
<u>52.215-10</u>	PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA Rights and obligations under this clause shall survive completion of the Work and final payment under this Subcontract.	AUG 2011	Applies if submission of certified cost or pricing data was required with Subcontractor's proposal. (Notes 2 and 4 apply except the first time "Contracting Officer" appears in paragraph (c)(1). "Government" means "Chemonics" in paragraph (d)(1).)
<u>52.215-11</u>	PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA - MODIFICATIONS Rights and obligations under this clause shall survive completion of the Work and final payment under this Subcontract.	JUN 2020	Applies if submission of certified cost or pricing data is required for modifications. (Notes 1, 2 and 4 apply.)
<u>52.215-12</u>	SUBCONTRACTOR CERTIFIED COST OR PRICING DATA	NOV 2021	Applies if Subcontract > \$750,000 and is not otherwise exempt under FAR 15.403.

Clause Number	Title	Date*	Notes and Applicability
<u>52.215-13</u>	SUBCONTRACTOR CERTIFIED COST OR PRICING DATA—MODIFICATIONS	JUN 2020	Applies if Subcontract > \$750,000 and is not otherwise exempt under FAR 15.403.
<u>52.215-14</u>	INTEGRITY OF UNIT PRICES	NOV 2021	Applies if Subcontract is above the simplified acquisition threshold. Delete paragraph (b) of the clause.
<u>52.215-15</u>	PENSION ADJUSTMENTS AND ASSET REVERSIONS	OCT 2010	Applies if Subcontract meets the applicability requirements of FAR 15.408(g). (Note 5 applies.)
<u>52.215-16</u>	FACILITIES CAPITAL COST OF MONEY	JUN 2003	Applies if Subcontract is subject to the Cost Principles at FAR Subpart 31.2 and Subcontractor proposed facilities capital cost of money in its proposal.
<u>52.215-17</u>	WAIVER OF FACILITIES CAPITAL COST OF MONEY	OCT 1997	Applies if Subcontract is subject to the Cost Principles at FAR Subpart 31.2 and Subcontractor did not propose facilities capital cost of money in its proposal.
<u>52.215-18</u>	REVERSION OR ADJUSTMENT OF PLANS FOR POST-RETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS	JUL 2005	Applicable if this Subcontract meets the applicability requirements of FAR 15.408(j). (Note 5 applies.)
<u>52.215-19</u>	NOTIFICATION OF OWNERSHIP CHANGES	OCT 1997	Applies if this Subcontract meets the applicability requirements of FAR 15.408(k). (Note 5 applies.)
<u>52.215-20</u>	REQUIREMENTS FOR CERTIFIED COST OR PRICING DATA OR INFORMATION OTHER THAN CERTIFIED COST OR PRICING DATA.	NOV 2021	(Note 2 applies.)
<u>52.215-21</u>	REQUIREMENTS FOR CERTIFIED COST OR PRICING DATA OR INFORMATION OTHER THAN CERTIFIED COST OR PRICING DATA - MODIFICATIONS	NOV 2021	(Note 2 applies)
<u>52.215-23</u>	LIMITATION ON PASS-THROUGH CHARGES	JUN 2020	Applies for cost-reimbursement subcontracts which exceed the simplified acquisition threshold. (Notes 1, 2 and 4 apply.)
<u>52.216-7</u>	ALLOWABLE COST AND PAYMENT Alt II applies to educational institutions. Alt IV applies to non-profit organizations.	AUG 2018	Applies to Cost Reimbursement Subcontracts, and to the materials portion of Time & Materials (T&M) Subcontracts, and Sub-task Orders. (Note 1 applies except in except in paragraphs (a)(3) and (b)(1)(ii)(F) where note 3 applies. Note 2 applies except in paragraph (g) where note 7 applies. The blank in paragraph (a)(3)

Clause Number	Title	Date*	Notes and Applicability
			is completed with "the 30th" unless otherwise specified in this Subcontract. Paragraphs (a)(2), (b)(4), and (d)(4) are deleted. In paragraph (h) "six years" is changed to "5 years." The references to government entities in paragraph (d) are unchanged.)
<u>52.216-8</u>	FIXED FEE	JUN 2011	Applies only if this Subcontract includes a fixed fee. Delete the last two sentences of the clause. Does not apply if this is a T&M Subcontract or Task Order. (Notes 1 and 2 apply.)
<u>52.216-10</u>	INCENTIVE FEE	JUN 2011	Applies only if this Subcontract includes an incentive fee. Does not apply if this is a T&M Subcontract or Task Order. (Notes 1 and 2 apply, except in paragraphs (e)(4)(v) and (e)(4)(vi) where "Government" is unchanged. Subparagraph (e)(4)(iv) and the last two sentences of paragraph (c)(2) are deleted. The amounts in paragraph (e) are set forth in the Subcontract.)
<u>52.216-11</u>	COST CONTRACT - NO FEE	APR 1984	Applies only to Cost Reimbursement-No Fee Subcontracts. Does not apply if this is a T&M Subcontract or Task Order. (Notes 1 and 2 apply.)
<u>52.216-18</u>	ORDERING	AUG 2020	Applies to Indefinite Quantity Subcontracts (IQS) Or Indefinite Delivery Indefinite Quantity (IDIQ) Subcontracts only.
<u>52.216-19</u>	ORDER LIMITATIONS	OCT 1995	Applies to Indefinite Quantity Subcontracts (IQS) Or Indefinite Delivery Indefinite Quantity (IDIQ) Subcontracts only.
<u>52.216-22</u>	INDEFINITE QUANTITY	OCT 1995	Applies to Indefinite Quantity Subcontracts (IQS) Or Indefinite Delivery Indefinite Quantity (IDIQ) Subcontracts only.
<u>52.217-8</u>	OPTION TO EXTEND SERVICES	NOV 1999	Insert "30 days" as <i>the period of time within which Chemonics may exercise the option.</i> (Notes 1 and 2 apply.)
<u>52.217-9</u>	OPTION TO EXTEND THE TERM OF THE CONTRACT	MAR 2000	Insert "30 days" and "60 days" as the periods of time set forth in the clause. Delete paragraph (c) of the clause. (Notes 1 and 2 apply.)

Clause Number	Title	Date*	Notes and Applicability
<u>52.219-8</u>	UTILIZATION OF SMALL BUSINESS CONCERNS	OCT 2018	Applies to all Subcontracts that are expected to exceed the simplified acquisition threshold except when the Subcontract will be performed entirely outside of the U.S. (Note 8 applies.)
<u>52.219-9</u>	SMALL BUSINESS SUBCONTRACTING PLAN (If a subcontracting plan was required by the RFP, the plan is incorporated herein by reference.)	NOV 2021	Applies if this Subcontract > \$750,000 and if the Subcontract offers lower-tier subcontracting opportunities. The clause <i>does not</i> apply at any value if the Subcontractor is U.S. small business concern. Note 2 is applicable to paragraph (c) only. (Note 8 applies.)
<u>52.222-2</u>	PAYMENT FOR OVERTIME PREMIUMS	JUL 1990	Applicable to Cost Reimbursement Subcontracts which are expected to exceed the simplified acquisition threshold only. Refers to overtime premiums for work performed in the U.S. subject to U.S. Department of Labor laws and regulations. Insert Zero in the blank. (Notes 2 and 3 apply.)
<u>52.222-3</u>	CONVICT LABOR	JUN 2003	Applies to all Subcontracts >\$3,000 involving some or all performance in the U.S.
<u>52.222-21</u>	PROHIBITION OF SEGREGATED FACILITIES	APR 2015	(Note 8 applies.) Does not apply to work performed outside the United States by Subcontractor employees who were not recruited within the United States.
<u>52.222-22</u>	PREVIOUS CONTRACTS AND COMPLIANCE REPORT	FEB 1999	Applies if clause 52.222-26 applies.
<u>52.222-26</u>	EQUAL OPPORTUNITY	SEP 2016	Does not apply to work performed outside the United States by Subcontractor employees who were not recruited within the United States.
<u>52.222-29</u>	NOTIFICATION OF VISA DENIAL	APR 2015	Applies to all Subcontracts regardless of type or value.
<u>52.222-35</u>	EQUAL OPPORTUNITY FOR VETERANS	JUN 2020	Applies if this Subcontract is for \$150,000 or more. Does not apply to Subcontracts where the work is performed entirely outside the U.S. by employees recruited outside the United States.
<u>52.222-36</u>	EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES	JUN 2020	Applies if this Subcontract exceeds \$15,000. Does not apply to Subcontracts where the work is performed entirely outside the U.S., Puerto Rico, the Northern Mariana

Clause Number	Title	Date*	Notes and Applicability
			Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island. (Note 8 applies.)
<u>52.222-37</u>	EMPLOYMENT REPORTS ON VETERANS	JUN 2020	Applies if this Subcontract contains the FAR clause of 52.222-35, Equal Opportunity for Veterans.
<u>52.222-40</u>	NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT	DEC 2010	Applies to Subcontracts is above the simplified acquisition threshold. <i>Does not</i> apply to Subcontracts performed <i>entirely</i> outside the U.S. For indefinite-quantity contracts, include the clause only if the value of orders in any calendar year of the contract is expected to exceed the simplified acquisition threshold;
<u>52.222-50</u>	COMBATING TRAFFICKING IN PERSONS (Alternate I applies when work is performed outside the U.S. and it is included in the Prime Contract)	NOV 2021	Applies to all Subcontracts, regardless of type, value. (Note 2 applies starting in paragraph c. In paragraph (h) Note 1 applies.)
<u>52.222-54</u>	EMPLOYMENT VERIFICATION ELIGIBILITY	NOV 2021	Applies to Subcontracts which exceed the simplified acquisition threshold <i>except for</i> a) commercial services that are part of the purchase of a Commercial Off-the-Shelf (COTS) item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item; b) Subcontracts for work that will be performed outside the United States; or Subcontracts with a period of performance < 120 days.
<u>52.223-6</u>	DRUG-FREE WORKPLACE	MAY 2001	Applies to all Subcontracts regardless of value or type. (Notes 2 and 4 apply)
<u>52.223-18</u>	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	JUN 2020	Applies to all subcontracts regardless of value.
<u>52.225-1</u>	BUY AMERICAN ACT -- SUPPLIES	NOV 2021	Applies if the Statement of Work contains other than domestic components. (Note 2 applies.)
<u>52.225-13</u>	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	FEB 2021	Applies to all Subcontracts regardless of value or type
<u>52.225-14</u>	INCONSISTENCY BETWEEN ENGLISH VERSION AND TRANSLATION OF CONTRACT	FEB 2000	Applies to all Subcontracts regardless of value or type
<u>52.227-1</u>	AUTHORIZATION AND CONSENT	JUN 2020	Applies if the Subcontract is above the simplified acquisition threshold.

Clause Number	Title	Date*	Notes and Applicability
			(Notes 4 and 7 apply.), not applicable when both the performance and delivery are outside the United States
<u>52.227-2</u>	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	JUN 2020	Applies only if FAR clause 52.221-1 is included in the subcontract
<u>52.227-9</u>	REFUND OF ROYALTIES	APR 1984	Applies if this Subcontract includes royalties
<u>52.227-14</u>	RIGHTS IN DATA - GENERAL	MAY 2014	Applies to all subcontracts regardless of type or value. Delete paragraph (d) which is replaced by AIDAR 752.227-14.
<u>52.228-3</u>	WORKER'S COMPENSATION INSURANCE (DEFENSE BASE ACT)	JUL 2014	Applies to all Subcontracts, regardless of type or value. See also AIDAR 752.228-3.
<u>52.228-4</u>	WORKER'S COMPENSATION AND WAR-HAZARD INSURANCE OVERSEAS	APR 1984	Applies to all Subcontracts, regardless of type or value, only if the Prime Contracts includes this clause.
<u>52.228-7</u>	INSURANCE—LIABILITY TO THIRD PERSONS	MAR 1996	Applicable to Cost Reimbursement Subcontracts and Task Orders of any value. (Notes 4 and 7 apply)
<u>52.228-9</u>	CARGO INSURANCE	MAY 1999	Applicable to Subcontracts of any value if the Subcontractor is authorized to provide transportation-related services. Chemonics will provide values to complete blanks in this clause upon authorizing transportation services. (see also AIDAR 752.228-9)
<u>52.229-6</u>	TAXES – FOREIGN FIXED PRICE CONTRACTS	FEB 2013	Applies to Fixed Price Subcontracts of any value.
<u>52.229-8</u>	TAXES—FOREIGN COST-REIMBURSEMENT CONTRACTS	MAR 1990	Applicable to Cost Reimbursement and T&M Subcontracts and Task Orders, regardless of value. Insert name of host country government in first blank in the clause. Insert name of host country in second blank in the clause.
<u>52.230-2</u>	COST ACCOUNTING STANDARDS	JUN 2020	Applies only when referenced in this Subcontract that full CAS coverage applies. "United States" means "United States or Chemonics." Delete paragraph (b) of the clause.
<u>52.230-3</u>	DISCLOSURE AND CONSISTENCY OF COST ACCOUNTING PRACTICES	JUN 2020	Applies only when referenced in this Subcontract that modified CAS coverage applies. "United States" means "United States or Chemonics." Delete paragraph (b) of the clause.

Clause Number	Title	Date*	Notes and Applicability
<u>52.230-4</u>	DISCLOSURE AND CONSISTENCY OF COST ACCOUNTING PRACTICES FOR CONTRACTS AWARDED TO FOREIGN CONCERNS	JUN 2020	Applies only when referenced in this Subcontract, modified CAS coverage applies. Note 3 applies in the second and third sentences.
<u>52.230-5</u>	COST ACCOUNTING STANDARDS -- EDUCATIONAL INSTITUTIONS	JUN 2020	"United States" means "United States or Chemonics." Delete paragraph (b) of the Clause. Applies only when referenced in this Subcontract that this CAS clause applies.
<u>52.230-6</u>	ADMINISTRATION OF COST ACCOUNTING STANDARDS	JUN 2010	Applies if FAR 52.230-2, FAR 52.230-3, FAR 52.230-4 or FAR 52.230-5 applies.
<u>52.232-20</u>	LIMITATION OF COST	APR 1984	Applies if this Subcontract is a fully funded Cost Reimbursement or T&M Subcontract or Task Order. (Notes 1 and 2 apply.)
<u>52.232-22</u>	LIMITATION OF FUNDS	APR 1984	Applies if this Subcontract is an incrementally funded Cost Reimbursement or T&M Subcontract or Task Order. (Notes 1 and 2 apply.)
<u>52.232-40</u>	PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS	NOV 2021	Applies if the Subcontractor is a U.S. small business and Chemonics receives accelerated payments under the prime contract. (Note 1 applies.)
<u>52.233-3</u>	PROTEST AFTER AWARD Alternate I (JUN 1985) applies if this is a cost-reimbursement contract). In the event that Chemonics' client has directed Chemonics to stop performance of the Work under the Prime Contract under which this Subcontract is issued pursuant to FAR 33.1, Chemonics may, by written order to the Subcontractor, direct the Subcontractor to stop performance of the Work called for by this Subcontract.	AUG 1996	"30 days" means "20 days" in paragraph (b)(2). Note 1 applies except the first time "Government" appears in paragraph (f). In paragraph (f) add after "33.104(h) (1)" the following: "and recovers those costs from Chemonics".
<u>52.237-8</u>	RESTRICTION ON SEVERANCE PAYMENTS TO FOREIGN NATIONALS	AUG 2003	Applies to Subcontracts--regardless of type and value--that include provision of host country national personnel.
<u>52.237-9</u>	INSTRUCTIONS: INCLUDE THIS ONLY IF IT APPEARS IN THE PRIME CONTRACT. WAIVER OF LIMITATION ON SEVERANCE PAYMENTS TO FOREIGN NATIONALS	MAY 2014	Applies to Subcontracts—regardless of type and value--that include provision of host country national personnel ONLY if the Prime Contracts includes this clause.

