

# Environmental Monitoring Report

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2021 1<sup>st</sup> Semestral Report  
July 2021

## Armenia: Power Transmission Rehabilitation Project

Prepared by the Closed Joint Stock Company Electro Power Systems Operator (EPSO) for the Republic of Armenia and the Asian Development Bank (ADB).

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## Abbreviations

ADB	Asian Development Bank
ADSS	All Dielectric Self Supporting
AP	Affected People
BU DC	Back UP Dispatch Center
CC	Construction Contractor
CJSC	Closed Joint Stock Company
DIN	DeutschesInstitutfür Normung (German Institute for Normative)
EHS	Environmental, Health & Safety
EHSS	Environmental, Health & Safety Specialist
EHSMS	Environment, Health and Safety Management System
EIA	Environmental Impact Assessment
EMF	Electric and Magnetic Fields
EMP	Environmental Management Plan
EMR	Environmental Monitoring Report
EMS	Electro-Mechanical Systems
EPSO	Electro Power System Operator
FOC	Fiber Optic Cables
HPP	Hydro Power Plant
HSMS	Health and Safety Management System
HVEN	High Voltage Electric Networks
IA	Implementation Agency
IEC	International Electrotechnical Commission
IEE	Initial Environmental Examination
IFI	International Financial Institutions
kV	kilovolt
LLC	Limited Liability Company
LOTO	Lock-out Tag-out
LTI	Lost Time Incident
MEHSMR	Monthly Environmental, Health & Safety Monitoring Report
MSDS	Material Safety Data Sheet

NCN	Non-Conformance Notices
NCL	Non-Conformance Level
NGO	Non-Governmental Organization
NPP	Nuclear Power Plant
OHL	Overhead Transmission Line
OLTE	Optic Line Terminal Equipment
OPAC	Optical Attached Cable
OPGW	Optical Ground Wire
PIA	Project Implementation Agency
PIC	Project Implementation Consultant
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
RA	Republic of Armenia (Armenia)
R/C	Reinforced Cement/Concrete
RoW	Right of Way
SAEMR	Semi-Annual Environmental Monitoring Report
SCADA	Supervisory Control and Data Acquisition
SEMP	Site Specific Environmental, Social and Health & Safety Management Plan
SNCO	State Non-Commercial Organization
TE	Telecommunication Equipment
TNMS	Telecommunication Network Management System
ToR	Terms of References
TSM	Technical Coordination Meeting
USEPA	United States Environmental Protection Agency,
VO	Variation Order
WHO	World Health Organization

## **1 INTRODUCTION**

### **1.1 Preamble**

The present Environmental Monitoring Report (EMR) summarizes the Environmental, Health & Safety status of project supervision 6 months, for the period of January - June 2021 by EPSO CJSC.

The report contains the following sections:

Part I. Introduction

Part II. Project description and current activities

Part III. Environmental Safeguard activities

Part IV. Results of environmental monitoring

Part V. Functioning of the Site-Specific Environmental Management Plan (SEMP)

Part VI. Good practice and opportunity for improvement

Part VII. Summary and recommendations, and

Annexes Example of Monthly EHS Monthly Report submitted by Contractor

The main accomplishments of assignment for the January - June 2021 period were:

Review of Contractor's Monthly EHS Monitoring and Monthly Progress Reports (MER and MPP, *see example in annex 1*) and Semi- annual Environmental Monitoring Report (SAEMR) for the July- December 2020 was carried out by Consultant Environmental Expert

Monthly monitoring of SEMP implementation throughout the site visits, site inspections by Consultant Environmental Expert and Construction Contractor Environmental, Health and Safety Specialists.

Regular meetings (monthly Environmental, Health & Safety/EHS Meetings) organized by Consultant Environmental Expert with Client and Contractor staff.

### **1.2 Headline Information**

Under the Extension and Upgrade of the SCADA/EMS Sub-Project within the framework of "Power Transmission Rehabilitation Project" Construction Contractor started carried out construction activities from April 2021, due to the weather conditions and electrical supply switch-over permits delays by Armenian HV Electrical Network. The following construction activities were implemented during the reporting period:

- Start of construction works on OPGW “Erebuni 220kV” transmission line (from Yerevan (Erebuni district) to the Ararat 2 substation (Ararat Marz) with around 45 km length
- Construction works on OPGW Nairi 220 kV transmission line (Yerevan, Erebuni, Shengavit and Malatia -Sebastia districts and Armavir Marz) from Thermal power station to Haghtanak substation, with around 25km length

Start of OPGW Nairit 1,2 110 kV and Tatev 1,2 110kV transmission line construction works is planned to start in July and August respectively. Start of Meghri 2 220 kV transmission line construction works is planned to start in September 2021.

*Details of works, carried out during reporting period, are presented in Chapter 2.3.*

## **2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES**

### **2.1 Project Description**

The Project area covers 4 regions (Syunik, Yerevan, Ararat, and Armavir) of the Republic of Armenia.

This Project present the extension complement the Supervisory Control and Data Acquisition (SCADA) system in Armenia's national grid by ADB funding and comprise rehabilitation of the SCADA system, as well as the replacement of the existing ground wire by an Optical Ground Wire for Tatev 1, 2 110kV, Nairit 1, 2 110kV, Nairi 220kV and Erebuni 220kV transmission lines. This part of the project include:

- around 82 km length (extension of the project) along Tatev 1,2 110kV, Nairit 1,2 110 kV, Nairi 220 kV and Erebuni 220 kV OHLs the existing ground wire replacement by an Optical Ground Wire (OPGW)
- ADSS (All Dielectric Self Supporting), - at an around 2 km ADSS optical fiber cable will be installed,

According to the Initial Environmental Assessment (IEE) the Project was considered to be a Category B project and not requiring an Environmental Impact Assessment (EIA).

The replacement of the existing earth wire by OPGW will be done in a way that access with small trucks will be necessary only to angle towers (max. ca. 10 suspension towers in between). All other towers in between will be approachable only by footpath. The re-stringing works will not interfere with objects or terrain between the section towers.

In order to strengthen and to maintain a reliable power supply in Armenia, there is no alternative to the proposed rehabilitation measures.

In general, the main rehabilitation measures in the frame of Project activities will cover replacement and extension of electrical equipment, OPGW and OPAC.

### **2.2 Project Contracts and Management**

No changes in Project Contracts and Management. SEMP implementation throughout the site visits, site inspection and regular meetings (monthly Environmental, Health & Safety/EHS Meetings) organized by Consultant with Client and Contractor staff.

The following Organizations are involved in this Project implementation as follows:

1. *Lender - Asian Development Bank (ADB)*
2. *Borrower - High Voltage Electric Networks (HVEN) and Electro Power System Operator (EPSO) CJSCs*
3. *Consultant - Project Implementation Consultant (PIC): Tractebel Engineering GmbH, CESI S.P.A. and AMERIA Consultant Joint Venture (Lahmeyer International GmbH/CESI S.P.A. /Ameria CJSC Consortium)*
4. *PIU - EPSO Program Implementation Unit*
5. *Contractor - Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium*

EPSO as responsible IA for the two parts of the project recruited a Project Implementation Consultant. The national and international team assist EPSO as project supervision consultant on the rehabilitation Project. The Consultant also provides capacity building training to EPSO staff for project management, EHS supervision, operation and maintenance for the Project. Consultant assignment also includes the update of the environmental management and monitoring plans (EMPs) and detail environmental mitigation measures if changes in the design or additional works occur.

Within this Project tree separate Specific Environmental Management Plans (SEMPs) have been developed by Contractor and reviewed by Consultant: one for the "replacement of around 230 km length along 220 and 110 kV OHL the existing ground wire by an OPGW (Gyumri , Sipan, Meghri-2 and Sevan OPGWs), second for the construction of BU DC and third for additional OPGW at Tatev 110kV, Nairit 110 kV, Nairi 220 kV, Erebuni 220 kV OHLs installation program . The SEMPs contain mitigation and monitoring measures for the construction and for the operational phases. The Contractor is an entity responsible for the implementation of the SEMPs. Contractor's Environmental, Health and Safety Specialist (EHSS) is responsible for developing, implementing and monitoring the SEMP procedures. Contractor staff is responsible for managing the SEMP.

Contractor as part of SEMP Implementation is responsible for preparing monthly EHS/Safeguard Monitoring Reports including the progress of the implementation of the Environmental Management Plan (EMP). These reports are submitted to EPSO and PIC for review and

recommendations. Final versions of these reports shall be distributed to all involved departments. The reports shall contain all discrepancies from the EMP and list all EHS relevant incidents and accidents, registered grievances and grievance redress report (if any) that occur during the implementation of the project.

Based on these reports and on own construction site inspections/audits the Consultant (PIC) together with EPSO prepare semi-annual environmental monitoring reports (SAEMR) and submit them to ADB.

The environmental costs for upgrading of the SCADA system will add up to about 99,000 USD. BU DC construction and additional OPGW at Tatev 110kV, Nairit 110 kV, Nairi 220 kV, Erebuni 220 kV OHLs installation program Contracts was included in the upgraded Project under loan Number 46416-002: Power Transmission Rehabilitation Project (46416-001) as Variation Order (VO) and didn't raised/exceed loan amount.

The following personnel are involved to conduct EHS management/supervision and Monitoring requirements of the Project:

1. **Lender/ADB**–Mss. Armine Yedigaryan, Environmental specialist in Central and West Asia; Asian Development Bank: [ayedigaryan@adb.org](mailto:ayedigaryan@adb.org), Mr. Tigran Oganezov, National environmental consultant in ADB Armenian Resident Mission : [otigran.consultant@adb.org](mailto:otigran.consultant@adb.org) [Telephone: 010-54-63-70/71/72/73 ext. 103];
2. **Borrower/EPSCO CJSC**–Mr. Mnatsakan Mnatsakanyan, General Director EPSCO CJSC, Project Manager; Address: 27, Abovyan Str., 0009 Yerevan, Republic of Armenia[ Telephone: +37410 52 47 25; e- mail: [office@energyoperator.am](mailto:office@energyoperator.am)
3. **PIU - EPSCO Program Implementation Unit**–Mr. Eduard Fatyan, Project EHS Responsible; Address: 27, Abovyan Str., 0009 Yerevan, Republic of Armenia; Telephone: +37498 70 98 77; e-mail: [eduardfatyan@yandex.com](mailto:eduardfatyan@yandex.com)
4. **Consultant (PIC)/ Tractebel Engineering GmbH, CESI S.P.A. and AMERIA Consultant Joint Venture**–Mr. Armen Bodoyan, EHS expert; Address: 54/3 Arshakuniats avenue, apt. 17, Yerevan-0061; Telephone: +37495 45 04 45, e-mail: [armbod@yahoo.fr](mailto:armbod@yahoo.fr)
5. **Contractor/ Redinet/Siemens Consortium** - Arman Khachatryan, EHS Specialist; Address: 24/7–24/8 Azatutyan Ave., Yerevan 0014, Armenia; Telephone: +374 96 23 48 66; e-mail: [armcreed77@gmail.com](mailto:armcreed77@gmail.com)

### 2.3 Project Activities During Current Reporting Period

Monthly distribution of construction activities in active working location for July- December 2020 period under the Extension and Upgrade of the SCADA/EMS Sub-Project within the framework of “Power Transmission Rehabilitation Project” January – June 2021: are presented in Table 1 below:

No construction works started at Meghri 220kV transmission line, construction works is planned to start in September 2021

Contractor starts preparation, uprolling and fixing works for installation of “Erebuni 220kV” and “Nairi 220kV” transmission lines OPGW, as well as finished the installation of OPGW in some parts.

**Table 1:** *Type of construction works implemented during the reporting period*

Type of works	Section	Status of works
<b>Erebuni 220kV OPGW</b>		
OPGW preparation and installation	Towers N 9-23 ~ 5550m Towers N 215-222 ~ 2515m Towers N 231-237 ~ 2637m	Finished
ADSS optical fibre cable installation	Towers N 2-7	Finished
OPGW preparation	Towers N 222-231	Finished
OPGW stringing	Towers N 1-3, 7-9 ~ 1380m	Finished
OPGW fixing	Towers N 2-12	Finished
<b>Nairi 220kV OPGW</b>		
OPGW preparation	Towers N 2-12	Finished
OPGW stringing	Towers N 2-13, 19-30 ~ 9700m	Finished
OPGW preparation works	Towers N 59-60	Finished
OPGW stringing, fixing and installation	Towers N 30-39 ~ 3248m Towers N 39-46 ~ 2869m Towers N 59-62 ~ 896m Towers N 62-65 ~ 696m	Finished



	HP – 67 ~ 553m	
	Towers N 62-65 ~ 487m	

No other construction works have been carried out during the reporting period due to the electrical supply switch-over permits delays by Armenian HV Electrical Network.

Below Table 2 presenting the semi-annual maximum and minimum average number of workers and anticipated changes in staff on all active construction sites: “Erebuni 220kV” and “Nairi 220kV” OPGW.

**Table 2: Number of workers for –January - July 2021 period**

Construction site	Working period	Number of workers in 1 <sup>st</sup> semester January - July 2021		Anticipated changes in staff in July -December 2021
		Minimum (average/month)	Maximum (average/month)	
“Erebuni 220kV” OPGW	January - July	6 persons	10 persons	No anticipated changes in staff in July - December, 2021
“Nairi 220kV” OPGW	January - July	6 persons	11 persons	No anticipated changes in staff in July - December, 2021

## 2.4 Description of Any Changes to Project Design

No changes to the project design, at the same time EPSO was submitted request to extend the project implementation till 30 April 2022 for Construction Contractor and 30 June, 2022 for Consultant as a result of the non-completion of OPGW installation works due to the COVID-19 restrictions, weather condition and electrical supply switch-over permits delays by Armenian HV Electrical Network(HVEN) and implementation of additional OPGW installation at Tatev 110kV, Nairit 110 kV, Nairi 220 kV, Erebuni 220 kV OHLs and got approval from ADB.

For the additional OPGW installation at Tatev 110kV, Nairit 110 kV, Nairi 220 kV, Erebuni 220 kV OHLs was submitted to ADB by EPSO. In this frame, Initial Environmental Examination

upgrade/review was ordered and conducted by PIC HSE expert and submitted to ADB for approval end of December 2019 and approved in March 2020.

The Project Extension Contracts with Construction Contractor and Consultant are finalized and signed on 26 October 2020 and 07 December 2020 respectively.

## **2.5 Description of Any Changes to Agreed Construction methods**

No changes to agreed construction methods. the existing project extension and additional OPGW installation at Tatev 110kV, Nairit 110 kV, Nairi 220 kV, Erebuni 220 kV OHLs will be done with agreed construction methods and means. Site Specific Environmental Management Plan (SEMP) for Project extension was developed and submitted by Construction Contractor to Consultant review and approval on 29 March 2021. SEMP was approved by Consultant on 9 April 2021 and submitted to ADB's consideration.

### **3 ENVIRONMENTAL SAFEGUARD ACTIVITIES**

#### **3.1 General Description of Environmental Safeguard Activities**

Contractor's Environmental team implemented the following environmental safeguard works during the reporting period.

- a. Based on world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site.
- b. A responsible person for measures to prevent the spread of coronavirus disease was appointed and all the measures presented in H&S Plan and ERP parts of EMP were accomplished (Responsible person` Site Foreman, Arakelyan Rustam)
- c. Organized and held environmental monitoring and Health and Safety inspection visits to construction sites.
- d. Developed and submitted on 29 March 2021 Site specific Management plan for additional OPGW installation at Tatev 110kV, Nairit 110 kV, Nairi 220 kV, Erebuni 220 kV OHLs extension program.
- e. The Environmental, H&S training for the engineering staff, foremens and workers was organized on 28.06.2021 in the general office of the Redinet LLC in the meeting hall (see Annex 1 MER June 2021).

#### **Submitted documents**

The following documents have been finalized during the reporting month:

- ✓ Site Specific Management Plan for additional OPGW at Tatev 110kV, Nairit 110 kV, Nairi 220 kV, Erebuni 220 kV OHLs installation program
- ✓ Monthly Environmental, Health and safety reports for April, May and June 2021(See annexes 1)

#### **Communication with Consultant and IA**

The communication in this reporting period with Consultant and IA was held in following order:

- 12.04. 2021, 10.05.2021, 12.06.2021, EHS meeting (online consultancy) with Consultant Environmental Expert

- 05.05.2021 - HSE Monthly Report submittal for April 2021 – from: Contractor – [a.gabrielyan@redinet.am](mailto:a.gabrielyan@redinet.am), to: PIU (EPSO) [epso.projects@energyoperator.am](mailto:epso.projects@energyoperator.am);
- 03.06.2021 - HSE Monthly Report submittal for May 2021 – from: Contractor – [a.gabrielyan@redinet.am](mailto:a.gabrielyan@redinet.am), to: PIU (EPSO) [epso.projects@energyoperator.am](mailto:epso.projects@energyoperator.am);
- 11.06.2021 – Contractor’s Environmental Specialist sent the photos of 11.06.2021 site visit to the Engineer – from: [armcreed77@gmail.com](mailto:armcreed77@gmail.com), to: [armbod@yahoo.fr](mailto:armbod@yahoo.fr);
- 12.06.2021 – The Engineer sent information about discrepancies, which were recorded during site visit to the Contractor’s Environmental Specialist – from: [armbod@yahoo.fr](mailto:armbod@yahoo.fr), to: [armcreed77@gmail.com](mailto:armcreed77@gmail.com). The Environmental Specialist answered, that he will follow, that the recorded discrepancies will be corrected soon;
- 20.06.2021 – The Engineer sent the information for the Environmental, H&S training for the engineering staff, foreman and workers who work on OPGW, which was organized and implemented on 28.06.2021 by the Contractor’s Environmental Specialist - from: [armbod@yahoo.fr](mailto:armbod@yahoo.fr), to: [armcreed77@gmail.com](mailto:armcreed77@gmail.com). 06.07.2021 - HSE Monthly Report submittal for June 2021 – from: Contractor – [a.gabrielyan@redinet.am](mailto:a.gabrielyan@redinet.am), to: PIU (EPSO) – [epso.projects@energyoperator.am](mailto:epso.projects@energyoperator.am);

*No Construction activities conducted and communication held during January -March 2021 period, due to the electrical supply switch-over permits delays by Armenian HV Electrical Network – HVEN -19.*

### **3.2 Site Audits**

During the January-June 2021 reporting period any Formal Audit was not undertaken by ADB staff. Following site inspection and monitoring visits were conducted by Contractor EHS specialist and Consultant Environmental expert:

**On April 13, 2021** the Consultant Environmental expert Contractor’s Environmental Specialist made joint monitoring visit to the construction site on “Erebuni 220kV” OPGW near towers N9-23 to monitor compliance of Site-Specific Environmental Management Plan during Project

implementation works. A site visit monitoring check lists were filled in and were provided to the Consultant team as a Mitigation Compliance & Inspection Monitoring report (see annex 1).

During the construction works no discrepancies were recorded.

The team was comprised as follows:

Contractor -Redinet LLC

“Erebuni 220kV” OPGW construction engineer: Karen Agababyan

Environmental Specialist: Arman Khachatryan

The purpose of the visits was the regular monitoring of the site to check compliance with SEMP:

- ✓ Study the current situation and form a complete picture on the existing construction work activities;
- ✓ Assess environmental, health and safety situation.

Description of the visit

The participants visited the construction areas, review the existing environmental and HS situation on site and discussed the possible environmental and HS issues which could occur or exist during the construction, and related documentations existence, health and safety, environmental requirements during the works process.

**On May 10, 2021** the Consultant Environmental expert and the Contractor’s Environmental Specialist made joint monitoring visit to the construction site on “Erebuni 220kV” transmission line near towers N7-9 to monitor compliance of Site-Specific Environmental Management Plan during Project implementation works. A site visit monitoring check lists were filled in and were provided to the Consultant team as a Mitigation Compliance & Inspection Monitoring report (see annex 1).

During the construction works no discrepancies were recorded.

The team was comprised as follows:

Contractor -Redinet LLC

“Erebuni 220kV” and “Nairi 220kV” transmission lines construction engineer: Karen Agababyan

Environmental Specialist: Arman Khachatryan

The purpose of the visits was the regular monitoring of the site to check compliance with SEMP:

- ✓ Study the current situation and form a complete picture on the existing construction work activities;
- ✓ Assess environmental, health and safety situation.