Clause Number	Title	Date*	Notes and Applicability
<u>52.242-1</u>	NOTICE OF INTENT TO DISALLOW COSTS	APR 1984	Applies to Cost Reimbursement and T&M Subcontracts and Task Orders of any value.
<u>52.242-3</u>	PENALTIES FOR UNALLOWABLE COSTS	SEP 2021	Applies to all subcontracts > \$800,000, regardless of subcontract type.
<u>52.242-4</u>	CERTIFICATION OF FINAL INDIRECT COSTS	JAN 1997	Applies to Cost Reimbursement and T&M Subcontracts and Task Orders that provide for reimbursement of Subcontractor indirect cost rates, regardless of subcontract value.
<u>52.242-13</u>	BANKRUPTCY	JUL 1995	Notes 1 and 2 apply.
<u>52.242-15</u>	STOP-WORK ORDER Alternate I (APR 1984) applies if this is a cost-reimbursement Subcontract.	AUG 1989	Notes 1 and 2 apply.
<u>52.243-1</u>	CHANGES-FIXED PRICE (Alt III)	AUG 1987	Applies to Fixed Price Subcontracts of any value.
<u>52.243-2</u>	CHANGES - COST REIMBURSEMENT	AUG 1987	Notes 1 and 2 apply. Applies if this is a Cost Reimbursement Subcontract or Task Order.
<u>52.243-3</u>	CHANGES - TIME-AND-MATERIALS OR LABOR-HOUR	SEP 2000	Notes 1 and 2 apply. Applies if this is a T&M Subcontract or Task Order.
<u>52.244-6</u>	SUBCONTRACTS FOR COMMERCIAL ITEMS	JAN 2022	Applies to Subcontracts for commercial items only.
<u>52.245-1</u>	GOVERNMENT PROPERTY (APR 2012) (ALT I)	SEP 2021	"Contracting Officer" means "Chemonics" except in the definition of Property Administrator and in paragraphs (h)(1)(iii) where it is unchanged, and in paragraphs (c) and (h)(4) where it includes Chemonics. "Government" is unchanged in the phrases "Government property" and "Government furnished property" and where elsewhere used except in paragraph (d)(1) where it means "Chemonics" and except in paragraphs (d)(2) and (g) where the term includes Chemonics.
<u>52.246-3</u>	INSPECTION OF SUPPLIES - COST REIMBURSEMENT Applies to Cost Reimbursement Subcontracts and Task Orders.	MAY 2001	Note 1 applies, except in paragraphs (b), (c), and (d) where Note 3 applies, and in paragraph (k) where the term is unchanged. In paragraph (e), change "60 days" to "120 days", and in

Clause Number	Title	Date*	Notes and Applicability
			paragraph (f) change "6 months" to "12 months"
<u>52.246-4</u>	INSPECTION OF SERVICES – FIXED PRICE	AUG 1996	Applies to Fixed Priced Subcontracts of any value.
<u>52.246-5</u>	INSPECTION OF SERVICES—COST REIMBURSEMENT	APR 1984	Applies to Cost Reimbursement Subcontracts of any value. (Note 3 applies in paragraphs (b) and (c). Note 1 applies in paragraphs (d) and (e).)
<u>52.246-6</u>	INSPECTION—TIME-AND-MATERIAL AND LABOR-HOUR	MAY 2001	Applies to T&M Subcontracts and Task Orders of any value. In paragraphs (b), (c), (d), Note 3 applies; in paragraphs (e), (f), (g), (h), Note 1 applies.)
<u>52.246-25</u>	LIMITATION OF LIABILITY - SERVICES	FEB 1997	Applies to Subcontracts at or below the simplified acquisition threshold or more.
<u>52.247-63</u>	PREFERENCE FOR U.S.-FLAG AIR CARRIERS	JUN 2003	Applies to all Subcontracts that include international air travel.
<u>52.247-64</u>	PREFERENCE FOR PRIVATELY OWNED U.S. FLAG COMMERCIAL VESSELS	NOV 2021	Applies for Subcontracts that include provision of freight services.
<u>52.247-67</u>	SUBMISSION OF TRANSPORTATION DOCUMENTS FOR AUDIT	FEB 2006	Applies to Subcontracts that include provision of freight services.
<u>52.249-1</u>	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SHORT FORM)	APR 1984	Applies to all Fixed Price Subcontracts.
<u>52.249-6</u>	TERMINATION (COST-REIMBURSEMENT) Alternate IV (SEP 1996) applies if this is a time and materials Subcontract.)	MAY 2004	Notes 1 and 2 apply. Substitute "90 days" for "120 days" and "90-day" for "120-day" in paragraph (d). Substitute "180 days" for "1 year" in paragraph (f). In paragraph (j) "right of appeal", "timely appeal" and "on an appeal" shall mean the right to proceed under the "Disputes" clause of this Contract. Settlements and payments under this clause may be subject to the approval of the Contracting Officer.
<u>52.249-8</u>	DEFAULT FIXED PRICE SUPPLY & SERVICE	APR 1984	Applies to all Fixed Price Subcontracts.
<u>52.249-14</u>	EXCUSABLE DELAYS	APR 1984	(Note 2 applies; Note 1 applies to (c). In (a)(2) delete "or contractual".)

The following Agency for International Development Acquisition Regulations (AIDAR) clauses apply to this Contract:

Clause Number	Title	Date*	Notes and Applicability
752.202-1	DEFINITIONS (ALT 70 AND ALT 72)	JAN 1990	Applies to all Subcontracts, regardless of value or type. "Contractor" and "Contractor Employee" refer to "Subcontractor" and "Subcontractor Employee".
752.211-70	LANGUAGE AND MEASUREMENT	JUN 1992	Applies to all Subcontracts, regardless of type or value.
752.225-70	SOURCE AND NATIONALITY REQUIREMENTS	FEB 2012	Applies to all Subcontracts, regardless of type or value. (Notes 4, 5 and 7 apply)
752.227-14	RIGHTS IN DATA – GENERAL	OCT 2007	Applies to all Subcontracts regardless of type or value. This clause replaces paragraph (d) of FAR 52.227-14 Rights in Data—General.
752.228-3	WORKER'S COMPENSATION INSURANCE (DEFENSE BASE ACT)	DEC 1991	The supplemental coverage described in this clause is required in addition to the coverage specified in FAR 52.228-3.
752.228-7	INSURANCE – LIABILITY TO THIRD PERSONS	JULY 1997	The coverage described in this clause is added to the clause specified in FAR 52.228-7 as either paragraph (h) (if FAR 52.228-7 Alternate I is not used) or (i) (if FAR 52.228-7 Alternate I is used): (See FAR 52.228)
752.228-9	CARGO INSURANCE	DEC 1998	The following preface is to be used preceding the text of the clause at FAR 52.228-9: Preface: To the extent that marine insurance is necessary or appropriate under this contract, the Subcontractor shall ensure that U.S. marine insurance companies are offered a fair opportunity to bid for such insurance. This requirement shall be included in all lower-tier subcontracts.

Clause Number	Title	Date*	Notes and Applicability
752.228-70	MEDICAL EVACUATION (MEDEVAC) SERVICES	JUL 2007	Applies to all Subcontracts requiring performance outside the U.S.
752.231-71	SALARY SUPPLEMENTS FOR HG EMPLOYEES (THE SUBCONTRACTOR SHALL FLOW DOWN THIS CLAUSE TO LOWER-TIER SUBCONTRACTS, IF LOWER-TIER SUBCONTRACTING IS AUTHORIZED.)	MAR 2015	Applies to all Subcontracts, regardless of value or type, with a possible need for services of a Host Government employee. (Note 5 applies)
752.245-71	TITLE TO AND CARE OF PROPERTY	APR 1984	Applies to Subcontracts where the Subcontractor is authorized by Chemonics to purchase property under the Subcontract for use outside the U.S. (Note 5 applies)
752.247-70	PREFERENCE FOR PRIVATELY OWNED U.S.-FLAG COMMERCIAL VESSELS	OCT 1996	(Note 5 applies)
752.7001	BIOGRAPHICAL DATA	JUL 1997	Applies to all Cost Reimbursement Subcontracts and Task Orders, and T&M Subcontracts and Task Orders utilizing a multiplier, regardless of value. (Note 3 applies)
752.7002	TRAVEL AND TRANSPORTATION	JAN 1990	Applies to all Cost Reimbursement and T&M Subcontracts and Task Orders performed in whole or in part outside the U.S., regardless of value. (Note 5 applies)
752.7004	EMERGENCY LOCATOR INFORMATION	JUL 1997	Applies to all Subcontracts performed in whole or in part outside the U.S., regardless of value. (Note 5 applies)
752.7005	SUBMISSION REQUIREMENTS FOR DEVELOPMENT EXPERIENCE DOCUMENTS	SEP 2013	Applies to all Subcontracts. (Note 5 applies)
752.7007	PERSONNEL COMPENSATION	JUL 2007	Applies to all Cost Reimbursement Subcontracts and Task Orders and T&M Subcontracts and Task Orders with a multiplier, regardless of value.
752.7008	USE OF GOVERNMENT FACILITIES OR PERSONNEL	APR 1984	Applies to all Subcontracts regardless of value or type. (Note 5 applies)

Clause Number	Title	Date*	Notes and Applicability
752.7009	MARKING	JAN 1993	Applies to all Subcontracts. (Note 5 applies)
752.7010	CONVERSION OF U.S. DOLLARS TO LOCAL CURRENCY	APR 1984	Applies to all Subcontracts, regardless of value or type, involving performance outside the U.S. (Note 5 applies)
752.7011	ORIENTATION AND LANGUAGE TRAINING	APR 1984	Applies to Cost Reimbursement Subcontracts and Task Orders, regardless of value, involving performance outside the U.S. (Note 5 applies)
752.7012	PROTECTION OF THE INDIVIDUAL AS A RESEARCH SUBJECT	AUG 1995	Applies to any Subcontract, regardless of value or type, which involves research using human subjects. (Note 5 applies)
752.7013	CONTRACTOR-MISSION RELATIONSHIPS	OCT 1989 DEVIATION (JUN 2020)	Applies to all subcontracts, regardless of value or type. "Contractor" and "Contractor Employee" refer to "Subcontractor" and "Subcontractor Employee."
752.7014	NOTICE OF CHANGES IN TRAVEL REGULATIONS	JAN 1990	Applies to Cost Reimbursement and T&M Subcontracts of any value involving work outside the U.S. (Note 2 applies)
752.7025	APPROVALS	APR 1984	Applies to all Subcontracts. (Note 5 applies)
752.7027	PERSONNEL	DEC 1990	Applies to all Cost Reimbursement and T&M Subcontracts of any value involving work performed in whole or in part overseas. Paragraphs (f) and (g) of this clause are for use only in cost reimbursement and T&M contracts. (Note 5 applies)

Clause Number	Title	Date*	Notes and Applicability
752.7028	<p>DIFFERENTIALS AND ALLOWANCES</p> <p>APPLIES TO ALL COST REIMBURSEMENT AND T&M SUBCONTRACTS OF ANY VALUE INVOLVING WORK PERFORMED IN WHOLE OR IN PART OVERSEAS.</p>	JUL 1996	<p>This clause does not apply to TCN and CCN employees. TCN and CCN employees are not eligible for differentials and allowances, unless specifically authorized by the cognizant Assistant Administrator or Mission Director. A copy of such authorization shall be retained and made available as part of the contractor's records which are required to be preserved and made available by the "Examination of Records by the Comptroller General" and "Audit" clauses of this contract.) (Note 5 applies)</p>
752.7029	POST PRIVILEGES	JUL 1993	<p>For use in all non-commercial subcontracts involving performance overseas.</p>
752.7031	LEAVE AND HOLIDAYS	OCT 1989	<p>For use in all cost-reimbursement and T&M subcontracts for technical or professional services. (Note 5 applies)</p>
752.7032	INTERNATIONAL TRAVEL APPROVAL AND NOTIFICATION REQUIREMENTS	APR 2014	<p>Applies to all subcontracts requiring international travel. (Note 5 applies)</p>
752.7033	PHYSICAL FITNESS (JULY 1997)	JUL 1997, PARTIALLY REVISED AUG 2014	<p>Applies to all Subcontracts of any type or value involving performance outside the U.S. The requirements of this provision do not apply to employees hired in the Cooperating Country or to authorized dependents who were already in the Cooperating Country when their sponsoring employee was hired. (Note 5 applies)</p>
752.7034	ACKNOWLEDGMENT AND DISCLAIMER	DEC 1991	<p>Applies to Subcontracts of any type or value that include in the Scope of Work publications, videos, or other information/media products. (Note 5 applies)</p>

Clause Number	Title	Date*	Notes and Applicability
752.7101	VOLUNTARY POPULATION PLANNING ACTIVITIES	JUN 2008	If a subcontract with family planning activities is contemplated, add "Alternate 1 (6/2008)" to the clause name.

Z.6 Federal Funding Accountability And Transparency Act (FFATA) Subaward Reporting Questionnaire And Certification For Subcontracts And Sub-Task Orders Under Indefinite Delivery/Indefinite Quantity Subcontracts

Subcontractor Name:

Subcontract or Sub-Task Order Number:

Subcontract or Sub-Task Order Start Date:

Subcontract or Sub-Task Order Value:

The information in this section is required under FAR 52.204-10 "Reporting Executive Compensation and First-Tier Subcontract Awards" to be reported by prime contractors receiving federal contracts through the Federal Funding Accountability and Transparency Act (FFATA) Subaward Reporting System (FSRS). **As required by the referenced FAR, complete this questionnaire and certification as part of the Subcontract or Sub-Task Order with a value of \$30,000 or more, unless exempted from reporting by a positive response to Section A.**

A. In the previous tax year, was your company's gross income from all sources under \$300,000?

Yes No

B. If "No", please provide the below information and answer the remaining questions.

(i) **Subcontractor UEI Number:**

(ii) In your business or organization's preceding completed fiscal year, did your business or organization (the legal entity to which the UEI number belongs) receive (1) 80 percent or more of its annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; and (2) \$25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements?:

Yes No

(iii) Does the public have access to information about the compensation of the executives in your business or organization (the legal entity to which the UEI number it provided belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986?:

Yes No

(iv) Does your business or organization maintain a record in the System for Award Management (www.SAM.gov)?

___ Yes ___ No

(v) If you have indicated “Yes” for paragraph (ii) **and** "No" for paragraph (iii) and (iv) above, provide the names and total compensation* of your five most highly compensated executives** for the preceding completed fiscal year.

1. Name: _____
Amount: _____
2. Name: _____
Amount: _____
3. Name: _____
Amount: _____
4. Name: _____
Amount: _____
5. Name: _____
Amount: _____

The information provided above is true and accurate as of the date of execution of the referenced Subcontract or Sub-Task Order. Annual certification is required for information provided in paragraph v) above.

*“Total compensation” means the cash and noncash dollar value earned by the executive during the Subcontractor’s preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

(1) *Salary and bonus.*

(2) *Awards of stock, stock options, and stock appreciation rights.* Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Financial Accounting Standards Board’s Accounting Standards Codification (FASB ASC) 718, Compensation-Stock Compensation.

(3) *Earnings for services under non-equity incentive plans.* This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

(4) *Change in pension value.* This is the change in present value of defined benefit and actuarial pension plans.

(5) *Above-market earnings on deferred compensation which is not tax-qualified.*

(6) Other compensation, if the aggregate value of all such other compensation (*e.g.*, severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

**"Executive" means officers, managing partners, or any other employees in management positions

Z.7. REPRESENTATIONS AND CERTIFICATIONS

Any representations and certifications submitted resulting in award of this Subcontract are hereby incorporated either in full text or by reference, and any updated representations and certifications submitted thereafter are incorporated by reference and made a part of this Subcontract with the same force and effect as if they were incorporated by full text. By signing this Subcontract, the Subcontractor hereby certifies that as of the time of award of this Subcontract: (1) the Subcontractor, or its principals, is not debarred, suspended or proposed for debarment or declared ineligible for award by any Federal agency; (2) 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 awarding the contract or this Subcontract; and (3) no changes have occurred to any other representations and certifications made by the Subcontractor resulting in award of this subcontract. The Subcontractor agrees to promptly notify Chemonics in writing of any changes occurring at any time during performance of this Subcontract to any representations and certifications submitted by the Subcontractor.

[End of Subcontract]

Annex 1 Cover Letter

[Offeror: Insert date]

Name of Point of Contact for RFP: Marina Petrovic
Grants & SAF Specialist
Public Utility Enterprise JKP Energana Sombor
Chemonics International Inc.
Serbia Better Energy Activity
Dubljanska 8, Belgrade

Reference: Request for Proposals 04 Public Utility Enterprise DHP JKP Energana Sombor

Subject: [Offeror: Insert name of your organization]'s technical and cost proposals

Dear Mr./Mrs. **Marina Petrovic**:

[Offeror: Insert name of your organization] is pleased to submit its proposal in regard to the above-referenced request for proposals. For this purpose, we are pleased to provide the information furnished below:

Name of Organization's Representative	_____
Name of Offeror	_____
Type of Organization	_____
Taxpayer Identification Number	_____
UEI Number	_____
Address	_____
Address	_____
Telephone	_____
Fax	_____
E-mail	_____

As required by section I, I.7, we confirm that our proposal, including the cost proposal will remain valid for **90** calendar days after the proposal deadline.

We are further pleased to provide the following annexes containing the information requested in the RFP.:
[Offerors: It is incumbent on each offeror to clearly review the RFP and its requirements. It is each offeror's responsibility to identify all required annexes and include them]

- I. Copy of registration or incorporation in the public registry, or equivalent document from the government office where the offeror is registered.
- II. Copy of company tax registration, or equivalent document.
- III. Copy of trade license, or equivalent document.
- IV. Evidence of Responsibility Statement.

Sincerely yours,

Signature
[Offeror: Insert name of your organization's representative]
[Offeror: Insert name of your organization]

Annex 2 Guide to Creating a Financial Proposal for a Fixed Price Subcontract

The purpose of this annex is to guide offerors in creating a budget for their cost proposal. Because the subcontract will be funded under a United States government-funded project, it is important that all offerors' budgets conform to this standard format. It is thus strongly recommended that offerors follow the steps described below.

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.

Step 1: Design the technical proposal. Offerors should examine the market for the proposed activity and realistically assess how they can meet the needs as described in this RFP, specifically in section II. Offerors should present and describe this assessment in their technical proposals.

Step 2: Determine the basic costs associated with each deliverable. Offerors should consider best estimate of the costs associated with each deliverable, which should include labor and all non-labor costs, e.g. other direct costs, such as fringe, allowances, travel and transport, etc.

Step 3: Create a budget for the cost proposal. Each offeror must create a budget using a spreadsheet program compatible with MS Excel. The budget period should follow the technical proposal period. A sample budget is shown on the following page. All items and services must be clearly labeled and include the total offered price. The detailed budget must show major line items, including, for example:

1. Salaries
2. Indirect costs
3. Any other costs applicable to the work
4. DBA – see clause I. 11

All cost information must be expressed in Serbian dinars (RSD)

Step 4: Write Budget Narrative. The spreadsheets shall be accompanied by written notes in MS Word that explain each cost line item and the assumption why a cost is being budgeted as well as how the amount is reasonable. Supporting information must be provided in sufficient detail to allow for a complete analysis of each cost element or line item. Chemonics 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 cost.

If it is an offeror's regular practice to budget indirect rates, e.g. overhead, fringe, G&A, administrative, or other rate, Offerors must explain the rates and the rates' base of application in the budget narrative. Chemonics reserves the right to request additional information to substantiate an Offeror's indirect rates.

Sample Budget

Offerors should revise the budget line items accordingly in response to the technical and cost requirements of this RFP.

The offerors must include price per deliverable listed in the section II.3

Deliverable Number	Deliverable Name	*Price RSD
1.	Legitimate SCADA License	
2.	Software installation, startup, testing, and training	
3.	Server and control cabinet	
4.	Control box equipment for 10 heat substations	
	TOTAL	

*VAT should not be included in the cost proposal

Design, Production, and Distribution of Communications Materials to District Courts			
Deliverable	Base	Rate	Total
Deliverable No. 1: Draft Communication Materials			
Design Specialist (daily rate)	6	\$400	\$2,400
Operations Manager (daily rate)	3	\$500	\$1,500
Software Lisence	1	\$1,500	\$1,500
<i>Total, Deliverable 1</i>			\$5,400
Deliverable No. 2: Printed Communication Materials			
Design Specialist (daily rate)	3	\$400	\$1,200
Operations Manager (daily rate)	2	\$500	\$1,000
Pamphlet Paper	500	\$2	\$1,000
Printing Ink	1	\$1,000	\$1,000
<i>Total, Deliverable 2</i>			\$4,200
Deliverable No. 3: Proof of Distribution of Materials to Districts 1-4			
Operations Manager (daily rate)	1	\$500	\$500
Logistics Manager (daily rate)	4	\$200	\$800
Truck Rental and Fuel	1	\$2,000	\$2,000
Per Diem for Logistics Manager	3	\$75	\$225
<i>Total, Deliverable 3</i>			\$3,525
Deliverable No. 4: Proof of Distribution of Materials to Districts 5-8			
Operations Manager (daily rate)	1	\$500	\$500
Logistics Manager (daily rate)	4	\$200	\$800
Truck Rental and Fuel	1	\$2,000	\$2,000
Per Diem for Logistics Manager	3	\$75	\$225
<i>Total, Deliverable 4</i>			\$3,525
Grand Total			\$16,650

Annex 3 Required Certifications

EVIDENCE OF RESPONSIBILITY

1. Offeror Business Information

Company Name: Full Legal Name

Address: Address

UEI Number: Enter the Unique Entity Identifier (UEI number) assigned to the company / (Instructions If Offeror does not have a UEI number and is unable to obtain one before proposal submission deadline, Offeror shall include a statement in their Evidence of Responsibility Statement noting their intention to register for a UEI number should it be selected as the successful offeror or explaining why registration for a UEI number is not applicable or not possible. Additional guidance on obtaining a UEI number is available upon request.)

2. Authorized Negotiators

Company Name proposal for Proposal Name may be discussed with any of the following individuals. These individuals are authorized to represent Company Name in negotiation of this offer in response to **RFP No. 04**

List Names of Authorized signatories

These individuals can be reached at Company Name office:

Address

Telephone/Fax

Email address

3. Adequate Financial Resources

Company Name has adequate financial resources to manage this contract, as established by our audited financial statements (OR list what else may have been submitted) submitted as part of our response to this proposal.

If the offeror is selected for an award valued at \$30,000 or above, and is not exempted based on a negative response to Section 3(a) below, any first-tier subaward to the organization may be reported and made public through FSRS.gov in accordance with The Transparency Acts of 2006 and 2008. Therefore, in accordance with FAR 52.240-10 and 2CFR Part170, if the offeror positively certifies below in Sections 3.a and 3.b and negatively certifies in Sections 3.c and 3.d, the offeror will be required to disclose to Chemonics for reporting in accordance with the regulations, the names and total compensation of the organization's five most highly compensated executives. By submitting this proposal, the offeror agrees to comply with this requirement as applicable if selected for a subaward.

In accordance with those Acts and to determine applicable reporting requirements, Company Name certifies as follows:

a) In the previous tax year, was your company's gross income from all sources above \$300,000?

Yes No

b) In your business or organization's preceding completed fiscal year, did your business or organization (the legal entity to which the DUNS/UEI number belongs) receive (1) 80 percent or more of its annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; **and** (2) \$25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements?:

Yes No

c) Does the public have access to information about the compensation of the executives in your business or organization (the legal entity to which the DUNS/UEI number it provided belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986? (FFATA § 2(b)(1)):

Yes No

d) Does your business or organization maintain an active registration in the System for Award Management (www.SAM.gov)?

Yes No

4. Ability to Comply

Company Name is able to comply with the proposed delivery of performance schedule having taken into consideration all existing business commitments, commercial as well as governmental.

5. Record of Performance, Integrity, and Business Ethics

Company Name record of integrity is (Instructions: Offeror should describe their record. Text could include example such as the following to describe their record: "outstanding, as shown in the Representations and Certifications. We have no allegations of lack of integrity or of questionable business ethics. Our integrity can be confirmed by our references in our Past Performance References, contained in the Technical Proposal.")

6. Organization, Experience, Accounting and Operational Controls, and Technical Skills

(Instructions: Offeror should explain their organizational system for managing the subcontract, as well as the type of accounting and control procedure they have to accommodate the type of subcontract being considered.)

7. Equipment and Facilities

(Instructions: Offeror should state if they have necessary facilities and equipment to carry out the contract with specific details as appropriate per the subcontract SOW.)

8. Eligibility to Receive Award

(Instructions: Offeror should state if they are qualified and eligible to receive an award under applicable laws and regulation and affirm that they are not included in any list maintained by the US Government of entities debarred, suspended or excluded for US Government awards and funding. The Offeror should state whether they have performed work of similar nature under similar mechanisms for USAID.)

9. Commodity Procurement

(Instructions: If the Offeror does not have the capacity for commodity procurements - delete this section. If the Offeror does have the capacity, the Offeror should state their qualifications necessary to support the proposed subcontract requirements.)

10. Cognizant Auditor

(Instructions: Offeror should provide Name, address, phone of their auditors – whether it is a government audit agency, such as DCAA, or an independent CPA.)

11. Acceptability of Contract Terms

(Instructions: Offeror should state its acceptance of the proposed contract terms.)

12. Recovery of Vacation, Holiday and Sick Pay

(Instructions: Offeror should explain whether it recovers vacation, holiday, and sick leave through a corporate indirect rate (e.g. Overhead or Fringe rate) or through a direct cost. If the Offeror recovers vacation, holiday, and sick leave through a corporate indirect rate, it should state in this section the number of working days in a calendar year it normally bills to contracts to account for the vacation, holiday, and sick leave days that will not be billed directly to the contract since this cost is being recovered through the corporate indirect rate.)

13. Organization of Firm

(Instructions: Offeror should explain how their firm is organized on a corporate level and on practical implementation level, for example regionally or by technical practice.)

Signature: _____

Name: _____

One of the authorized negotiators listed in Section 2 above should sign

Title: _____

Date: _____

Subcontractor Size Self-Certification Form

Reference Number: [enter the funding agency's solicitation or contract number]

Project Name: [enter full name of project]

Primary NAICS Code: [enter the [NAICS](#) code that best describes the work being performed under the subcontract. i.e: for technical assistance provision use 541990 or management consulting use 541611. For HHE use 484210 and for GIS use 541360. The NAICS codes most commonly used by Chemonics is 541611, 541618, 541620, 541990]

Company Name: Full legal name

Address: Street address

City, State, Zip: City, State Zip

DUNS/UEI Number: [enter the [Data Universal Numbering System \(DUNS\)](#) Unique Entity Identifier (UEI number) here. Subcontractors must have a DUNS/UEI, unless exempted, as a part of receiving a subcontract with Chemonics]

Contact Person: Name, Title

Contact Phone Number: (555) 555-5555

Type of Entity

If you have difficulty ascertaining the business size status, please refer to SBA's website (www.sba.gov/size) or contact your local SBA office.

Small Business Large Business Nonprofit/Educational Government Non-US

If "Small Business" is checked above, and if applicable, please identify any additional small business designations under which the company qualifies. You may wish to review the definitions for the below categories in the Federal Acquisition Regulation 19.7 or 52.219-8 (www.acquisition.gov/far/) to determine applicability.

Small Disadvantaged Business 8(a)
 HUBZone Woman Owned Small Business
 Veteran Owned Service Disabled Veteran Owned
 Alaskan Native Corporation Indian Tribe

By signature below, I hereby certify that the business type and designation indicated above is true and accurate as of the date of execution of this document, and I further understand that under 15 U.S.C. 645(d), any person who misrepresents a business' size status shall (1) be punished by a fine, imprisonment, or both; (2) be subject to administrative remedies; and (3) be ineligible for participation in programs conducted under the authority of the Small Business Act.

Signature and Title (required)

Date

*****CHEMONICS INTERNAL USE ONLY*****

HUBZone Status has been verified in the [System for Award Management database](#) or [Dynamic Small Business Database Search](#) as of ___/___/___ conducted by: _____.