Description of the visit

The participants visited the construction areas, review the existing environmental and HS situation on site and discussed the possible environmental and HS issues which could occur or exist during the construction, and related documentations existence, health and safety, environmental requirements during the works process.

**On June 11, 2021** the Contractor's Environmental Specialist and Engineer made a joint monitoring visit to the construction site on "Nairi 220kV" transmission line near towers N 43-44 to monitor compliance of Site-Specific Environmental Management Plan during Project implementation works. A site visit monitoring check lists were filled in and were provided to the Consultant team as a Mitigation Compliance & Inspection Monitoring report (see annex 1).

During the construction works some discrepancies were recorded (fire extinguisher, COVID-19 prevention means, housekeeping) , details of which are described in Summary and Mitigation Compliance & Inspection Monitoring Checklist.

The team was comprised as follows:

Contractor -Redinet LLC

"Nairi 220kV" transmission lines construction engineer: Karen Agababyan

Environmental Specialist: Arman Khachatryan

Engineer – Environmental, Health and Safety (EHS) expert: Armen Bodoyan

The purpose of the visits was the regular monitoring of the site to check compliance with SEMP:

- ✓ Study the current situation and form a complete picture on the existing construction work activities;
- ✓ Assess environmental, health and safety situation.

Description of the visit

The participants visited the construction area, review the existing environmental and HS situation on site and discussed the possible environmental and HS issues which could occur or exist during

the construction, and related documentations existence, health and safety, environmental requirements during the works process.

### **3.3 Issues Tracking (Based on Non-Conformance Notices)**

During the reporting period Contractor Environmental Health and Safety team and Consultant Environmental Expert organized and conducted environmental monitoring and Health and Safety inspection visits to construction sites. Inspections and monitoring activities were done according and based on the IEE and Site-Specific Environmental Management Plan (SEMP) requirements.

During the monitoring visit on 11 June 2021 to the Erebuni 220kV OPGW construction site only 4 discrepancies were recorded by Consultant Environmental expert. Following discrepancies were identified:

- 1 . The fire extinguisher (no pressure), it must be replaced.
- 2 . As part of COVID-19 prevention measures, disinfectants are not available; staff should be provided with alcohol, wet disinfectant wipes, and / or other means of prevention.
- 3 . There is a complete mess in the service car, it is necessary to carry out disinfection, cleaning and housekeeping works.
4. closed bin is missing with marking for COVID-19 wastes.

#### **Summary of Issues Tracking Activity for January-June 2021 reporting period**

**Table 3.** Summary of Issues Tracking Activity for January - June2021

	Nairi 220kV, Erebuni 220kV	Total for the Project for January - June 2021
Total Number of Issues for Project	4	4
Number of Open Issues	0	0
Number of Closed Issues	4	4
Percentage Closed	100%	100%
Issues Opened This Reporting Period	4	4
Issues Closed This Reporting Period	4	4

Site visits inspection checklists were filled in and were provided to the Consultant team as an EHS Compliance & Monitoring reports.

#### **Defect notices received and status of all non-conforming work**

In the reporting period no non-compliance notices were issued by the Consultant.

### **3.3.1 Grievance redress mechanism (GRM)**

Posters with project information contacts and how the community inhabitants may apply in case of the complaints, suggestions or questions arise during the construction process, are posted at Contractor's mobile house. Complaints register - books were available in mobile houses in the construction site. In the reporting period complaints were not received.

### **3.4 Trends**

Excellent improvement of compliance of SEMP requirements was demonstrated in comparison with previous Year working months (See table 4).

**Table 4.** Trends of issues for the period from January 2019 to June 2021

Monthly Report	Total No of Issues	% issues Closed	% issues closed late
January 2019	13	77	23
February	3	67	33
March	4	50	50
April	3	33	67
May	6	33	67
June	7	57	43
July	5	100	0



August	5	80	20
September	0	0	0
October	0	0	0
November	0	0	0
December	0	0	0
January 2020	N/A	N/A	N/A
February	N/A	N/A	N/A
March	0	0	0
April	0	0	0
May	N/A	N/A	N/A
June	N/A	N/A	N/A
July	N/A	N/A	N/A
August	N/A	N/A	N/A
September	0	0	0
October	N/A	N/A	N/A
November	0	0	0
December	N/A	N/A	N/A
January 2021	N/A	N/A	N/A
February	N/A	N/A	N/A

March	N/A	N/A	N/A
April	0	0	0
May	0	0	0
June	4	100	0

Note: Construction works were not conducted for the January-March, 2021 period based on electrical supply switch-over permits delays by Armenian HV Electrical Network – HVEN and weather condition.

In the reporting period non-compliance notices were not issued by the Consultant.

### **3.5 Unanticipated Environmental Impacts or Risks**

During the reporting period (January - June 2021) the unanticipated environmental impacts and risks were not identified.

## **4 RESULTS OF ENVIRONMENTAL MONITORING**

### **4.1 Overview of Monitoring Conducted during Current Period**

Instrumental monitoring was not carried out during reporting period, since the works causing noise, vibration and dust were not implemented in OPGW installation sites.

During the April - June 2021 reporting period regular/announced, and randomly active site EHS inspections and monitoring have been conducted by Consultant and Contractor EHS staff. No discrepancies of noise, dust and vibration was identified at Construction active sites.

### **4.2 Trends**

During the reporting period (January - June 2021) and whole project implementation period no major excess of noise level, vibration and air emission observed. Instrumental measurement will be organized and done at OPGW installation sites, especially for Project Extension and additional OPGW activities, by Contractor, by PIC and/or ADB request (if major excess are identified), based on works type and location (heavy machinery use, none-paved road, close to the/in habitation, protected area etc.).

### **4.3 Summary of Monitoring outcomes**

Based on visual monitoring satisfactory results conducted by Contractor's EHS staff as it was defined by IEE and SEMP and measures taken by Contractor like

- semi-annual inspection of machinery/trucks,
- limitation of working hours from 9:00am to 6:00pm,
- daily examination of equipment and mechanisms,
- etc.

are satisfactory.

During the reporting period the topsoil was not generated.

As it was mentioned above, the Instrumental monitoring will be recommended in active sites by ADB and PIC for Project Extension activities if major excesses are identified.

During the reporting period January -June 2021 excess of noise level, vibration and air emission were not observed.

#### **4.4 Material Resources Utilization**

##### **4.4.1 Current Period**

N/A

##### **4.4.2 Cumulative Resource Utilization**

N/A

#### **4.5 Waste Management**

The following waste was generated and/ or removed during the reporting period:

Construction waste generated as a result of demolition of old grounding wires is temporary collected in the Redinet CJSC base in Yerevan before handed over to HVEN. All used/empty coils of Fiber Optic Cables and dismantled/changed old equipment temporary collected in the Redinet CJSC base in Yerevan before handled over to EPSO. The materials collected in the Redinet CJSC base were not handled over during reporting period.

Solid waste (garbage) was collected in bins specially installed at construction site, then was transported to the Redinet CJSC base in Yerevan and will be transported to the relevant dump site by Kanaker-Zeytun Administrative district (according to the Payment invoice for 2021 year).

Minor quantities of household waste were collected in relevant bins installed at construction site, then was transported and dumped in Yerevan and/or nearby community garbage bins.

Minor quantities COVID-19 related wastes were generated during the reporting period collected in relevant bins installed at construction site, then was transported to the Redinet CJSC for further disposal.

No hazardous wastes, no dangerous wastes were generated during the reporting period January - June 2021.

The site was handed under the condition of further obligatory cleaning, improvement.

##### **4.5.1 Current Period**

The materials collected in the Redinet CJSC base were not handled over during reporting period to EPSO for reuse.

##### **4.5.2 Cumulative Waste Generation**

N/A

#### **4.6 Health and Safety**

No incidents/accidents (LTI, MTI, Near Misses), Covid-19 infection cases occurred during the reporting period, Contractor staff has exceptional with «Zero EHS Incident/accident» achievement started from the beginning/start of the project.

- a. Contractor set out the COVID 19 prevention management plan according to the RA government and WHO COVID 19 Pandemic Prevention recommendation and submitted to EPSO for approval on 10 November 2020 s. After approval on 14 November 2020 by EPSO COVID 19 prevention management plan was incorporated into the SEMP as annex. As well for Additional OPGW installation extension program SEMP was developed and approved on 9 April 2021, which includes prevention measures of Guidance to Staff in Providing Advice to Borrowers<sup>1</sup> on Adopting COVID-19 Related Health and Safety Measures in Implementation of Contracts under ADB Financed Sovereign Operations Projects Issued on 29 July 2020.

Contractor's workers and staff were provided with and using job specific and COVID 19 prevention specific PPEs and means. All mechanisms and tools (set of hand tools, hand winch, counterweights, vibration dampener etc.) which were used by workers during reporting period were inspected and safe, in addition tools and mechanisms were periodically treated by disinfectant and alcogel.

Appropriate Health and Safety, COVID 19 risks and prevention measures inductions were implemented during construction works in Erebuni and Nairi 220kV OPGW installation sites. The foremen of mentioned construction sites were instructed to keep the HS induction journals in the mobile houses in construction sites.

The workers were provided by sanitary-hygienic necessities within camp area; mealtime and winter rest facilities, washing and drinking water, as well they were instructed and provided with COVID 19 specific PPEs and means for prevention measures.

##### **4.6.1 Community Health and Safety**

No incidents have occurred during the reporting period

The site foreman` Rustam Arakelyan was present at the construction site all the time and was ready to answer to all questions from inhabitants/interested persons.

Complaints register - books prepared and available in the construction site. In the reporting period no complaints were received.

#### **4.6.2 Worker Safety and Health**

No incidents have occurred during the reporting period.

Appropriate Health and Safety inductions were implemented during construction works in “Erebuni 220 kV” and “Nairi 220kV” transmission lines. The foreman of mentioned construction sites was instructed to keep the HS induction journals in construction sites. All Contractor’s workers and staff were provided with and using job-specific PPE. All mechanisms and tools (set of hand tools, hand winch, counterweights, etc.) which were used by workers during reporting month were inspected and safe.

Due to worldwide situation with COVID 19 pandemic the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor’s workers and staff were provided with and using face protective masks, disinfection liquids (alcogel) and other personal hygiene goods. No COVID-19 symptoms were found in any of the staff.