**FEDERAL FUNDING ACCOUNTABILITY AND TRANSPARENCY ACT (FFATA)
SUBAWARD REPORTING QUESTIONNAIRE AND CERTIFICATION**

Prime Contract

Insert Prime Contract Name

Insert Prime Contract Number/Task Order Number

Subcontractor Data

Insert Subcontractor Name

Insert Subcontractor AddressLine1

Insert Subcontractor AddressLine2

Insert Subcontractor City, Insert Subcontractor State in USA, or Province/Other

Insert Subcontractor Zipcode or PostalCode Insert Subcontractor Country

Subcontract Number: INSERT SUBCONTRACT NUMBER

Start Date: INSERT SUBCONTRACT START DATE

Subcontract Value: INSERT SUBCONTRACT VALUE

A. In the previous tax year, was your company's gross income from all sources **under** \$300,000?

Yes No

B. If "No", please provide the below information and answer the remaining questions.

(i) **Subcontractor DUNS/UEI Number: Insert DUNS/UEI on record**

(ii) In your business or organization's preceding completed fiscal year, did your business or organization (the legal entity to which the DUNS/UEI number belongs) receive (1) 80 percent or more of its annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; and (2) \$25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements?:

Yes No

(iii) Does the public have access to information about the compensation of the executives in your business or organization (the legal entity to which the DUNS/UEI number it provided belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986?:

Yes No

(iv) Does your business or organization maintain a record in the System for Award Management (www.SAM.gov)?

Yes No

(v) If you have indicated “Yes” for paragraph (ii) **and** “No” for paragraph (iii) and (iv) above, provide the names and total compensation* of your five most highly compensated executives** for the preceding completed fiscal year.

1. Name: _____
Amount: _____
2. Name: _____
Amount: _____
3. Name: _____
Amount: _____
4. Name: _____
Amount: _____
5. Name: _____
Amount: _____

By signature below, I hereby certify that the information provided above is true and accurate as of the date of execution of this document, and I further understand that annual certification is required for information provided in paragraph (v) above.

Signature and Title (required)

Date

*“Total compensation” means the cash and noncash dollar value earned by the executive during the Subcontractor’s preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

- (1) *Salary and bonus.*
- (2) *Awards of stock, stock options, and stock appreciation rights.* Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Financial Accounting Standards Board’s Accounting Standards Codification (FASB ASC) 718, Compensation-Stock Compensation.
- (3) *Earnings for services under non-equity incentive plans.* This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.
- (4) *Change in pension value.* This is the change in present value of defined benefit and actuarial pension plans.
- (5) *Above-market earnings on deferred compensation which is not tax-qualified.*
- (6) Other compensation, if the aggregate value of all such other compensation (*e.g.*, severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

**“Executive” means officers, managing partners, or any other employees in management positions.

Annex 4

/UEI and SAM Registration Guidance

What is an UEI Number?

The Unique Entity Identifier, or the UEI, is the official name of the “new, non-proprietary identifier” that will replace the DUNS number. The UEI will be requested in, and assigned by, the System for Award Management (SAM.gov). Businesses and organizations who receive funding from the US government will have to use a Unique Entity Identifier (UEI) created in SAM.gov. The UEI number helps the USG to identify companies.

Why am I being requested to obtain a /UEI number?

U.S. law – in particular the Federal Funding Accountability and Transparency Act of 2006 (Pub.L. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub.L. 110-252) - make it a requirement for all entities doing business with the U.S. Government to be registered, currently through the System for Award Management, a single, free, publicly- searchable website that includes information on each federal award. As part of this reporting requirement, prime contractors such as Chemonics must report information on qualifying subawards as outlined in FAR 52.204-10 and 2CFR Part 170. Chemonics is required to report subcontracts with an award valued at greater than or equal to \$30,000 under a prime contract and subawards under prime grants or prime cooperative agreements obligating funds of \$25,000 or more, whether U.S. or locally based. Because the U.S. Government uses UEI numbers to uniquely identify businesses and organizations, Chemonics is required to enter subaward data with a corresponding UEI number.

Is there a charge for obtaining a UEI number?

No. Obtaining a UEI number is absolutely free for all entities doing business with the Federal government. This includes current and prospective contractors, grantees, and loan recipients.

How do I obtain a UEI number?

UEI numbers can be obtained online at SAM.gov.

What information will I need to obtain a UEI number?

To request a UEI number, you will need to provide the following information:

- Legal name and structure
- Tradestyle, Doing Business As (DBA), or other name by which your organization is commonly recognized
- Physical address, city, state and Zip Code
- Mailing address (if separate)
- Telephone number
- Contact name
- Number of employees at your location
- Description of operations and associated code (SIC code found at <https://www.osha.gov/pls/imis/sicsearch.html>)
- Annual sales and revenue information

- Headquarters name and address (if there is a reporting relationship to a parent corporate entity)

How long does it take to obtain a UEI number?

The UEI number is issued immediately upon completion of the request process.

Are there exemptions to the /UEI number requirement?

There may be exemptions under specific prime contracts, based on an organization's previous fiscal year income when selected for a subcontract award, or Chemonics may agree that registration is impractical in certain situations. Organizations may discuss these options with the Chemonics representative.

What is CCR/SAM?

Central Contractor Registration (CCR)—which collected, validated, stored and disseminated data in support of agency acquisition and award missions—was consolidated with other federal systems into the System for Award Management (SAM). SAM is an official, free, U.S. government-operated website. There is NO charge to register or maintain your entity registration record in SAM.

When should I register in SAM?

While registration in SAM is not required for organizations receiving a grant under contract, subcontract or cooperative agreement from Chemonics, Chemonics requests that partners register in SAM if the organization meets the following criteria requiring executive compensation reporting in accordance with the FFATA regulations referenced above. SAM.gov registration allows an organization to directly report information and manage their organizational data instead of providing it to Chemonics. Reporting on executive compensation for the five highest paid executives is required for a qualifying subaward if in your business or organization's preceding completed fiscal year, your business or organization (the legal entity to which the UEI number belongs):

- (1) received 80 percent or more of its annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; **and**
- (2) \$25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; **and**,
- (3) The public **does not** have access to information about the compensation of the executives in your business or organization (the legal entity to which the UEI number it provided belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the US Internal Revenue Code of 1986.

If your organization meets the criteria to report executive compensation, the following sections of this document outline the benefits of and process for registration in SAM.gov. Registration may be initiated at <https://www.sam.gov>. There is NO fee to register for this site.

Why should I register in SAM?

Chemonics recommends that partners register in SAM to facilitate their management of organizational data and certifications related to any U.S. federal funding, including required executive compensation

reporting. Executive compensation reporting for the five highest paid executives is required in connection with the reporting of a qualifying subaward if:

- a. In your business or organization's preceding completed fiscal year, your business or organization (the legal entity to which the UEI number belongs) received (1) 80 percent or more of its annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; and (2) \$25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements; and,
- b. The public have does not have access to information about the compensation of the executives in your business or organization (the legal entity to which the UEI number it provided belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986.

What benefits do I receive from registering in SAM?

By registering in SAM, you gain the ability to bid on federal government contracts. Your registration does not guarantee your winning a government contract or increasing your level of business. Registration is simply a prerequisite before bidding on a contract. SAM also provides a central storage location for the registrant to supply its information, rather than with each federal agency or prime contractor separately. When information about your business changes, you only need to document the change in one place for every federal government agency to have the most up-to-date information.

How do I register in SAM?

Follow the step-by-step guidance for registering in SAM for assistance awards (under grants/cooperative agreements) at: https://www.sam.gov/sam/transcript/Quick_Guide_for_Grants_Registrations.pdf

Follow the step-by-step guidance for contracts registrations at:
https://www.sam.gov/sam/transcript/Quick_Guide_for_Contract_Registrations.pdf

You must have a UEI number in order to begin either registration process.

If you already have the necessary information on hand (see below), the online registration takes approximately one hour to complete, depending upon the size and complexity of your business or organization.

What data is needed to register in SAM?

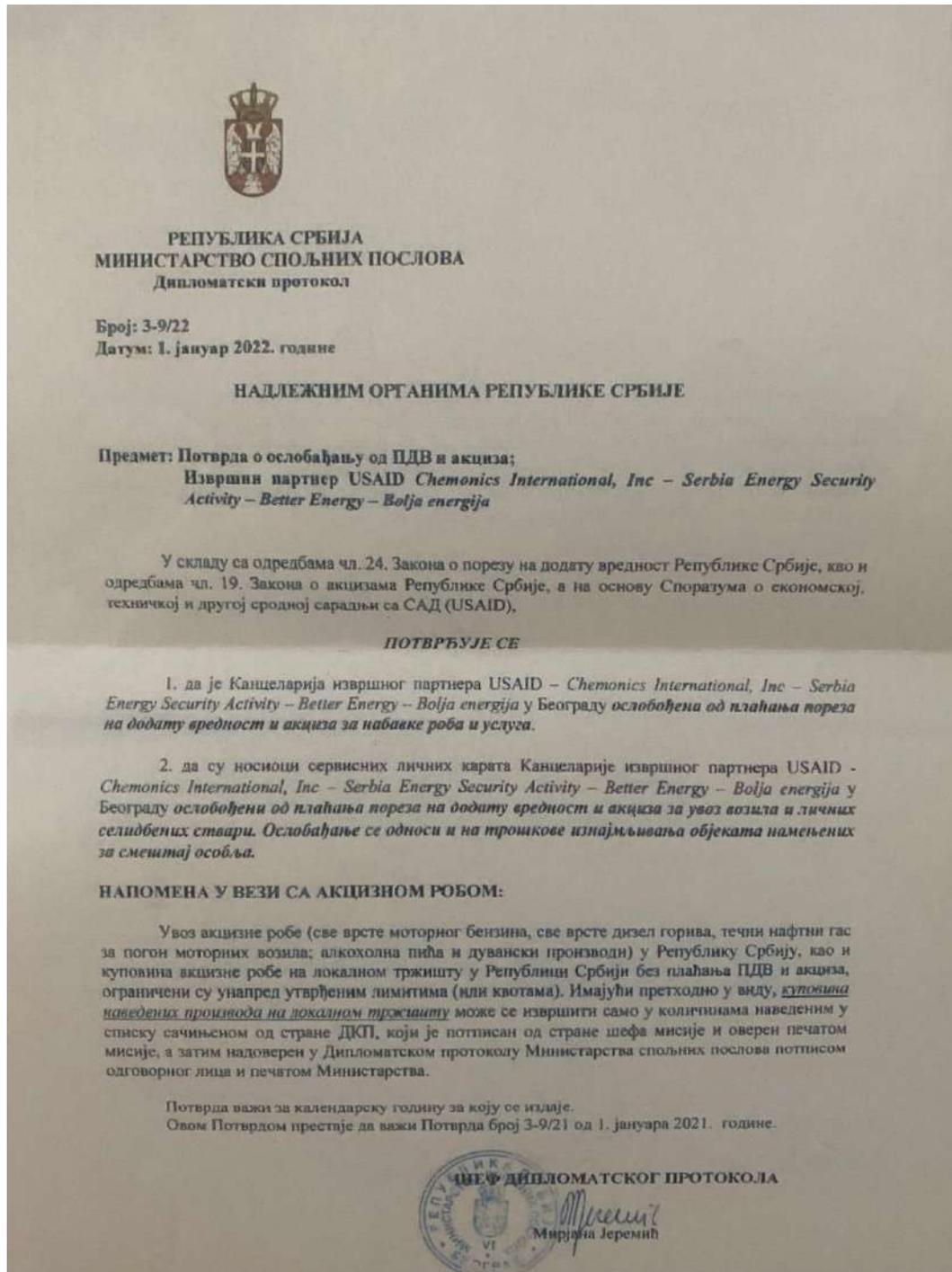
SAM registrants are required to submit detailed information on their company in various categories. Additional, non-mandatory information is also requested. Categories of required and requested information include:

- * General Information - Includes, but is not limited to, UEI number, CAGE Code, company name, Federal Tax Identification Number (TIN), location, receipts, employee numbers, and web site address.
- * Corporate Information - Includes, but is not limited to, organization or business type and SBA-defined socioeconomic characteristics.
- * Goods and Services Information - Includes, but is not limited to, NAICS code, SIC code, Product Service (PSC) code, and Federal Supply Classification (FSC) code.

* Financial Information - Includes, but is not limited to, financial institution, American Banking Association (ABA) routing number, account number, remittance address, lock box number, automated clearing house (ACH) information, and credit card information.

* Point of Contact (POC) Information - Includes, but is not limited to, the primary and alternate points of contact and the electronic business, past performance, and government points of contact. * Electronic Data Interchange (EDI) Information* - Includes, but is not limited to, the EDI point of contact and his or her telephone, e-mail, and physical address. (*Note: EDI Information is optional and may be provided only for businesses interested in conducting transactions through EDI.)

Annex 5





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Washington, D.C. 20006

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chemonics.com

РЕПУБЛИКА СРБИЈА
МИНИСТАРСТВО ФИНАНСИЈА

ПР	28 JAN 2022
Ор	

CENTRALA PORESKE UPRAVE
Save Maškovića 3-5
11000 Beograd, Srbija

Predstavništvo Chemonics International Inc. Beograd
Serbia Energy Security Activity- Better Energy - Bolja energija
Njegoševa 11, Beograd

Poštovani,

Obaveštavamo Vas da u ime Agencije Sjedinjenih Američkih Drzava za međunarodni razvoj (USAID), Predstavništvo Chemonics International Inc. Beograd, sa sedištem u Beogradu, ulica Njegoševa 11, PIB 112646448, Matični br. 29028036 sprovodi projekat „Serbia Energy Security Activity- Better Energy - Bolja energija“.

Na osnovu Diplomatskog protokola Predstavništvo Chemonics International Inc. Beograd je ovlastio sledeća lica za izdavanje SNPDV i PPOPDV obrasca:

1. Daniel Berg, SAD pasoš 505595952,

2. Slobodan Perović, JMBG 2306976762028.

3. Igor Mandić, JMBG 0709973710175,

U prilogu Vam dostavljamo dokument kojim se potvrđuje da je poresko oslobođenje predviđeno međunarodnim ugovorom odnosno Diplomatski protokol br. 3-9/22 od 01. januara 2022., izdatog od strane Ministarstva spoljnih poslova Republike Srbije.

S poštovanjem,

Daniel Berg, direktor projekta

Annex 6

TECHNICAL SPECIFICATIONS OF THE INSTALLED EQUIPMENT WITH THE SCADA SOFTWARE FUNCTIONS SPECIFICATIONS

1. INTRODUCTION:

The procurement refers to the PURCHASE of the SCADA software for the boiler room Nova toplana, which is located at Staparski put bb. The installed capacity of the boiler room is 30 MW, the main energy source is natural gas, with heavy fuel oil as an alternative fuel source. The boiler room was built in 2011 and is currently being managed manually and semi-automatically, without the use of a tracking and monitoring system.

2. SCOPE OF WORKS

Procurement and commissioning of the SCADA system WITH THE AIM TO OPTIMIZE OPERATIONS OF THE BOILER ROOM "Nova toplana". Procurement of the SCADA system implies complete automation and monitoring of the entire boiler facility so that all subsystems (burner, boiler, pressure regulating systems, electromechanical drive of circulating pumps, chemical water treatment, internal substation) work in a synchronized control mode depending on external influences and in accordance with the consumer needs. In addition to the SCADA system, the subject matter of the procurement is the delivery of RO-Automation for temperature control of water that the heating plant sends to the system as well as the control system for the internal substation (described in detail in the document)

Procurement of the SCADA system should include management of functional units within the facility itself: boiler burner block, circulation facility, HPV, pressure maintenance system, electric motor drives and other control subsystems.

All measurements and all monitoring (signaling), protection (alarms) and control functions of the complete facility, which will be available through the TouchScreen on the new RO-A must also be available from the SCADA environment. In this way, the so-called ordinal redundancy.

SCADA system programming must be done in accordance with applicable Technical Regulations and Standards in these areas and must be fully compatible and adaptable with the technical characteristics of existing equipment and PLC software located in automation cabinets that control partially automated subsystems.

BURNER AND BOILER SYSTEM CONTROL

Each boiler has its own burner control system. Within the burner control system it is possible to set working temperature of the boiler, the choice of fuel, burner fan operation speed, etc. Each boiler has its own primary (boiler) circulation pump powered via the frequency regulator and its secondary pump as well, also powered via the frequency regulator. The circulation pumps control system is not fully automated and there is no possibility of central control - that will be the role of the future SCADA system. Each boiler has its own separate regulation valve which can affect the temperature being sent to the consumer. The temperature measuring point according to which control is performed is physically on the same spot for all the three boilers. The manner of regulation valves control has to be paid special attention to and the regulation must be in accordance with the work of the boiler itself.

Each boiler is of 10MW power and works on natural gas, heavy fuel oil being the spare fuel. Technical characteristics of the boilers and the rest of the equipment, as well as the demands put before the project design for the SCADA system are explained in the following text

Characteristics of the boiler facility:

Boiler K1

Manufacturer	VIESSMANN
Type of boiler	VITOMAX 200
Year of manufacturing	2011
Power (MW)	10

Boiler K2

Manufacturer	VIESSMANN
Type of boiler	VITOMAX 200
Year of manufacturing	2011
Power (MW)	10

Boiler K3

Manufacturer	VIESSMANN
Type of boiler	VITOMAX 200
Year of manufacturing	2011
Power (MW)	10

“ Nova toplana“ boiler house consists of three high-pressure hot water boilers of type VITOMAX 200 M238 025 with 10MW per boiler.



Picture 1. Boilers

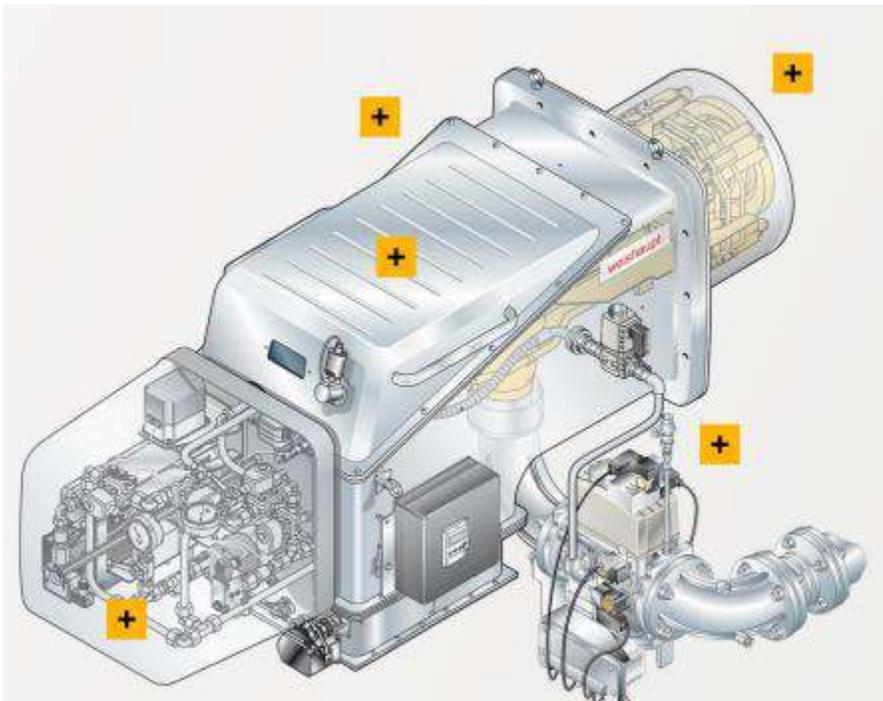
Burners:

Year: 2008		Type of gas: NG L
Qmin: 1400 kW	Qmax: 12000 kW	
Pmin: 100 mbar	Pmax: 4000 mbar	
Fuel oil: S	MS min: 190 kg/h	MSmax: 1068 kg/h

On each boiler there is a combined gas/fuel oil burner WEISHAAPT WKGMS70/2-A



Picture 2. Burner



Picture 3. The principle of fueling the burner

Each burner is fuelled with gas via a gas set on which there is a gas meter (Picture 4) or by fuel oil pumps on which there is no flow (consumption) meter (Picture 5).



Picture 4. Gas ramp with gas consumption meter

The gas meter is ELSTER QA400 100ZI.



Picture 5. *The burner fuelling system with fuel oil and the fuel oil pumps*

The fuel oil pumps (working and spare) use asynchronous electric motors of 5.5kW power. On the fuel oil pumps there are heating cables for tempering fuel oil.

START THE BURNER function must be integrated into the SCADA system.

Each boiler is controlled from and powered by a separate electrical and control cabinet marked as RO-K1, RO-K2, RO-K3.



Picture 6. Electrical and control cabinet

In each RO-Kx ($x=1,2,3$), there is boiler powering equipment and burner control equipment. The control-operation panel for parameter setting on the burner is SIEMENS AZL52.01B1WH, which is connected via bus communication to microprocessor control electronics on the burner.



Picture 7. Operation pannel SIEMENS

The SCADA system must integrate the following parameters related to the burner and boiler operation:

- START – STOP of the burner and boiler,
- MANUAL/AUTOMATIC mode
- Choice of fuel (gas/fuel oil)
- Boiler water working temperature setting
- Status display of all elements of the burner (current power, temperature, current consumption)
- Display of process values of the boiler (water temperature in the boiler, temperature on the burner, return water temperature, initial pressure, return pressure, current delivery of heat energy – there are calorimeters for every boiler)
- Water level display
- Fuel oil pumps status
- Display of all alarming states
- **SCADA needs to have the option of displaying history of each process variable on a timeline**

Automatic mode of the entire boiler house implies:

The set network mode and set facility parameters must be observed. According to currently defined Regulations, the SCADA software needs to take into account the option of changing the set mode.

The temperature of water flow into the network is changeable according to the required diagram of the Power Plant, i. e. according to the outside temperature.

Thermometers measuring outside temperature should control the boiler burner load through PLCs and diagrams of the required starting temperature of water in the network. The SCADA system should perform the monitoring and recording of the process variables trends and have the option of changing parameters through PLC control software. Automation of burning should autonomously control the quality of burning.

Basic temperature mode that will be entered must be in accordance with the Power Plant's requirements.

The SCADA software needs the option of change of the set network mode and /or entering corrections with regards to the parallel offset of the complete base curve in ADMIN mode (positive offset raises the parallel curve for the entered value, while the negative offset decreases it)

U SCADA softveru treba predvideti prikaz sledećih signala: The SCADA software needs to take into account the display of the following signals:

1.For the boiler:

- WORK/CANCEL,
- set load
- current power MW,
- current load,
- degree of efficiency
- ΔT (ulaz / izlaz kotla) (inlet/outlet of boiler)

The boiler power can be calculated according to the flow and the temperatures at the inlet and outlet of the boiler and must be calculated within the SCADA.

If the temperature of the water returning from the network is registered as being minimally by 3°C higher than the temperature of return water as expected according to the diagram, the screen should display a message to the operator to make the correction of the burner load.

Burner fan frequency is regulated by Danfoss VLT frequency regulator.



Picture 8. The frequency converter FC301 P37K

For the burner fan, a frequency regulator DANFOSS VLT is installed:

Elektromotor gorionika je snage 45kW

The van should work in the function of regulation by O₂ parameter (continuous regulation of burning by the content of O₂ in smoke gasses is done by changing the quantity of air and by changing the speed of the electric motor of the fresh air supply fan: this function is performed by the PLC in the automation cabinet). Electric motor of the burner is 45kW.

When it comes to fan parameters, the SCADA system needs to have the following parameters and elements:

The SCADA system needs to be able to display the following fan signals:

- WORK / CANCEL,
- MANUAL / AUTOMATIC modes,
- current frequency (Hz),
- current (A), etc.

The burner needs to have a special SCADA module on the main screen of the SCADA application. This module needs to be programmed in such a way that a special window for the burner opens, containing all the data the SCADA collects and enabling the control of the following parameters of the burner:

- MANUAL / AUTOMATIC control,
- START/STOP,
- increase / decrease of the load in manual mode,
- change of the set mode etc.
- **The SCADA needs to have a complete history of events on a timeline about the state of this system.**

Water control in the boiler system is monitored by means of a separate NRS 1-7 system, which switches off the boiler if the water level in the system becomes too low.



Picture 9. System for monitoring water level in the boiler.

It is necessary to enable the SCADA system to display signals from the boiler water level monitoring systems.

- **The SCADA needs to have a complete history of events on a timeline regarding the state of this system.**

Water supply system in the boiler circle

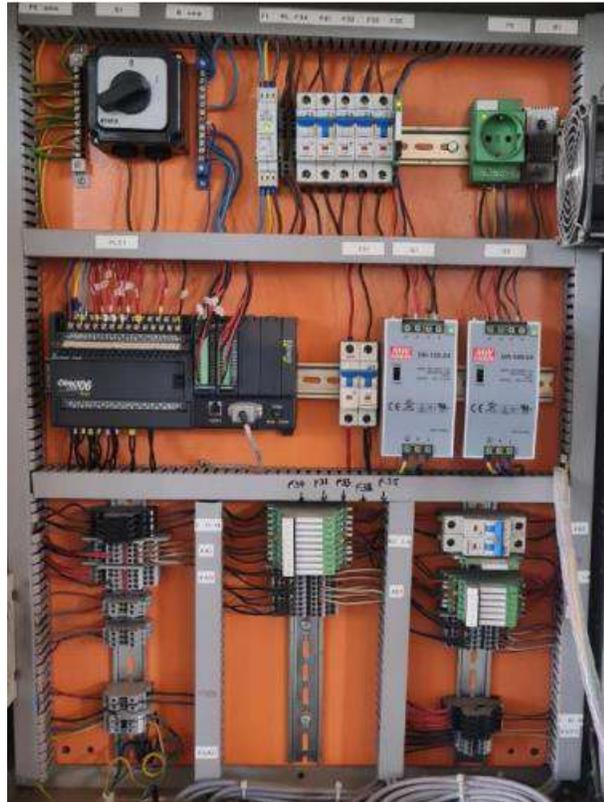
There are three reservoirs – water buffers on the boiler system. The reservoirs are equipped with water level controls ensors, as well as with a pressure regulation system.



Picture 10. Water reservoirs in the boiler circle



Picture 11. Krohne OPTISWITCH 5100C water level sensor



Picture 12. PLC System for water level control in the reservoirs of the boiler circle

Water buffers are equipped with the water level monitoring system and are included in the internal water control system based on the Koyo PLC Direct Logic 60 configuration shown in Picture 12

It is necessary to enable the SCADA software to display a signal from the system above, as well as to control this system.

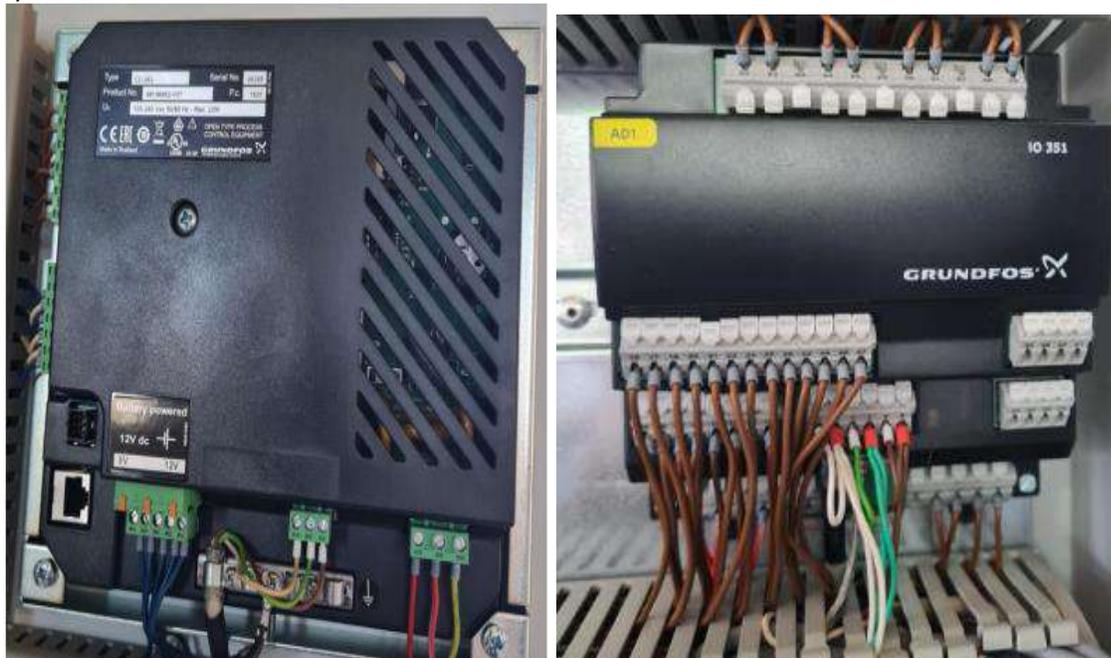
Potrebno je da SCADA ima kompletnu istoriju dešavanja na vremenskom dijagramu o stanju navedenog sistema. The SCADA needs to have a complete history of events on a timeline regarding the state of the above system.

Pressure regulation system of the boiler circle



Picture 13. Pressure regulation system of the boiler circle

The pressure regulation system of the primary boiler circle has a task to keep the pressure at the desired level in the boiler circle. The pressure regulation system consists of two Grundfos circulation pumps $P_{el}=11\text{kW}$ and the pressure regulation system. The pressure regulation system is based on the Grundfos CU352 controller controlling the system.