The workers were provided by sanitary-hygienic necessities within construction site; mealtime and rest facilities, washing and drinking water. Also due to COVID-19 pandemic, the workers were provided by disinfectants, gloves, protective masks etc.

Electrical supplies switch over made during reporting period in “Erebuni 220 kV” and “Nairi 220kV” transmission lines the frame of under the responsibility of EPSO and HVEN according to the Contractor’s request.

#### **Traffic management**

All construction works during reporting period and construction traffic was organized not to interfere with public traffic, not to block the public and pedestrian roads, as well as the entrance into properties, small businesses.

All construction works were commenced at 09.00 am and completed at 6.00pm.

Traffic of machinery was organized within RoW. New alternative/temporary roads for machinery and trucks traffic were not constructed during reporting period.

Driving and technical inspection licenses trucks/machinery were checked by Contractor's Environmental, Health and Safety specialist and Consultant EHS expert before they were hired.

During the reporting period public roads were not blocked and road traffic was not interrupted.

#### **4.7 Training**

##### **Public hearings, awareness raising, information disclosure**

##### **Staff trainings**

Contractor organized and implemented environmental, H&S training for the engineering staff, foreman and workers who work on OPGW on 28.06.2021 in the general office of the Redinet LLC in the meeting hall.

During the training the workers were informed about:

- General principles of H&S and Environmental protection.
- Dangers, that could happen during the mentioned project implementation.
- Relevant events, that can help to prevent the dangers or dangerous situations.
- The significance of availability of first-aid kits and extinguishers on the construction sites.
- The COVID-19 spread prevention measures.
- Organization of emergency medical care in case of a bite of a snake and/or a scorpion.
- Heat Stress Prevention Work Practices due to the extreme hot weather conditions.

New workers were not hired during reporting period.

Photos of the environmental, H&S training for the engineering staff, foreman and workers are provided in MER June 2021 (see Annex 1).

In case of COVID 19 infection risks the instruction on issues of disease prevention methods were conducted for Contractor's staff before the actual construction works were started. The staff was informed about the risks of COVID-19 and about the measures to prevent the spread of coronavirus disease before the works were started.

## **5 FUNCTIONING OF THE SEMP**

### **5.1 SEMP Review**

During the reporting and for whole project implementation period the Contractor was able to implement fully the requirements set out in the IEE and SEMP. There was not any area where the contractor has not been able to implement EHS mitigation or monitoring measures.

COVID 19 infection risks instruction on issues of disease prevention methods were discussed and recommendations for changes to the Environmental Safeguarding process for the project was done. Action plan and prevention measures for Covid-19 were set out in the SEMP.

The SEMP was effective.



## **6 GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT**

### **6.1 Good Practice**

Contractor organized and implemented construction sites specific site trainings of

- Organization of emergency medical care in case of a bite of a snake and/or a scorpion.
- Heat Stress Prevention Work Practices due to the extreme hot weather conditions.

### **6.2 Opportunities for Improvement**

Areas which may be outside of the formal SEMP implementation process, but which changes to construction techniques, mitigation etc would result in an improvement or reducing in environmental, health and safety performance of the project were not identified during reporting period.

## **7 SUMMARY AND RECOMMENDATIONS**

### **7.1 Summary**

The following EHS activities based on IEE and SEMP documents were planned and implemented during the January -June 2021 reporting period:

- Daily supervision of environmental, health and safety activity during construction process by Construction Site manager. Regular monitoring and inspection visits and reporting on environmental safeguards by Contractor's Environmental, Health and Safety Specialist and Consultant Environmental Expert.

During the reporting period Contractor's Environmental Specialist and Engineer conducted monitoring visits to the Project construction sites to monitor implementation of all mitigation measures of mentioned in the SEMP. During the construction works non-compliance discrepancies were recorded. Some discrepancies have been identified during site visit, which are:

- Missing bins for COVID-19 wastes;
- Negligence in the working truck;
- Fire extinguisher, which was out of date.

All discrepancies were recorded by the Contractor and solved in a short time.

In the reporting period non-compliance notices were not received from the Consultant.

- Monthly reporting on EHS safeguards by Contractor.
- Due to worldwide situation with COVID 19 pandemic the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcogel) and other personal hygiene goods. A responsible person for measures to prevent the spread of coronavirus disease, Rustam Arakelyan was there and controlled the situation over prevention measures.
- All construction works in the frame of the Project were implemented in accordance with SEMP and IEE requirements.

- Instrumental monitoring was not carried out during reporting period, since the works causing noise, vibration and dust during reporting period were implemented far from existing roads and inhabitation places.

## **7.2 Recommendations**

### **1.1.Recommendations**

During the reporting period Contractor had received requirement from Consultant Environmental Expert to conduct trainings for the Construction Contractor staff on Organization of emergency medical care in case of a bite of a snake and/or a scorpion and Heat Stress Prevention Work Practices due to the extreme hot weather conditions and construction sites specialties. Trainings were organized by CC EHS specialist on 28 June 2021.

## **7.3 Future program**

The following activities are planned for –July - December 2021:

- ✓ Daily supervision of environmental, health and safety, including COVID 19 prevention measures implementation activities during construction process by Site manager.
- ✓ Regular monitoring visits and reporting on environmental safeguards by Contractor's Environmental, Health and Safety Specialist.
- ✓ Organize environmental, health and safety corrective action based on Consultant Monitoring reports and supervisors verbal instructions (if any).
- ✓ Organize and conduct instrumental monitoring for noise, dust and vibration close to the sensitive receptors (if any) based on Consultant and ADB requirement.
- ✓ Consultation to IA and Consultant on any environmental issues on as needed bases.
- ✓ Monthly reporting on HSE safeguards.

## 8 ANNEXES

*Annex 1: Example of Monthly EHS Monthly Report submitted by Contractor*






**ADB Loan 3150 – ARM**  
**Power Transmission Rehabilitation**  
**Project Extension and Upgrade of the**  
**SCADA/EMS Project**



**Contract No. EPSO – 220**

**MONTHLY ENVIRONMENTAL REPORT**  
**April 2021**

**RDNT\_R\_HSE022\_en\_am\_13052021**

Rev	01	13.05.2021	Date	Initial Version	Revision Details	A. Gabrielyan	Checked / Clearance																				
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<b>Project:</b> ADB Loan 3150 – ARM Power Transmission Rehabilitation Project Extension and Upgrade of the SCADA/EMS Project																											
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Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

**ADB Loan 3150 – ARM: Power Transmission Rehabilitation Project  
Extension and Upgrade of the SCADA/EMS Project**

## **MONTHLY ENVIRONMENTAL, HEALTH AND SEFETY REPORT**

**April 2021**

Contractor: **Redinet CJSC and Siemens Aktiengesellschaft, Österreich  
Contractor Consortium**

Date

Drafted by

**13 May, 2021**

**Arman Khachatryan**



Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

## LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADSS	All-dielectric self-supporting
AIDS	Acquired Immune Deficiency Syndrome
AP	Affected People
CC	Construction Contractor
CJSC	Closed Joint Stock Company
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPSO	Electro Power System Operator
ERP	Emergency Response Plan
HIV	Human Immunodeficiency Virus
HPP	Hydro Power Plant
HSE	Health, Safety and Environment
HSEMS	Health, Safety and Environment Management System
HSMS	Health and Safety Management System
HVEN	High Voltage Electric Networks
IA	Implementation Agency
MENR	Ministry of Energy and Natural Resources
OHL	Overhead Transmission Line
OPAC	Optical Attached Cable
OPGW	Optical Ground Wire
RA	Republic of Armenia (Armenia)
RoW	Right of Way
SCADA	Supervisory Control and Data Acquisition
SNCO	State Non-Commercial Organization
SS, S/S, s/s	Substation
ToR	Terms of References





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Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

## **1. INTRODUCTION**

### **1.1. Preamble**

Monthly Environmental Report is prepared and submitted on monthly basis.

This monthly report covers the Environmental and Health and Safety activities of the Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium (hereby Contractor) of April, 2021.

### **1.2. Headline Information**

Construction works on OPGW “Erebuni 220kV” transmission line (from Yerevan (Erebuni district) to the territory of Ararat region with around 45 km length) under the Extension and Upgrade of the SCADA/EMS (hereby Project) within the framework of “Power Transmission Rehabilitation Project” was commenced on April 01, 2021.



Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

## **2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES**

### **2.1. Project Description**

The Project area covers 4 regions (Syunik, Yerevan, Ararat, and Armavir) of the Republic of Armenia.

This Project presents the rehabilitation of the SCADA system, as well as the replacement of the existing ground wire by an Optical Ground Wire for **Tatev 1, 2 110kV, Nairit 1, 2 110kV, Nairi 220kV and Erebuni 220kV** transmission lines.

Project is foreseen to complement the Supervisory Control and Data Acquisition (SCADA) system in Armenia's national grid by ADB funding. This part of the project includes:

- around 82 km length (extension of the project) along Tatev 1, 2 110kV, Nairit 1, 2 110kV, Nairi 220 kV and Erebuni 220 kV OHLs the existing ground wire replacement by an Optical Ground Wire (OPGW)
- ADSS (All Dielectric Self Supporting), - at an around 2 km ADSS optical fiber cable will be installed,

According to the Initial Environmental Assessment (IEE) the Project was considered to be a Category B project and not requiring an Environmental Impact Assessment (EIA).

The replacement of the existing earth wire by OPGW will be done in a way that access with small trucks will be necessary only to angle towers (max. ca. 10 suspension towers in between). All other towers in between will be approachable only by footpath. The re-stringing works will not interfere with objects or terrain between the section towers.

In order to strengthen and to maintain a reliable power supply in Armenia, there is no alternative to the proposed rehabilitation measures.

In general, the main rehabilitation measures in the frame of Project activities will cover replacement and extension of electrical equipment, OPGW and OPAC.

### **2.2. Project Contracts and Management**

#### **Contractor**

Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium here in

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April 2021

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after the Contractor is an entity responsible for the implementation of the present SEMP. Contractor's Environmental, Health and Safety Specialist (EHSS) are responsible for developing, implementing and monitoring the SEMP procedures.