Picture 14. Pressure regulation system controller

Boiler circulation pumps

Boiler circulation pump facility consists of 3 circulation pumps, one for each boiler.



Picture 15. Boiler circulating pumps (in the overhaul phase)

Electric motor drive with the controller for each pump is placed in a separate cabinet and consists of a Danfoss VLT HVAC drive **frequency regulator** (in a separate cabinet itself) and a Grundfos CU352 controller with the necessary equipment.



Picture 16. RO-P1, RO-P2, RO-P3 Cabinets for the electric motor drive and boiler circulation



Pump controllers

Picture 17. Frequency regulator and boiler circulation pump controller

The SCADA software needs to display the following signals for each pump separately: WORK / CANCEL,

- MANUAL / AUTOMATIC modes,
- current frequency (Hz), pumps have no frequency regulation (leave that option)
- current (A),
- total number of working hours, etc.

By clicking on the circulation pump on the main screen, a separate window for controlling this pump should appear (along with the display of all the data) with the following options: selecting working pump, manual/automatic modes, start/stop, frequency increase/decrease in the manual mode (leave that option).

The SCADA software needs to be able to display the working status of the circulation pumps and the boiler circle and the detection of all alarming states. It also needs to have the option of setting parameters and checking the set parameters on the circulation pumps controller. Frequency regulation of the circulation pump needs to be controlled by the pressure in the system.

Meters of delivered heat energy

On the boiler side there are calorimeters of the delivered quantity of heat energy that are on the outlet of each boiler.



Picture 18. Boiler calorimeters



Picture 19. SIEMENS SITRANS FUE380 i Danfoss INFOCAL-6 calorimeter units

The SCADA software needs to read all the three calorimeters on the boiler outlets. Readings need to be performed every 15 minutes and there has to be a simultaneous graphical representation for each of the three calorimeters.

CIRCULATION PUMP FACILITY on THE NETWORK PART OF THE PLANT

On the network part of the plant there are circulation pumps towards the town and a pressure regulation system towards the town.

Pressure regulation system for the town (consumers)



Picture 20. Pressure regulation system for the town

The pressure regulation system for the town has the task of keeping pressure at the desired level in the network circulating towards the consumer. The pressure regulation system consists of two Grundfoss circulation pumps 2 x Pel=22kW and pressure regulation equipment. The pressure regulation equipment is based on the Grundfoss CU352 controller that controls the system.

The SCADA software needs to be able to display the following signals for each pump separately: WORK / CANCEL,

- MANUAL / AUTOMATIC modes,
- current frequency (Hz), pumps have no frequency regulation (leave the option)
- current (A),
- total number of working hours, etc.

By clicking on the pressure regulation pump on the main screen, a new window should appear, with which the pump is controlled (and where all the data is displayed). The options displayed in the window are: choice of working pump, choice of manual/automatic modes, start/stop, manual increase/decrease of frequency (this should be left as an option).



Picture 21. Pressure regulation system controller



Circulation pumps towards the town (secondary circulation pumps)

There are 3 circulation pumps towards the town in the facility.



Picture 22. Circulation pumps towards the town 3 x 110kW (in the overhaul phase)

Electromechanical drive with the regulation controller for each pump is placed in a separate cabinet and consists of a **frequency regulator** (itself in a separate cabinet and manufactured by Danfoss, type VLT HVAC drive) and a Grundfoss CU352 controller with the necessary equipment.



Picture 23. Frequency regulator of the secondary circulation pump

Secondary (network) circulation pumps are connected with the electronic axis with a separate regulation system, which controls the work of frequency regulators of all the pumps by the pressure in the system.



Picture 24. System for regulating the work of secondary circulation pumps

The upgrade of the SCADA software should contain the following parameters and functions for regulating the work of each pump separately:

- WORK / CANCEL,
- START-STOP
- MANUAL / AUTOMATIC modes,
- current frequency (Hz),
- current (A),
- total number of working hours, etc.

By clicking on the circulation pump on the main screen, a separate window should appear, with which each pump is separately controlled (and where all the data is displayed). The options displayed in the window are: choice of working pump, choice of manual/automatic modes, start/stop, manual increase/decrease of frequency (this should be left as an option).

Frequency regulation of the circulation pump should take into account pressure in the supply pipeline.

SUPPLY WATER TEMPERATURE CONTROL

The existing facility is equipped with a system for controlling supply water temperature. Supply water temperature is measured with three temperature probes (Picture 25). Control signals are generated with outdated FENIKS MR5000 controllers (Picture 26) and control is conducted via regulation valves with electromotor actuators (Picture 27).



Picture 25. Measuring temperature of the suply pipe



Picture 26. Controllers regulating supply water temperature.



Picture 27. Electromotor starters of regulation valves

The SCADA software needs the option of controlling regulation valves both manually and automatically. Automatic control of regulation valves needs to be in accordance with the power plant work regulations. For the sake of quality control it is necessary to plan for the REPLACEMENT OF THE ENTIRE CONTROLLER SYSTEM which must be connected to the SCADA system via ModBUS RTU or ModBUS TCP-IP protocols.

The SCADA system must display the following parameters and enable the following functions (for each valve):

- MANUAL / AUTOMATIC modes,
- current position of valves,
- desired supply temperature
- current supply temperature
- current return temperature
- current power of the system (on the calorimeter on the outlet pipe)
- timeline of process parameters in the interval chosen by the user

By clicking on the temperature control system on the main screen, a separate window should appear, with which this system is to be controlled. The window should have, apart from the above listed data, the option of correcting the curve that temperature needs to observe, as well as the option of manual setting of the desired temperature.

MEASURING THE DELIVERED QUANTITY OF HEAT ENERGY

On the outlet of the system, placed on the supply pipe, there is a calorimeter (Picture 28) with a SITRANS FUE950 unit.



Picture 28. Calorimeter on the power plant outlet:



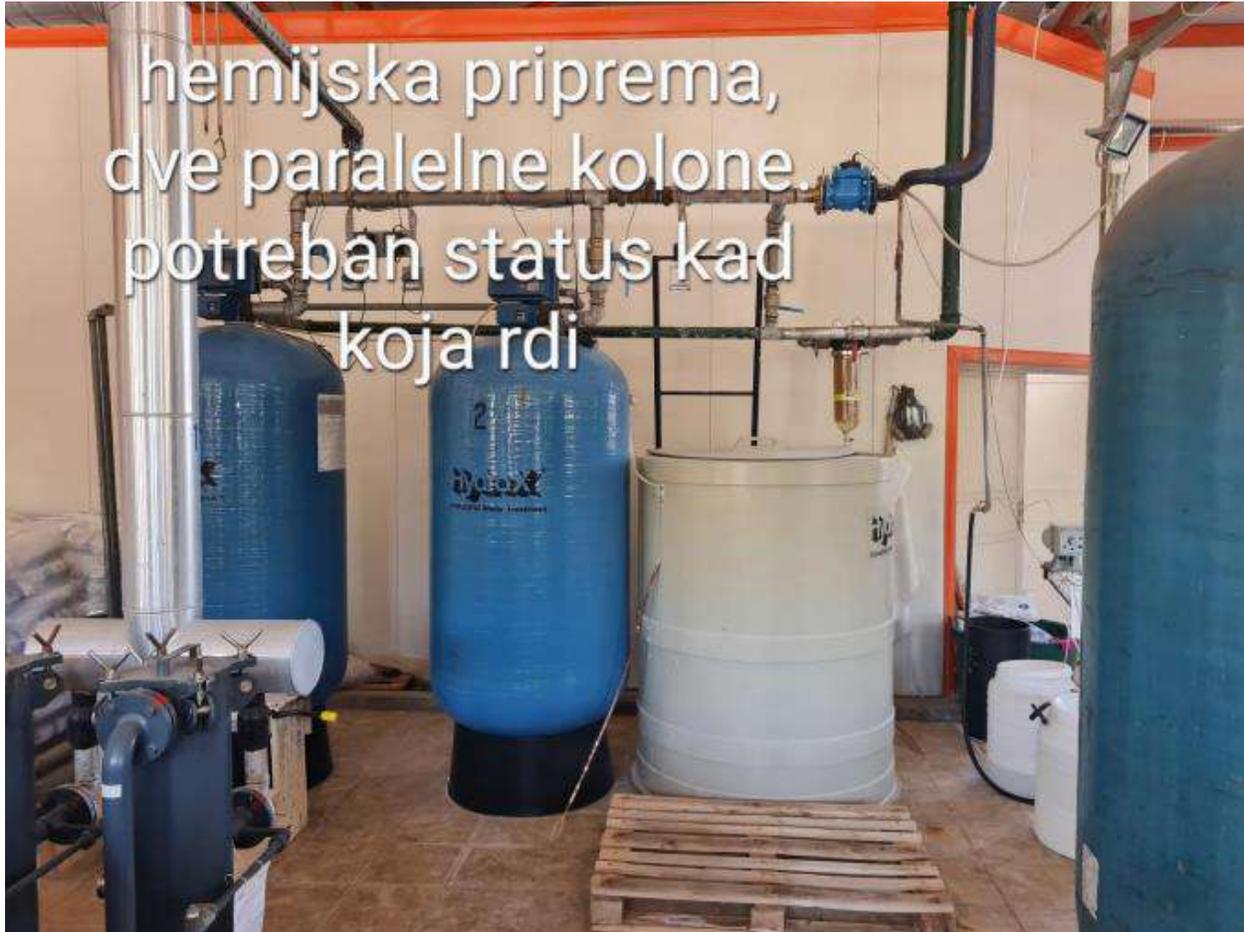
Picture 29. Calorimeter pannelon the outlet of the power plant:

It is necessary that the integration of this calorimeter be predicted in the SCADA software and that the display of readings with a 15-minute resolution be enabled.

CHEMICAL WATER TREATMENT PLANT

2.5.1. Softening

The upgrade of the SCADA system should predict the display of which column is active, as well as the regeneration duration time.



Picture 30. Chemical water treatment plant

In the SCADA system, it is necessary to enable the display of WORK/CANCEL as all these columns and pH values as well.

The controller which controls pH values is: EMEC LDPH OKOOGN 35S00

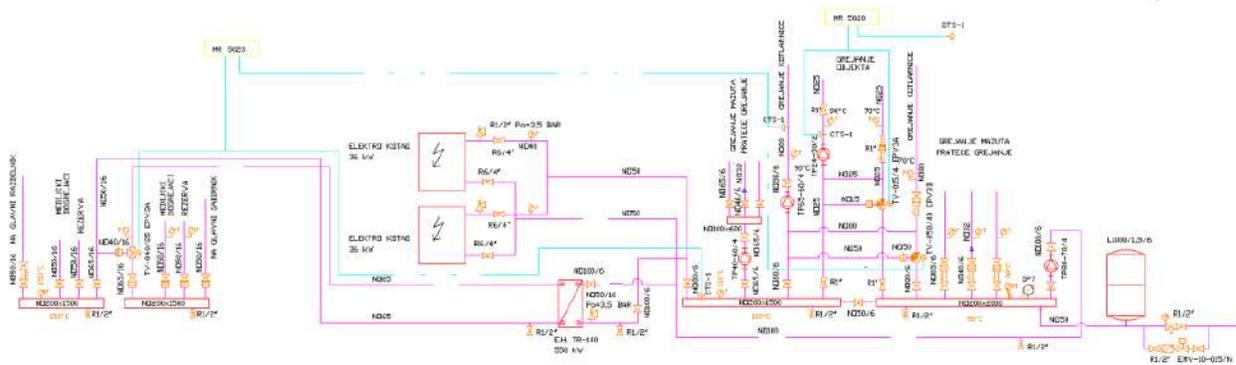
INTERNAL HEAT SUBSTATION

Local heat substation is located in the boiler house itself and serves for heating of the building of the Nova Toplana, as well as for additional heating and tempering of fuel oil. The local (internal) substation is controlled with FENIKS MR5000 controllers. Configuration of the local station is shown in picture 33.



Picture 31. Internal heat substation





Slika 33. Interna toplotna podstanica

U okviru nabavke SCADA sistema potrebno je predvidjeti automatizaciju INTERNE podstanice i OPCIONO ponuditi novi kontrolni sistem koji bi zamenio FENIKS MR5000.

Picture 33. Internal heat substation

Within the SCADA procurement, it is necessary to plan for automation of the INTERNAL substation and OPTIONALLY offer a new control system that would replace FENIKS MR5000.

General requirements that must be met in the delivery of the SCADA system:

Process visualizations must be organized according to technological units and subsystems.

Visualization of specific functional units of the plant:

- boiler-burner block,
- boiler and network circulation pumps,
- sistem za održavanje pritiska, pressure maintenance system,
- valve electromotor drives
- and other control systems.

Alarms and events

Configuration of process alarms according to border (set) values (by analogous measurements – min/max values), digital statuses (on/off status alarms), interruption of communication with the equipment in the field, etc. should be conducted at the level of PLC and accessed only via administrator account, where the change of border values is done.

Completely open configuring of alarm states on the central SCADA application of the heat source as follows:

- according to the states of specific elements of the plant;
- according to border values of specific analogous measurements;
- according to border values of program parameters or work parameters of the plant itself;
- according to border values of derived values (indicators of efficiency), and other alarm states.

The SCADA application needs to enable a graphical animated message about the alarm, generating lists of current alarms, archiving of alarms and generating a history of alarms for the entire plant. Every change of alarm status needs to be archived in a database with the date and time of change.

It is necessary to enable the overview of current alarm statuses and their previous history. Every alarm in the alarm monitoring and control system must enable the control of the alarm status (alarm reset). Alarm status should be allowed only to a SCADA operator with a defined level of authorization.

Trends

Display of predefined trends (graphs) of process values within the plant (temperature, pressure, flow, power, energy, etc.) for specific functional units, for the set time interval or real time trends. The ability to export trends into some standard Office electronic format and printing of the document.

System protection

The operator should access the SCADA graphical environment with a username and password at minimally 3 defined levels of authorization. It is necessary to apply all the standard SCADA principles of protection from unauthorized access.

For each defined visualization of a technical subunit, there should be a set of control functions (commands), which cannot be accessed without a username and password.

The SCADA system must be delivered in such a manner that a client is completely protected from paying for additional software user licenses or operating systems during their operative use of SCADA software.

The SCADA system must have the option of integration with advanced software for predictive control, which take into account all the elements of a DH system (production plant, distribution network, heat substations, thermomechanical characteristics and dynamics of consumers, weather forecast at least 24 hours in advance).

SPECIFICATION OF MEASURED VALUES DISPLAYED ON SCADA

All the installed sensors should be checked for calibration and scaling in order to obtain accurate measured values.