#### **Contractor's staff responsibilities for managing the SEMP**

The persons within the Contractor's team who are directly responsible for supervising the SEMP activities are:

- ✓ Environmental Specialist – Arman Khachatryan
- ✓ Health and Safety Specialist – Mikael Tevosyan
- ✓ Contractor's Site Engineer – Karen Agababyan
- ✓ Contractor's Site Foreman – Rustam Arakelyan

#### **Consultant**

Tractebel Engineering GmbH, CESI S.p.A. and AMERIA Consultant Joint Venture (LI/CESI/Ameria) here in after the Consultant or PIC, is represented by the Resident Engineer (RE). The Environmental, Health and Safety Specialist of Consultant (HSE) is the main contact point between the Contractor and the Supervising Consultant. The HSE is responsible to the RE. All written communications with the Contractor concerning the SEMP will be via the RE.

#### **Implementing agency**

Roles and responsibilities of the IA are defined according to the IEE and ADB Loan agreement.

### **2.3. Project Activities during current reporting period**

In the reporting period the following activities were implemented in Project:

Extension and Upgrade of the SCADA/EMS is being implemented by Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium.

During the reporting period (April 01th to 30th, 2020) Contractor starts preparation, uprolling and fixing works for installation of "Erebuni 220kV" transmission line OPGW, as well as finished the installation of OPGW in some parts.

The following construction works have been implemented during the reporting period:



Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

**Table 1:** Type of construction works implemented during the month

Type of works	Section	Status of works
<b>Erebuni 220kV OPGW</b>		
OPGW preparation and installation	Towers N 9-23 ~ 5550m Towers N 215-222 ~ 2515m Towers N 231-237 ~ 2637m	Finished
ADSS optical fibre cable installation	Towers N 2-7	Finished
OPGW preparation	Towers N 222-231	Finished
<b>Nairi 220kV OPGW</b>		
OPGW preparation	Towers N 2-12	Finished

No other construction works have been carried out.

On the table below presents the maximum and minimum number of workers worked on construction on "Erebuni 220kV" OPGW during reporting period and anticipated changes in staff in following period.

**Table 2:** Number of workers

Construction site	Number of workers in April		Anticipated changes in staff in April 2021
	Minimum	Maximum	
Erebuni 220kV OPGW	6 person	10 person	Changes in staff are not anticipated in April

#### 2.4. Description of Any Changes to Project Design

No changes.

#### 2.5. Description of Any Changes to Agreed Construction methods

No changes.





### **3. ENVIRONMENTAL SAFEGUARD ACTIVITIES**

#### **3.1. General Description of Environmental Safeguard Activities**

##### **Activities**

Contractor's Environmental Health and Safety team have been implemented the following works during the reporting period.

- a. Based on world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site.
- b. A responsible person for measures to prevent the spread of coronavirus disease was appointed and all the measures presented in H&S Plan and ERP parts of EMP were accomplished (Responsible person` Site Foreman, Arakelyan Rustam)
- c. Organized and held environmental monitoring and Health and Safety inspection visits to construction sites.

##### **Submitted documents**

No documents have been submitted.

##### **Communication with Consultant and IA**

Communication with Consultant and IA have not taken place in this reporting period.

#### **3.2. Site Audits**

On April 13, 2021 the Contractor's Environmental Specialist made a monitoring visit to the construction site on "Erebuni 220kV" OPGW near towers N9-23 to monitor compliance of SiteSpecific Environmental Management Plan during Project implementation works. A site visit monitoring check lists were filled in and were provided to the Consultant team as a Mitigation Compliance & Inspection Monitoring report (see annex 1).

During the construction works no discrepancies were recorded.

The team was comprised as follows:

Contractor -Redinet LLC

"Erebuni 220kV" OPGW construction engineer: Karen Agababyan

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April 2021

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Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

Environmental Specialist: Arman Khachatryan

The purpose of the visits was the regular monitoring of the site to check compliance with SEMP:

- ✓ Study the current situation and form a complete picture on the existing construction work activities;
- ✓ Assess environmental, health and safety situation.

Description of the visit

The participants visited the construction areas, review the existing environmental and HS situation on site and discussed the possible environmental and HS issues which could occur or exist during the construction, and related documentations existence, health and safety, environmental requirements during the works process.

### 3.3. Issues Tracking (Based on Non-Conformance Notices)

During the monitoring visit on 13 of April, 2021 to the Erebuni 220 kV OPGW, no discrepancies were recorded.

#### Summary of Issues Tracking Activity for April 2021

**Table 5.** Summary of Issues Tracking Activity for April 2021

	Erebuni 220kV OPGW	Total for the Project for April 2021
Total Number of Issues for Project	0	0
Number of Open Issues	0	0
Number of Closed Issues	0	0
Percentage Closed	0%	0%
Issues Opened This Reporting Period	0	0
Issues Closed This Reporting Period	0	0

#### Defect notices received and status of all non-conforming work

In the reporting period no non-compliance notices were issued by the Consultant.

### 3.4. Trends

Good performance of SEMP requirements was demonstrated.

**Table 6.** Trends of issues

April 2021

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Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

Monthly Report	Total No of Issues	% issues Closed	% issues closed late
April	-	-	-
May	-	-	-
June	-	-	-
July	-	-	-
August	-	-	-
September	-	-	-
October	-	-	-
November	-	-	-
December	-	-	-
January	-	-	-
February	-	-	-
March	-	-	-

### 3.5. Unanticipated Environmental Impacts or Risks

The unanticipated environmental impacts and risks which were not identified in the Impact Assessment process was not have identified in the current period.





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## **4. RESULTS OF ENVIRONMENTAL MONITORING**

### **4.1. Overview of Monitoring Conducted during Current Period**

Instrumental monitoring was not carried out during reporting period. During reporting month, before starting the construction works near to the houses all inhabitants were warned and all relevant measures to protect the people and their property were implemented.

During the reporting period the topsoil was not generated.

### **4.2. Trends**

Not applicable

### **4.3. Summary of Monitoring Outcomes**

Not applicable

### **4.4. Material Resources Utilisation**

#### **4.4.1. Current Period**

Not applicable

#### **4.4.2. Cumulative Resource Utilisation**

Not applicable

### **4.5. Waste Management**

The following waste was generated and/ or removed during the reporting period:

Construction waste generated as a result of demolition of old grounding wires is temporary collected in the Redinet CJSC base in Yerevan before handed over to HVEN. All used/empty coils of Fiber Optic Cables and dismantled/changed old equipment temporary collected in the Redinet CJSC base in Yerevan before handled over to EPSO. The materials collected in the Redinet CJSC base were not handled over during reporting period.

Solid waste (garbage) was collected in bins specially installed at construction site, then was transported to the Redinet CJSC base in Yerevan and will be transported to the relevant dump site by Kanaker-Zeytun Administrative district (according to the Payment invoice for



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2020 year).

No hazardous wastes, no dangerous wastes were generated during the Project implementation in the April 2021.

The site was handed under the condition of further obligatory cleaning, improvement.

#### **4.6. Health and Safety**

##### **4.6.1. Community Health and Safety**

No incidents have occurred during the reporting period

The site foreman` Rustam Arakelyan was present at the construction site all the time and was ready to answer to all questions from inhabitants/interested persons.

Complaints register - books prepared and available in the construction site. In the reporting period no complaints were received.

##### **4.6.2. Worker Safety and Health**

No incidents have occurred during the reporting period

Appropriate Health and safety inductions were implemented during construction works in Erebuni 220kV OPGW. The foremens of mentioned construction sites were instructed to keep the HS induction journals in construction sites. All Contractor's workers and staff were provided with and using job-specific PPE. The only thing, that is missing, is relevant safety shoes. Contactor has already ordered the relevant safety shoes and the deliverance of the shoes is still awaited. All mechanisms and tools (set of hand tools, hand winch, counterweights, etc.) which were used by workers during reporting month were inspected and safe.

Due to world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcogel) and other personal hygiene goods. The workers thermometers two times per day with a remote thermometer. No COVID-19 symptoms were found in any of the staff.

The workers were provided by sanitary-hygienic necessities within construction site; mealtime and rest facilities, washing and drinking water. Also due to COVID-19 pandemic,



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the workers were provided by disinfectants, gloves, protective masks etc.

Electrical supplies switch over made during reporting period in Erebuni 220kV OPGW transmission lines the frame of under the responsibility of EPSO and HVEN according to the Contractor's request.

#### **Traffic management**

During reporting month, before starting the construction works near to the houses all inhabitants were warned and all relevant measures to protect the people and their property were implemented.

Construction traffic was organized not to interfere with public traffic, not to block the public and pedestrians' roads, as well as the entrance into properties, small businesses.

All construction works were commenced at 09.00 am and complete at 6.00pm.

Traffic of machinery was organized within RoW. New alternative/temporary roads for machinery and trucks traffic were not constructed during reporting period.

Driving and technical inspection licenses trucks/machinery were checked by Contractor's Environmental, Health and Safety specialist before they were employed.

During the reporting period public roads were not blocked and road traffic was not interrupted.

### **4.7. Training**

#### **Staff trainings**

Contractor organized and implemented environmental, H&S training for the engineering staff, foremen and workers who work on OPGW on 20 and 22 of July 2018. One new worker (Van Hovhannisyan) was hired for mentioned works on 19.04.2021. All relevant instructions and trainings were provided.

In case of COVID 19 infection risks the instruction on issues of disease prevention methods were conducted for Contractor's staff before the actual construction works were started. The staff was informed about the risks of COVID-19 and about the measures to prevent the spread of coronavirus disease before the works were started.



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## **5. FUNCTIONING OF THE SEMP**

### **5.1. SEMP Review**

Contractor was able to implement fully the requirements set out in the SEMP. There was no any area where the contractor has not been able to implement mitigation or monitoring measures.

There were not needed to change, reduce or remove the mitigation measures set out in the SEMP. The SEMP is effective.



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## **6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT**

### **6.1. Good Practice**

Cases with good practice during reporting period was not recorded. All routine construction works were implemented according to the SEMP requirements.

### **6.2. Opportunities for Improvement**

Areas which may be outside of the formal SEMP implementation process, but which changes to construction techniques, mitigation etc would result in an improvement or reducing in environmental, health and safety performance of the project were not identified during reporting period.



## **7. SUMMARY AND RECOMMENDATIONS**

### **7.1. Summary**

During the reporting period Contractor's Environmental Specialist conducted monitoring visits to the Project construction sites to monitor implementation of all mitigation measures of mentioned in the SEMP. During the construction works no discrepancies were recorded. Only one issue was recorded, which concerns the safety shoes.

In the reporting period non-compliance notices were not received from the Consultant.

Due to world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcolgel) and other personal hygiene goods. A responsible person for measures to prevent the spread of coronavirus disease, Rustam Arakelyan was there and controlled the situation over prevention measures.

All construction works in the frame of the Project were implemented in accordance with SEMP and IEE requirements.

### **7.2. Recommendations**

During the reporting month Contractor had not any recommendations for changes to the Environmental Safeguarding process for the project.

### **7.3. Future program**

The following activities are planned for May 2021:

- ✓ OPGW preparation and installation on Erebuni 220kV and Nairi 220kV transmission lines;
- ✓ Daily supervision of environmental, health and safety activity during construction process by Site foreman;
- ✓ Regular monitoring visits and reporting on environmental safeguards by Contractor's Environmental, Health and Safety Specialists;
- ✓ Organize environmental, health and safety corrective action based on Consultant Monitoring reports and supervisors verbal instructions (if any);



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- ✓ Consultation to IA and Consultant on any environmental issues (if needed);
- ✓ Monthly reporting on HSE safeguards.



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## 8. ANNEXES





Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

## Annex 1

## MITIGATION COMPLIANCE &amp; INSPECTION MONITORING CHECKLIST

**Project:** Extension and Upgrade of the SCADA/EMS Project

**Implementing Agency:** Redinet LLC

**Scope of Inspection:** OPGW, Erebus transmission line, Towers N 9-23

**Date:** 13.04.2021

**Weather Condition:** Sunny

**Attendees Name & Position:** Arman Khachatryan, Environmental Specialist (Redinet LLC)

**Project:** Extension and Upgrade of the SCADA/EMS Project

WORK SITE: General					
Environmental management: environmental team, health & safety, emergency, trainings, grievance redress mechanism					
Construction Activity		Mitigation Measure (as per EMP/SEMP)	Consultant's corrective action request available	Mitigation/ corrective action implemented Yes / No /N/A	Comments
<u>Environmental team</u>					
All activities	1.	Person in charge on environmental management is appointed and is present on-site.		Yes	The site responsible chief in charge on environmental management issues from Contractor respectively is site manager: Karen Aghababayan

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All activities	2.	Person in charge on H&S management is appointed and is present on-site		<b>Yes</b>	The site responsible chief in charge on H&S management issues from Contractor respectively is site manager: Karen Aghababayan
<b><u>Health &amp; safety</u></b>					
All activities	3.	Warning signs and exclusion barriers erected around work site areas.		<b>N/A</b>	The relevant person from workers is appointed to exclude the possibility of outsider's entrance
All activities	4.	Access of strangers and outsiders is excluded.		<b>N/A</b>	
All activities	5.	Workers are provided with and are using the uniform, applicable safety/protection equipment for site conditions		<b>Yes</b>	All workers are provided with applicable PPE. The only thing, that is missing, is relevant safety shoes. Contactor has already ordered the relevant safety shoes and the deliverance of the shoes is still awaited.

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All activities	6.	Workers are provided with all the necessities to prevent the COVID-19 spread (masks, gloves, etc.)		Yes	All workers are provided with and using the necessities to prevent the COVID-19 spread (masks, gloves, etc.)
All activities	7.	Unsafe practices on-site are excluded		Yes	All workers are provided with and using job-specific PPE. All mechanisms and tools (set of hand tools, hand winch, counterweights, etc.) which were used by workers were inspected and safe
Works on overpasses	8.	Safety on the overpasses is ensured		N/A	
All activities	9.	Worker's health checks implemented		Yes	Medical worker/Doctor was already hired by Contractor. The responsible person for measures to prevent the spread of coronavirus is Rustam Arakelyan

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All activities	10.	Sanitary-hygienic conditions for workers are provided: drinking and washing water supply, mealtime utilities, rest time, etc.		Yes	The rest and mealtime utilities are provided. Drinking water for workers is provided.
All activities	11.	All conditions for COVID-19 spread prevention are implemented (social distance, frequently handwashing, group size reducing, etc.)		Yes	The responsible person for measures to prevent the spread of coronavirus Rustam Arakelyan is on-site and is ensuring relevant conditions
All activities	12.	All necessary hygienic materials needed for good hygienic practice and COVID-19 prevention are provided (soap, disinfectants, etc.)		Yes	All workers are provided with necessary hygienic materials (soap, disinfectants, etc.)
All activities	13.	First aid kit is available on-site and is accessible to all workers.		Yes	First aid kit available on-site
All activities	14.	Fire extinguisher available		Yes	Fire extinguisher available on-site
All activities	15.	Safety of the public is ensured		N/A	
<b>Emergency Response Plan</b>					
All activities	16.	Person in charge on emergency is appointed and is present on-site		Yes	The site responsible chief in charge on emergency issues from Contractor respectively is site manager: Karen Aghababayan

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All activities	17.	Copy of ERP and emergency contact list are available, updated and posted in a visible place at all worksites.		Yes	Copy of ERP and emergency contact list available on-site
All activities	18.	Accident report maintained		Yes	Accident report form available on-site
All activities	19.	Damage of utilities and/or other structures managed.		N/A	Electrical supply switches over under the responsibility of EPSO and HVEN according to the Contractor's request.
All activities	20.	The list of hospitals in Yerevan and regions is provided.		Yes	The list of hospitals in Yerevan and regions available on-site.
<b><u>Trainees and orientation courses</u></b>					
All activities	21.	Workers briefed on CEMP/ SEMP at time of starting employment.		Yes	One new worker was hired on 19.04.2021. All relevant instructions and trainings were provided.
All activities	22.	Workers briefed on ERP at time of starting employment.		Yes	One new worker was hired on 19.04.2021. All relevant instructions and trainings were provided.
All activities	23.	Job-specific environmental and safety training for workers provided		Yes	One new worker was hired on 19.04.2021. All relevant instructions and trainings were provided.

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All activities	24.	The trainings of HIV/ AIDs and COVID-19 prevention measures are provided.		Yes	The instruction of Contractor staff on issues of COVID 19 infection risks and disease prevention methods were conducted before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcolgel) and other personal hygiene goods.
<b><u>Work site cleanliness</u></b>					
All activities	25.	The work site kept clean from debris, garbage, etc.		Yes	The work site kept clean and the area near the towers was cleaned from debris, garbage, etc.
All activities	26.	Bins for garbage collection are installed		Yes	Bins for garbage collection are installed on-site
All activities using machinery	27.	Tires of trucks are cleaned before entering city/community roads and roads are not dirtied by mud and other construction related dirt		N/A	
All activities using liquid materials	28.	Spillages are managed properly		Yes	During monitoring visit spillages were not observed

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All activities	29.	The work site disinfection process for COVID-19 prevention is organized.		<b>Yes</b>	All workers are provided with and using the necessities to prevent the COVID-19 spread (disinfectants, masks, gloves, etc.).
<b><u>Public communication and grievance redress mechanism; environmental issues</u></b>					
All activities	30.	Meeting with community members on construction activities, environmental impacts and mitigation measures held		<b>N/A</b>	
All activities	31.	Register of complaints maintained, complains observed during the last visit addressed		<b>Yes</b>	Register of complaints available on-site
All activities	32.	People are notified on inconveniences: water, electricity breaks, etc.		<b>N/A</b>	Electrical supply switch overs under the responsibility of EPSO and HVEN according to the Contractor's request
<b><u>Environmental parameters:</u></b>					
<b><u>Dust control</u></b>					
Earth works, material delivery	33.	Trucks are operating using covers		<b>N/A</b>	In this stage of works trucks were not used
	34.	Dust control measures are effective		<b>N/A</b>	In this stage of works powder-making works were not implemented
	35.	Equipment and haul vehicles are fitted with effective emission control equipment		<b>Yes</b>	Equipment and haul vehicles are in operational stage. Technical inspection certificate is available
<b><u>Noise control</u></b>					

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Operation of machinery while earth works, material delivery	36.	Construction noise levels are acceptable at closest sensitive receptor		<b>N/A</b>	
	37.	Equipment fitted with effective silencers		<b>Yes</b>	Equipment and haul vehicles are in operational stage. Technical inspection certificate is available
	38.	Managed by restricting operating hours		<b>Yes</b>	Works implemented from 09:00 till 18:00.
	39.	Managed by portable noise barrier panels		<b>N/A</b>	
<b><u>Vibration control</u></b>					
Operation of machinery	40.	Managed by reducing time exposed to vibration		<b>N/A</b>	
	41.	Managed by portable vibration barrier panels		<b>N/A</b>	
<b><u>Erosion control:</u></b>					
Earthworks	42.	Excavated slopes stabilized		<b>N/A</b>	
<b><u>Tree planting</u></b>					
All activities	43.	Proper maintenance of re-planted trees and shrubs, protection of existing vegetation and lawns.		<b>N/A</b>	
<b><u>Construction waste management</u></b>					
Earthworks	44.	Materials and newly generated construction waste are retained in spoil dumps at temporary accumulation sites agreed with Consultant.		<b>N/A</b>	
Earthworks	45.	Remains of materials and previously detected construction waste is hauled from worksite		<b>N/A</b>	
Earth works, demolition of structures,	46.	Non-hazardous waste (excavation material, rocks, concrete and metallic parts, etc.) is managed in accordance with SEMP.		<b>N/A</b>	
Dismantling of utilities	47.	Utilities are dismantled and managed in accordance with SEMP		<b>N/A</b>	

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Use of chemicals, lubricants, fuel, etc. while all activities	48.	Leakages and liquid waste are managed in accordance with SEMP.		N/A	
<b>Contractor's facilities and equipment</b>					
Contractor's camp establishment	49.	Site Management Plan for the Camp is available.		N/A	
Parking of machinery	50.	Machinery is parked in approved area		Yes	Machinery parked in the RoW near supporting pole of power
Mobile house	51.	Mobile house is installed in approved area		N/A	
Storage of materials	52.	Materials are stored in regular heaps and in approved areas		N/A	
Contractor's facilities	53.	Contractor's facilities are established according to SEMP		Yes	Contractor's facilities were available and managed according to SEMP

**Attachments / Վիդ նյութեր**

(Eg. Photos, Remarks, Laboratory reports etc) / (օրինակ՝ նկարներ, նշումներ, լաբորատոր հաշվառվածություններ, այլ)