The list (specification) of measured values that should be the subject matter of the project is given in this documentation. If any process value or equipment and process status parameter should be omitted, it is understood that this will be agreed upon in the course of the project and will not be considered to be an extra requirement:

All measured values processed at the level of PLC of boiler automation and the level of PLC of burner automation must be integrated into the SCADA system. i. e. They must have the option to be displayed as numerical values, as dynamic diagrams with horizontal axis timelines.

All measured values processed at the level of PLC must be entered in a database and permanently kept for at least 3 heating seasons.

THE CONCEPTUAL DESIGN

OF DHS SOMBOR SUBSTATIONS AUTOMATION

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-Belgrade, Jun 2022

Contents:

1. Terms of Reference
2. Technical description

- 2.1. Technical description of control system at the level of substation
- 2.2. Technical description of SCADA system
- 2.3. Technical description of communication between substations and central SCADA system

1. Terms of reference:

After the added research conducted in project of the USAID Serbia Better Energy (BE) project, which included the analysis of the entire district heating system of and provided efficiency indicators of all elements of the DHS, and also at the proposal of the JKP Energana Sombor management, it has been concluded that it is necessary to conduct automation-optimization of 136 substations that supply residential apartment buildings, the largest consumers, with heat energy. During this phase of the project to 10/15/2022, it was estimated that it is possible to automate 1 external and two internal substations out of a total of 136

Automation and control of substations needs to be conducted in order to overcome the lack of optimal heat delivery to consumers, which is currently impossible due to the fact that substations are inadequately equipped. The delivery of heat to consumers needs to be adjusted to the consumers' needs according to the energy available in the system and the outdoor temperature in real time. The substations in 15 buildings included in the project, do not have the equipment necessary for the optimal delivery of heat, which results in discrepancy between the actual needs of consumers and the amount of energy delivered by the substations. This is uneconomical, especially during transitional seasons - consumers receive more energy than they need and fuel consumption increases. Apart from the increase in costs, the fuel consumption leads to the increased emission of by-products of burning into the atmosphere.

A detailed analysis of each of the 15 substations has shown that each substation is equipped with necessary mechanical and electrical energetic elements (heat exchanger, circulation pumps, valves, calorimeter without communication modul) and lacks equipment for measurement and main controller with communication equipment for the communication with the command center.

The terms of reference includes:

- 1. Conceptual design for type substation project (all substations that are the subject of the project are similar and the same bill of quantities and conceptual design applies)*
- 2. Conceptual design of a SCADA system*
- 3. Conceptual design of a communication system for remote control of all substations with the list of technical elements necessary for each of the above mentioned points.*

2. Technical description

2.1. Technical description of the control system at the level of substation

In the 15 substations, each of which has its own specific construction, it is necessary to design a control system so as to achieve remote monitoring and remote control of the substation. In the concept design, for the purpose of understanding the concept, only a type model of a substation will be shown, along with the description of all elements necessary for full automation. All substations require similar equipment, the difference existing only in the number of certain elements and their sizes. At the level of the main project, every single substation will be analysed.

Figure 1 shows a scheme of the existing type substation. The subject of the procurement is the equipment and engineering needed for the complete automation of the heat substation

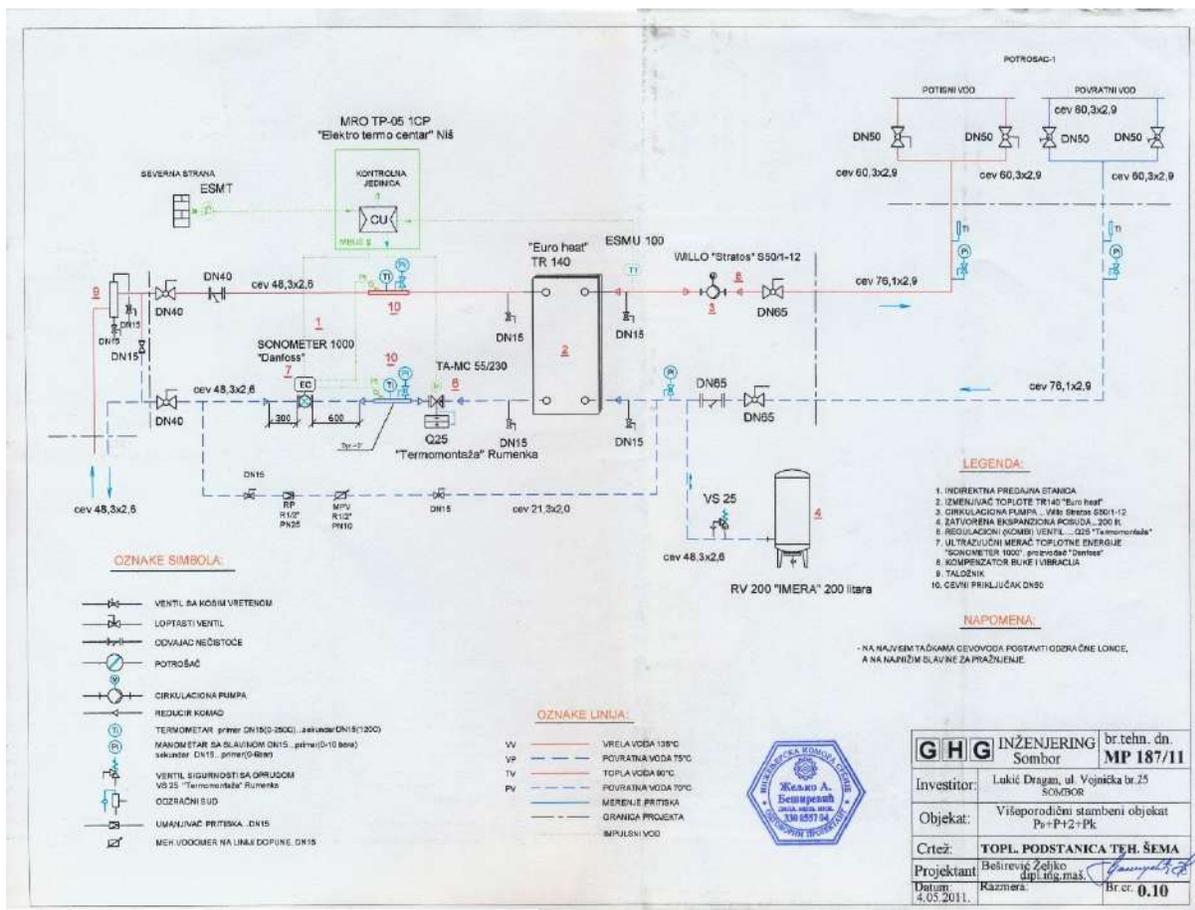


Figure 1. Existing type substation

The equipment for automatic control in real time in accordance with required parameters and outdoor temperature as well as the equipment for remote control consists of the following:

- *DDC controller*
- *Outdoor temperature sensor*
- *Pipe temperature sensors*
- *Communication modem for callorimeter*
- *Communication modem with antenna*

The above elements are mounted in the substation automation switch cabinet (RO-TP) which is the subject of the procurement and whose detailed specification will be given in this document. This cabinet also must have clutch and protection equipment which power the pumps, motor valve actuators and other electricity consumers in the substation.

The DDC controller must have installed software for optimal local control of the substation and communication software for the communication with the central control server (SCADA server).

The substation control is conducted by means of an algorithm that enables the substation to deliver an optimal amount of heat in accordance with real outdoor conditions, while substation control can also be conducted by force via the SCADA system. In regular operation, the substation should be controlled by the algorithm installed in the local DDC controller and receive via the SCADA system only key settings and information about the distribution network condition. The substation sends periodically (every five minutes) its status information to the central system, and in the event of an alarm, the substation instantly informs the central server about the alarm.

*The goal of the substation automation and the central monitoring and control system is the increase in energy efficiency, a decrease in direct energy loss caused by human factor in managing the **distribution** of heat, better reliability and availability of the plant, implementation of planned and predictive maintenance, monitoring of the plant energy efficiency and availability of the technical-financial analysis of its work.*

Electronic controller must contain:

- *input voltage of 230 VAC or 24VDC;*
- *transistor output for independent control with minimally 3 electric drives;*
- *minimally 3 independent outputs for relay control of groups of circulation pumps;*
- *possibility of connecting minimum 4 analog signals (4-20mA or 0-10V) for measuring the pressure in the substation;*
- *communication M-bus / ModBUS interface for receiving data (measurements) from existing heat meters;*
- *real time clock and backup power;*

- *integrated standard industrial Ethernet communication interfaces for direct connection of the appropriate communication (Ethernet) modem (two-way data transmission) according to the existing center of the system for monitoring and management of heat substations;*
- *Integrated standard serial communication interface (1xRS232 + 1x RS485 or 2xRS232);*
- *linking the controller as a Web Server with a graphical representation of the heat substation directly through the standard Internet browser and independently from the SCADA application; WebServer can be integrated in the controller or as an additional module (included in the delivery). WebServer must be able to program from the appropriate software tool. The software tool is delivered to the Ordering party with WebServer with all necessary licenses (if necessary 10min) without limitations (time and / or number of points, etc.), with the necessary operating instructions. The Supplier is obliged to organize training for the Ordering party (all covered by the offer);*
- *degree of mechanical protection minimum IP21 (mounted in the distribution block cabinet);*
- *allowed ambience temperature 0-50 ° C;*
- *the ability to define the user access level (regular user, administrator) protected by the user name and password.*

The electronic controller must fulfill the following functional requirements:

- *3-point PI (D) control for minimum 3 independent control circuits.*
- *time-programmable, with daily, weekly and annual (holiday) program;*
- *a weekly time diagram with a possibility of a minimum of 3 independent intervals with unreduced operating mode during the day and a minimum time resolution of 30 minutes;*
- *operation mode selection: manual, automatic, continuous daily, constantly reduced and off;*
- *setting the heating curve by inclination, depending on the outside air temperature through a minimum of 4 points;*
- *parallel movement of the curve;*
- *independent adjustment of the PI (D) parameters for each control circuit: neutral zone, opening time of the valve (5-250s);*
- *function of temperature limitation in the starting pipe;*
- *function of temperature limitation in the return pipe, depending on the external temperature for the heating circuit;*
- *the protection of the circulation pump by periodic startup in the period when the pump is not working;*
- *protection of the electric drive by periodic startup in the period when the drive is not working;*
- *switching the substation on and off depending on the outside air temperature;*

- *compensation of the measurement of the external temperature sensor depending on the length (impedance) of the connecting cable;*
- *the functionality of remote reading and writing of the configuration databases;*
- *the ability to log measured values of temperatures and pressures in permanent memory, with a maximum sampling period of 15min;*
- *alarms for all measured analogue values (min and max values);*
- *ability to send the alarm to the mail server of the Ordering party;*
- *when voltage is lost or communications interrupted, after their re-establishment, the electronic controller must restart communication without interruption.*

2.2. Technical description of the SCADA system

SCADA software with a database is installed on the central command server (same SCADA infrastruactu as SCADA for heat sources which is description in first part document)

The SCADA software to be designed in accordance with the real model of the process.

The MODEL that must be the sole basis for SCADA design describes the real process and contains all parameters necessary for the functioning of the real system.

The VIEW component allows SCADA software a visual-sineoptic compatibility with the real situation.

The CONTROL component enables the SCADA system to meet the needs of business intelligence, which requires an optimal control of substations and their communication with the central control system.

The SCADA sotware is installed on the PC in the command center and communicates with all substations via communication equipment. The data obtained from substations are kept in the database, which is copied regularly and kept in accordance with data storage rules and regulations.

SCADA is WEB-oriented software that communicates with substations via safe SSH protocols and also allows authorized clients to remotely access the central server and each subststation.

It is highly recommended that SCADA software be installed on LINUX operating system. The reasons for the choice of LINUX as operating system are as follows:

- *Efficiency and superiority of LINUX operating system over all others when it comes to REAL TIME applications*
- *Security of LINUX operating system when it comes to communication protocols and WEB communication*
- *Reliability of LINUX operating system in REAL TIME applications*
- *Software purchase costs are minimal*

As an integral part of the SCADA system interface, there must be GIS map of all thermal substations.

By means of SCADA software it is possible to access each substation and read or adjust its parameters. Also, on each substation, it is possible to monitor the temperature graphs, operating modes, the cumulative amount of delivered heat, the current heat supplied, etc.

Description of SCADA system functions and visualizations:

1. Visual representation of each heat substation with GIS coordinates
2. Visual presentation of the technological scheme of each heat substation with all operating parameters, alarms, events and process trends
3. The parameters of the heat substation are:
 - 3.1 temperature of the incoming water of the primary,
 - 3.2. temperature of the return water of the primary,
 - 3.3. temperature of the leaving water of the secondary,
 - 3.4. temperature of the return water of the secondary,
 - 3.5 consumption of heat energy,
 - 3.6. operating status of circulating pumps (WORK, STOP, ALARM),
 - 3.7. status of motor protection switches and fuses.
 - 3.8. operating status of control valve
4. In the SCADA software must be able to manually adjust the desired operating temperature of the heat substation