Նկար 1 / Picture 1



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Алсур 2 / Picture 2

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Алсур 3 / Picture 3

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Април 4 / Picture 4



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Extension and Upgrade of the SCADA/EMS Project



Април 5 / Picture 5



**ADB Loan 3150 – ARM**  
**Power Transmission Rehabilitation**  
**Project Extension and Upgrade of the**  
**SCADA/EMS Project**






**Contract No. EPSO – 220**

**MONTHLY ENVIRONMENTAL REPORT**  
**May 2021**

**RDNT\_R\_HSE023\_en\_am\_03062021**



Rev	01	03.06.2021	Date	Initial Version	A. Gabrielyan	Checked / Clearance																				
<b>Employer:</b> Electro Power System Operator (EPSO) Street Address: 27, Abovyan Str. Yerevan 0009, Armenia																										
<b>Consultant Joint Venture:</b> <table border="0"> <tr> <td>Lahmeyer International GmbH Friedberger Strasse 173 61118 Bad Vilbel, Germany</td> <td>CESI S.p.A. Via Rubattino 54 20134 Milan, Italy</td> <td>AMERIA 9, G. Lusavorich Str. Yerevan 0015, Armenia</td> </tr> </table>							Lahmeyer International GmbH Friedberger Strasse 173 61118 Bad Vilbel, Germany	CESI S.p.A. Via Rubattino 54 20134 Milan, Italy	AMERIA 9, G. Lusavorich Str. Yerevan 0015, Armenia																	
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<b>Project:</b> ADB Loan 3150 – ARM Power Transmission Rehabilitation Project Extension and Upgrade of the SCADA/EMS Project																										
<b>Document Title:</b> Health, Safety and Environment Monthly Report May 2021 Առողջության, անվտանգության և շրջակա միջավայրի ամսական հաշվետվություն մայիս 2021 <b>Revision Number:</b> 001 <b>Date:</b> 03.06.2021 <b>Contractor's Document Number:</b> RDNT_R_HSE 023_en_am_03062021 <b>Page Number/s:</b> 33 <b>Brief Description of the Content of Document/Drawing:</b> Health, Safety and Environment Monthly Report May 2021 Առողջության, անվտանգության և շրջակա միջավայրի ամսական հաշվետվություն մայիս 2021																										
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Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

**ADB Loan 3150 – ARM: Power Transmission Rehabilitation Project  
Extension and Upgrade of the SCADA/EMS Project**

## **MONTHLY ENVIRONMENTAL, HEALTH AND SEFETY REPORT**

**May 2021**

Contractor: **Redinet CJSC and Siemens Aktiengesellschaft, Österreich  
Contractor Consortium**

Date	Drafted by
<b>03 June, 2021</b>	<b>Arman Khachatryan</b>



Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

## LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADSS	All-dielectric self-supporting
AIDS	Acquired Immune Deficiency Syndrome
AP	Affected People
CC	Construction Contractor
CJSC	Closed Joint Stock Company
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPSO	Electro Power System Operator
ERP	Emergency Response Plan
HIV	Human Immunodeficiency Virus
HPP	Hydro Power Plant
HSE	Health, Safety and Environment
HSEMS	Health, Safety and Environment Management System
HSMS	Health and Safety Management System
HVEN	High Voltage Electric Networks
IA	Implementation Agency
MENR	Ministry of Energy and Natural Resources
OHL	Overhead Transmission Line
OPAC	Optical Attached Cable
OPGW	Optical Ground Wire
RA	Republic of Armenia (Armenia)
RoW	Right of Way
SCADA	Supervisory Control and Data Acquisition
SNCO	State Non-Commercial Organization
SS, S/S, s/s	Substation
ToR	Terms of References



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Extension and Upgrade of the SCADA/EMS Project

## **1. INTRODUCTION**

### **1.1. Preamble**

Monthly Environmental Report is prepared and submitted on monthly basis.

This monthly report covers the Environmental and Health and Safety activities of the Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium (hereby Contractor) of May, 2021.

### **1.2. Headline Information**

Construction works on the transmission lines and the rehabilitation of the SCADA system under the Extension and Upgrade of the SCADA/EMS (hereby Project) within the framework of “Power Transmission Rehabilitation Project” were commenced on April 01, 2021.



Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

## **2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES**

### **2.1. Project Description**

The Project area covers 4 regions (Syunik, Yerevan, Ararat, and Armavir) of the Republic of Armenia.

This Project presents the rehabilitation of the SCADA system, as well as the replacement of the existing ground wire by an Optical Ground Wire for **Tatev 1, 2 110kV, Nairit 1, 2 110kV, Nairi 220kV and Erebuni 220kV** transmission lines.

Project is foreseen to complement the Supervisory Control and Data Acquisition (SCADA) system in Armenia's national grid by ADB funding. This part of the project includes:

- around 82 km length (extension of the project) along Tatev 1, 2 110kV, Nairit 1, 2 110kV, Nairi 220 kV and Erebuni 220 kV OHLs the existing ground wire replacement by an Optical Ground Wire (OPGW)
- ADSS (All Dielectric Self Supporting), - at an around 2 km ADSS optical fiber cable will be installed,

According to the Initial Environmental Assessment (IEE) the Project was considered to be a Category B project and not requiring an Environmental Impact Assessment (EIA).

The replacement of the existing earth wire by OPGW will be done in a way that access with small trucks will be necessary only to angle towers (max. ca. 10 suspension towers in between). All other towers in between will be approachable only by footpath. The re-stringing works will not interfere with objects or terrain between the section towers.

In order to strengthen and to maintain a reliable power supply in Armenia, there is no alternative to the proposed rehabilitation measures.

In general, the main rehabilitation measures in the frame of Project activities will cover replacement and extension of electrical equipment, OPGW and OPAC.

### **2.2. Project Contracts and Management**

#### **Contractor**

Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium here in

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after the Contractor is an entity responsible for the implementation of the present SEMP. Contractor's Environmental, Health and Safety Specialist (EHSS) are responsible for developing, implementing and monitoring the SEMP procedures.

#### **Contractor's staff responsibilities for managing the SEMP**

The persons within the Contractor's team who are directly responsible for supervising the SEMP activities are:

- ✓ Environmental Specialist – Arman Khachatryan
- ✓ Health and Safety Specialist – Mikael Tevosyan
- ✓ Contractor's Site Engineer – Karen Agababyan
- ✓ Contractor's Site Foreman – Rustam Arakelyan

#### **Consultant**

Tractebel Engineering GmbH, CESI S.p.A. and AMERIA Consultant Joint Venture (LI/CESI/Ameria) here in after the Consultant or PIC, is represented by the Resident Engineer (RE). The Environmental, Health and Safety Specialist of Consultant (HSE) is the main contact point between the Contractor and the Supervising Consultant. The HSE is responsible to the RE. All written communications with the Contractor concerning the SEMP will be via the RE.

#### **Implementing agency**

Roles and responsibilities of the IA are defined according to the IEE and ADB Loan agreement.

### **2.3. Project Activities during current reporting period**

In the reporting period the following activities were implemented in Project:

Extension and Upgrade of the SCADA/EMS is being implemented by Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium.

During the reporting period (May 01th to 31th, 2020) Contractor continues preparation, stringing and fixing works on "Erebuni 220kV" transmission line, as well as starts stringing and preparation works on "Nairi 220kV" transmission line.

The following construction works have been implemented during the reporting period:



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**Table 1:** Type of construction works implemented during the month

Type of works	Section	Status of works
<b>Erebuni 220kV transmission line</b>		
OPGW stringing	Towers N 1-3, 7-9 ~ 1380m	Finished
OPGW fixing	Towers N 2-12	Finished
<b>Nairi 220kV transmission line</b>		
OPGW stringing	Towers N 2-13, 19-30 ~ 9700m	Finished
OPGW preparation works	Towers N 59-60	Finished

4 Join Boxes and 2 ODF installed in Yerevan HPP territory on Nairi 220 kV and Erebuni 220 kV OT lines.

No other construction works have been carried out.

On the table below presents the maximum and minimum number of workers worked on construction on “Erebuni 220kV” and “Nairi 220kV” transmission lines during reporting period and anticipated changes in staff in following period.

**Table 2:** Number of workers

Construction site	Number of workers in April		Anticipated changes in staff in April 2021
	Minimum	Maximum	
Erebuni 220kV OPGW	6 person	7 person	Changes in staff are not anticipated in April

#### 2.4. Description of Any Changes to Project Design

No changes.

#### 2.5. Description of Any Changes to Agreed Construction methods

No changes.





### **3. ENVIRONMENTAL SAFEGUARD ACTIVITIES**

#### **3.1. General Description of Environmental Safeguard Activities**

##### **Activities**

Contractor's Environmental Health and Safety team have been implemented the following works during the reporting period.

- a. Based on world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site.
- b. A responsible person for measures to prevent the spread of coronavirus disease was appointed and all the measures presented in H&S Plan and ERP parts of EMP were accomplished (Responsible person` Site Foreman, Arakelyan Rustam)
- c. Organized and held environmental monitoring and Health and Safety inspection visits to construction sites.

##### **Submitted documents**

No documents have been submitted.

##### **Communication with Consultant and IA**

Communication with Consultant and IA have not taken place in this reporting period.

#### **3.2. Site Audits**

**On May 10, 2021** the Contractor's Environmental Specialist made a monitoring visit to the construction site on "Erebuni 220kV" transmission line near towers N7-9 to monitor compliance of SiteSpecific Environmental Management Plan during Project implementation works. A site visit monitoring check lists were filled in and were provided to the Consultant team as a Mitigation Compliance & Inspection Monitoring report (see annex 1).

During the construction works no discrepancies were recorded.

The team was comprised as follows:

##### Contractor -Redinet LLC

"Erebuni 220kV" and "Nairi 220kV" transmission lines construction engineer: Karen

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Agababyan

Environmental Specialist: Arman Khachatryan

The purpose of the visits was the regular monitoring of the site to check compliance with SEMP:

- ✓ Study the current situation and form a complete picture on the existing construction work activities;
- ✓ Assess environmental, health and safety situation.

Description of the visit

The participants visited the construction areas, review the existing environmental and HS situation on site and discussed the possible environmental and HS issues which could occur or exist during the construction, and related documentations existence, health and safety, environmental requirements during the works process.