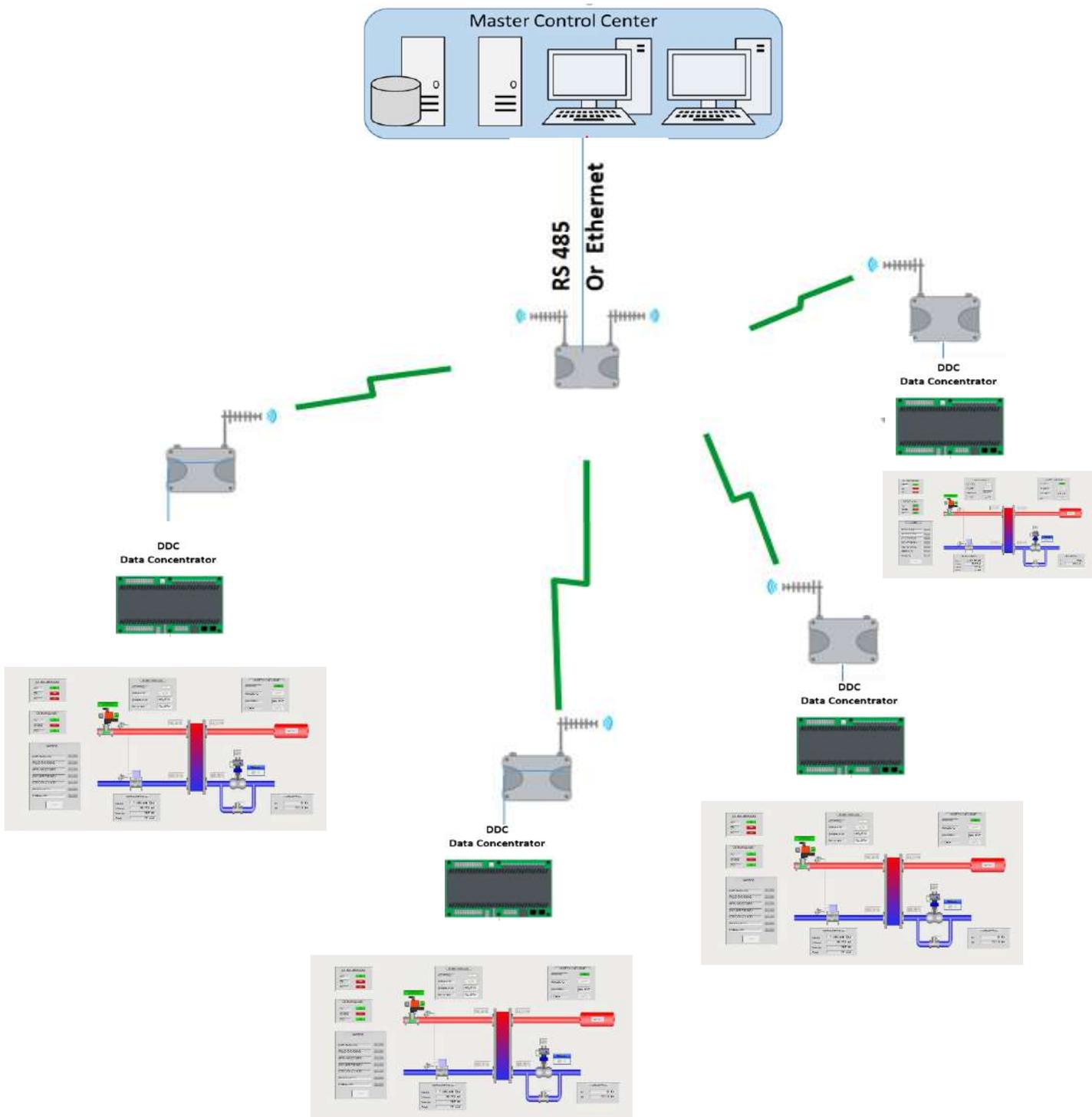


Figure 3. Model of functioning and organization of SCADA system communication

2.3. Technical description of the thermal substation communication system and the central SCADA system

Communication of the SCADA system with automated heat substations takes place through radio communication by means of the GPRS protocol. For the purpose of the GPRS communication each heat substation must be equipped with a communication router. This kind of communication requires that each modem has its own GSM card with Internet access.

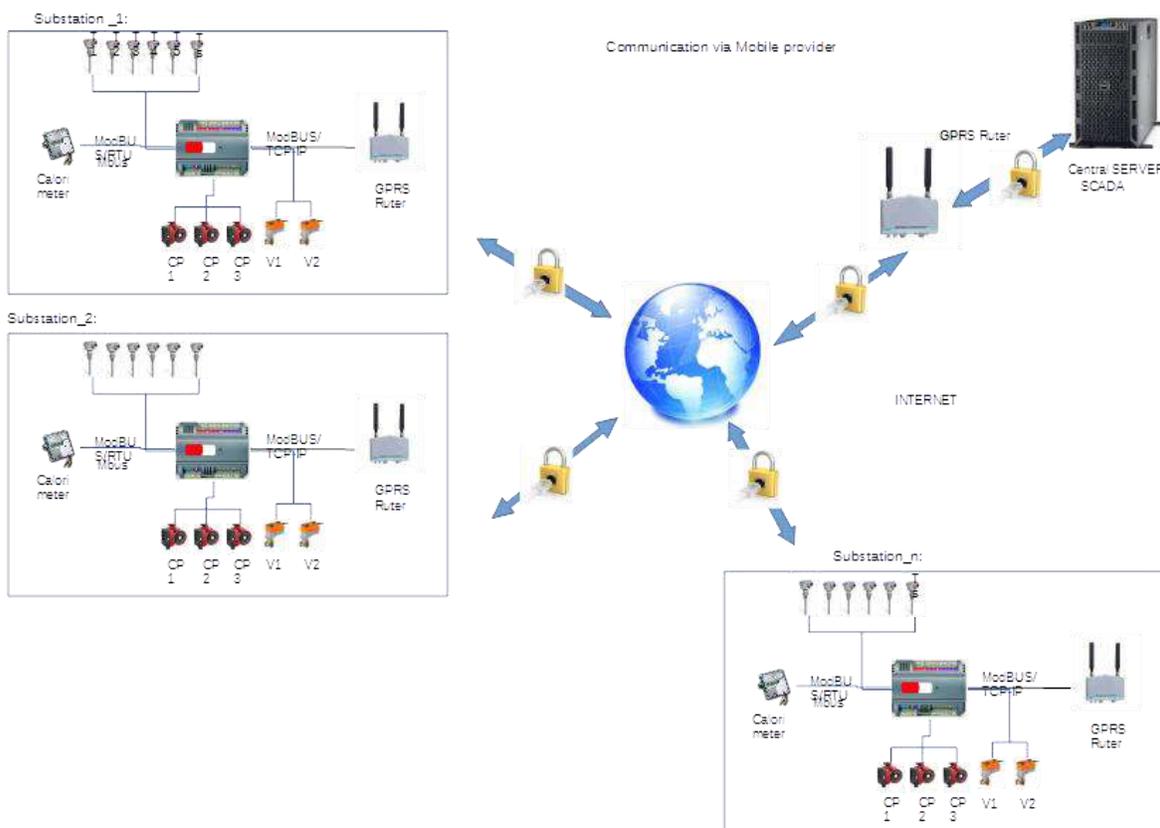


Figure 4. Model of functioning and organization of communication through GPRS modem

Apart from the above mentioned model of communication, alternative modes of communication via the plant's own infrastructure using IoT communication standards (LoRa, NB-IoT) have been analysed during the project development. For the purpose of this kind of communication a special communication infrastructure needs to be developed, as shown in Figure 5.

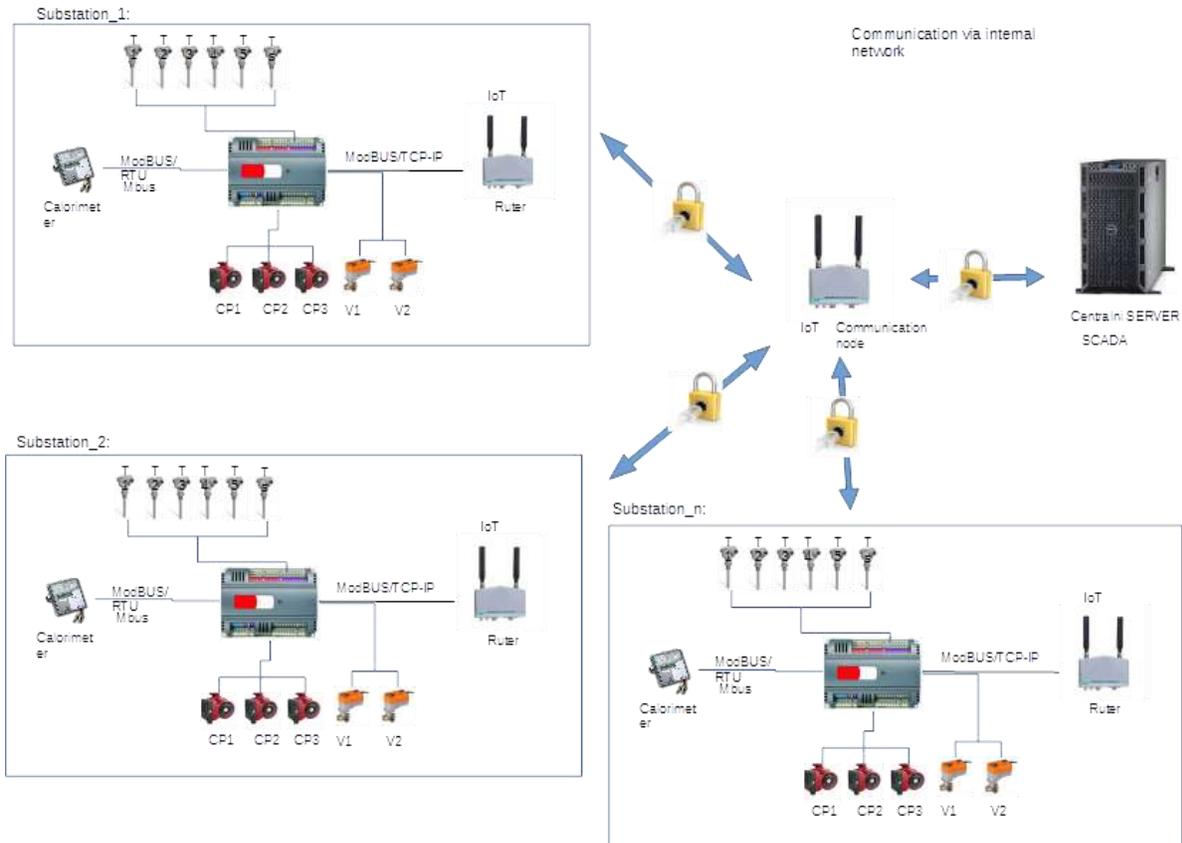


Figure 5. Model of functioning and organization of communication via IoT network

As the third option in communication of the command center with the substations, we have considered the infrastructure of cable television operators installed on the buildings, as shown in Figure 6.

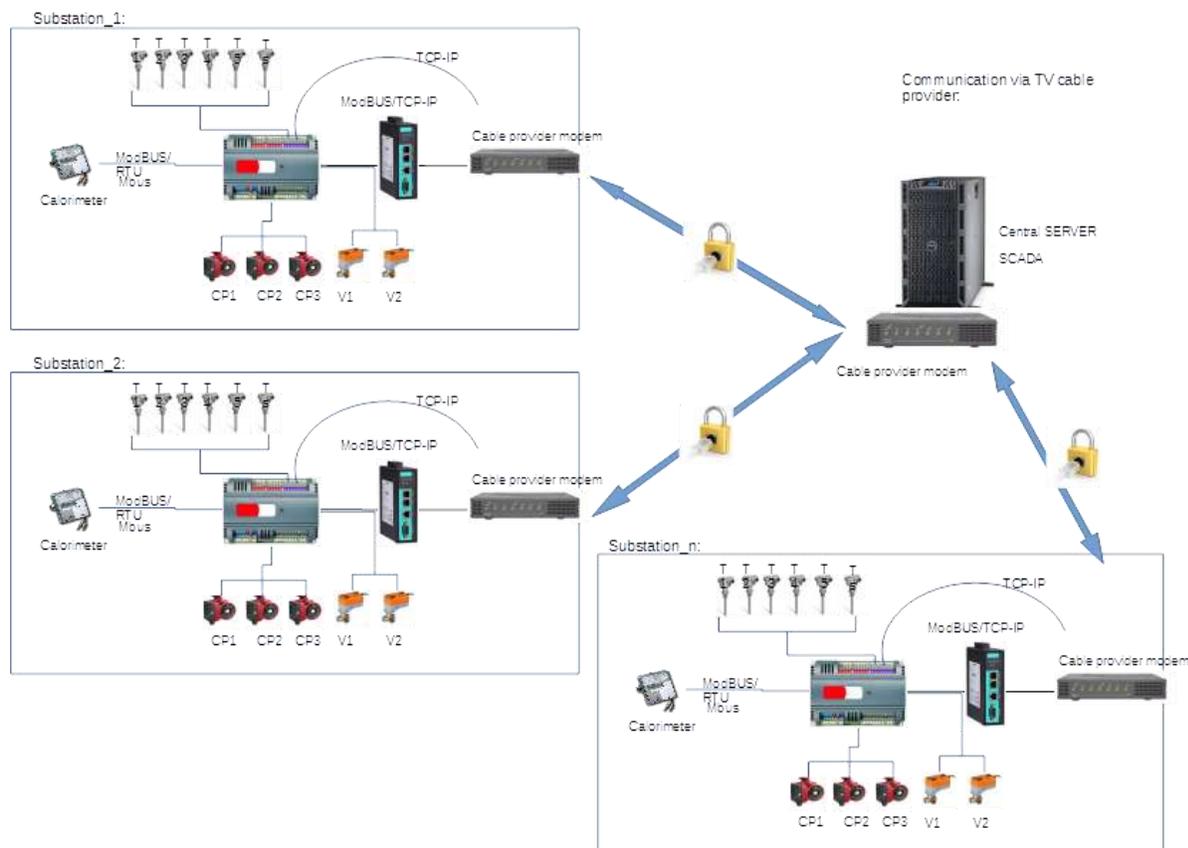


Figure 6. Model of functioning and organization of communication via cable television operator network

Each of the three above mentioned modes of communication has its own advantages and disadvantages. Communication via IoT network requires initial investments in the network infrastructure, after which there are no exploitation costs.

Communication via cable television operators requires purchasing additional equipment, i.e. a converter connecting the DDC controller with the communication modem and purchasing of communication modems. There are exploitation costs for this kind of communication in the form of a monthly fee paid to the cable television operator.

Communication via the GPRS modem requires purchasing the GPRS modem (router) and a monthly fee paid to a mobile GSM network operator. Experientially, the best way of communication is through the GSM network or through the cable television operator if there is a cable network in the facilities

Total equipment specification

1	2	3
Item	Description	Quantity
1	Electric cabinet (800mm x 600mm x 200mm) with complete equipment for process control of the heat substation (Include equipment for automation and energy)	10
2	Thermosensor of the outside temperature	15
3	Submersible thermosensor - Pt 1000 (100 mm); copper	45
4	Double thermostat - working 30-120°C, protective: 100-120°C	30
5	Communication modul for Calorimeter	15
6	Electric mounting material with cables and cable mounting equipment	
7	Mechanical mounting material	
8	Comissioning	
12		

Total equipment specification

Specification for each electrical control box.

Description	Pieces	Note
Aut. fuse 1p C6A	3	
Aut. fuse 1p C10A	2	
Aut. fuse 1p C16A	1	
Aut. fuse 1p B6A	2	
Aut. fuse 1p B10A	1	
Aut. fuse 3p C16A	1	
Aut. fuse 3p C10A	1	
Main switch 0-1 3p 25A	1	
Switch 1-0-2 1p 10A	3	depending on the number of pumps
Contactora 9A	3	depending on the number of pumps

Auxiliary contacts for contactor	3	depending on the number of pumps
Motor protective switch for circ.pump	3	depending on the number of pumps
Auxiliary contacts for motor protective switch	3	depending on the number of pumps
Monoph. connector	1	
Threeph. connector	1	
Monof. konektor on the rail	2	
Signal lamp	6	depending on the number of pumps
Adapter 230VAC/24VDC	1	
Neon lamp in cabinet 8W	1	
Rele 1p 230VAC	2	
Mount for rele 1p 230VAC	2	
Rele 4p 230VAC	1	
Mount for rele 4p 230VAC	1	
Switch	1	
Electronic controller	1	