### 3.3. Issues Tracking (Based on Non-Conformance Notices)

During the monitoring visit on 10 of May, 2021 to the Erebuni 220 kV OPGW, no discrepancies were recorded.

#### Summary of Issues Tracking Activity for May 2021

**Table 5.** Summary of Issues Tracking Activity for May 2021

	Erebuni 220kV	Nairi 220kV	Total for the Project for May 2021
Total Number of Issues for Project	0	0	0
Number of Open Issues	0	0	0
Number of Closed Issues	0	0	0
Percentage Closed	0%	0%	0%
Issues Opened This Reporting Period	0	0	0
Issues Closed This Reporting Period	0	0	0

#### Defect notices received and status of all non-conforming work

In the reporting period no non-compliance notices were issued by the Consultant.

### 3.4. Trends

Good performance of SEMP requirements was demonstrated.



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**Table 6.** Trends of issues

Monthly Report	Total No of Issues	% issues Closed	% issues closed late
April	-	-	-
May	-	-	-
June	-	-	-
July	-	-	-
August	-	-	-
September	-	-	-
October	-	-	-
November	-	-	-
December	-	-	-
January	-	-	-
February	-	-	-
March	-	-	-

### 3.5. Unanticipated Environmental Impacts or Risks

The unanticipated environmental impacts and risks which were not identified in the Impact Assessment process was not have identified in the current period.



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## **4. RESULTS OF ENVIRONMENTAL MONITORING**

### **4.1. Overview of Monitoring Conducted during Current Period**

Instrumental monitoring was not carried out during reporting period. During reporting month, before starting the construction works near to the houses all inhabitants were warned and all relevant measures to protect the people and their property were implemented.

During the reporting period the topsoil was not generated.

### **4.2. Trends**

Not applicable

### **4.3. Summary of Monitoring Outcomes**

Not applicable

### **4.4. Material Resources Utilisation**

#### **4.4.1. Current Period**

Not applicable

#### **4.4.2. Cumulative Resource Utilisation**

Not applicable

### **4.5. Waste Management**

The following waste was generated and/ or removed during the reporting period:

Construction waste generated as a result of demolition of old grounding wires is temporary collected in the Redinet CJSC base in Yerevan before handed over to HVEN. All used/empty coils of Fiber Optic Cables and dismantled/changed old equipment temporary collected in the Redinet CJSC base in Yerevan before handled over to EPSO. The materials collected in the Redinet CJSC base were not handled over during reporting period.

Solid waste (garbage) was collected in bins specially installed at construction site, then was transported to the Redinet CJSC base in Yerevan and will be transported to the relevant dump site by Kanaker-Zeytun Administrative district (according to the Payment invoice for



2020 year).

No hazardous wastes, no dangerous wastes were generated during the Project implementation in the May 2021.

The site was handed under the condition of further obligatory cleaning, improvement.

#### **4.6. Health and Safety**

##### **4.6.1. Community Health and Safety**

No incidents have occurred during the reporting period

The site foreman` Rustam Arakelyan was present at the construction site all the time and was ready to answer to all questions from inhabitants/interested persons.

Complaints register - books prepared and available in the construction site. In the reporting period no complaints were received.

##### **4.6.2. Worker Safety and Health**

No incidents have occurred during the reporting period

Appropriate Health and Safety inductions were implemented during construction works in "Erebuni 220kV" and "Nairi 220kV" transmission lines. The foremens of mentioned construction sites were instructed to keep the HS induction journals in construction sites. All Contractor's workers and staff were provided with and using job-specific PPE. The only thing, that is missing, is relevant safety shoes. Contactor has already ordered the relevant safety shoes and the deliverance is awaited in June. All mechanisms and tools (set of hand tools, hand winch, counterweights, etc.) which were used by workers during reporting month were inspected and safe.

Due to world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcogel) and other personal hygiene goods. The workers thermometers two times per day with a remote thermometer. No COVID-19 symptoms were found in any of the staff.

The workers were provided by sanitary-hygienic necessities within construction site; mealtime and rest facilities, washing and drinking water. Also due to COVID-19 pandemic,



the workers were provided by disinfectants, gloves, protective masks etc.

Electrical supplies switch over made during reporting period in “Erebuni 220kV” and “Nairi 220kV” transmission lines the frame of under the responsibility of EPSO and HVEN according to the Contractor’s request.

#### **Traffic management**

During reporting month, before starting the construction works near to the houses all inhabitants were warned and all relevant measures to protect the people and their property were implemented.

Construction traffic was organized not to interfere with public traffic, not to block the public and pedestrians’ roads, as well as the entrance into properties, small businesses.

All construction works were commenced at 09.00 am and complete at 6.00pm.

Traffic of machinery was organized within RoW. New alternative/temporary roads for machinery and trucks traffic were not constructed during reporting period.

Driving and technical inspection licenses trucks/machinery were checked by Contractor's Environmental, Health and Safety specialist before they were employed.

During the reporting period public roads were not blocked and road traffic was not interrupted.

### **4.7. Training**

#### **Staff trainings**

Contractor organized and implemented environmental, H&S training for the engineering staff, foremen and workers who work on OPGW on 20 and 22 of July 2018. New workers were not hired during reporting period.

In case of COVID 19 infection risks the instruction on issues of disease prevention methods were conducted for Contractor’s staff before the actual construction works were started. The staff was informed about the risks of COVID-19 and about the measures to prevent the spread of coronavirus disease before the works were started.





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## **5. FUNCTIONING OF THE SEMP**

### **5.1. SEMP Review**

Contractor was able to implement fully the requirements set out in the SEMP. There was no any area where the contractor has not been able to implement mitigation or monitoring measures.

There were not needed to change, reduce or remove the mitigation measures set out in the SEMP. The SEMP is effective.



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## **6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT**

### **6.1. Good Practice**

Cases with good practice during reporting period was not recorded. All routine construction works were implemented according to the SEMP requirements.

### **6.2. Opportunities for Improvement**

Areas which may be outside of the formal SEMP implementation process, but which changes to construction techniques, mitigation etc would result in an improvement or reducing in environmental, health and safety performance of the project were not identified during reporting period.





## **7. SUMMARY AND RECOMMENDATIONS**

### **7.1. Summary**

During the reporting period Contractor's Environmental Specialist conducted monitoring visits to the Project construction sites to monitor implementation of all mitigation measures of mentioned in the SEMP. During the construction works no discrepancies were recorded. Only one issue was recorded, which concerns the safety shoes.

In the reporting period non-compliance notices were not received from the Consultant.

Due to world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcolgel) and other personal hygiene goods. A responsible person for measures to prevent the spread of coronavirus disease, Rustam Arakelyan was there and controlled the situation over prevention measures.

All construction works in the frame of the Project were implemented in accordance with SEMP and IEE requirements.

### **7.2. Recommendations**

During the reporting month Contractor had not any recommendations for changes to the Environmental Safeguarding process for the project.

### **7.3. Future program**

The following activities are planned for June 2021:

- ✓ OPGW preparation and installation on Erebuni 220kV and Nairi 220kV transmission lines;
- ✓ Daily supervision of environmental, health and safety activity during construction process by Site foreman;
- ✓ Regular monitoring visits and reporting on environmental safeguards by Contractor's Environmental, Health and Safety Specialists;
- ✓ Organize environmental, health and safety corrective action based on Consultant Monitoring reports and supervisors verbal instructions (if any);



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- ✓ Consultation to IA and Consultant on any environmental issues (if needed);
- ✓ Monthly reporting on HSE safeguards;
- ✓ H&S training for the engineering staff, foremen and workers.



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## 8. ANNEXES



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## Annex 1

## MITIGATION COMPLIANCE &amp; INSPECTION MONITORING CHECKLIST

**Project:** Extension and Upgrade of the SCADA/EMS Project

**Implementing Agency:** Redinet LLC

**Scope of Inspection:** Erebuni transmission line, Towers N 7-9

**Date:** 10.05.2021

**Weather Condition:** Sunny

**Attendees Name & Position:** Arman Khachatryan, Environmental Specialist (Redinet LLC)

**Project:** Extension and Upgrade of the SCADA/EMS Project

WORK SITE: General					
Environmental management: environmental team, health & safety, emergency, trainings, grievance redress mechanism					
Construction Activity		Mitigation Measure (as per EMP/SEMP)	Consultant's corrective action request available	Mitigation/ corrective action implemented Yes / No /N/A	Comments
<u>Environmental team</u>					
All activities	1.	Person in charge on environmental management is appointed and is present on-site.		Yes	The site responsible chief in charge on environmental management issues from Contractor respectively is site manager: Karen Aghababayan

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All activities	2.	Person in charge on H&S management is appointed and is present on-site		<b>Yes</b>	The site responsible chief in charge on H&S management issues from Contractor respectively is site manager: Karen Aghababayan
<b><u>Health &amp; safety</u></b>					
All activities	3.	Warning signs and exclusion barriers erected around work site areas.		<b>N/A</b>	The relevant person from workers is appointed to exclude the possibility of outsider's entrance
All activities	4.	Access of strangers and outsiders is excluded.		<b>N/A</b>	
All activities	5.	Workers are provided with and are using the uniform, applicable safety/protection equipment for site conditions		<b>Yes</b>	All workers are provided with applicable PPE. The only thing, that is missing, is relevant safety shoes. Contactor has already ordered the relevant safety shoes and the deliverance of the shoes is awaited in June.

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All activities	6.	Workers are provided with all the necessities to prevent the COVID-19 spread (masks, gloves, etc.)		Yes	All workers are provided with and using the necessities to prevent the COVID-19 spread (masks, gloves, etc.)
All activities	7.	Unsafe practices on-site are excluded		Yes	All workers are provided with and using job-specific PPE. All mechanisms and tools (set of hand tools, hand winch, counterweights, etc.) which were used by workers were inspected and safe
Works on overpasses	8.	Safety on the overpasses is ensured		N/A	
All activities	9.	Worker's health checks implemented		Yes	Medical worker/Doctor was already hired by Contractor. The responsible person for measures to prevent the spread of coronavirus is Rustam Arakelyan

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All activities	10.	Sanitary-hygienic conditions for workers are provided: drinking and washing water supply, mealtime utilities, rest time, etc.		Yes	The rest and mealtime utilities are provided. Drinking water for workers is provided.
All activities	11.	All conditions for COVID-19 spread prevention are implemented (social distance, frequently handwashing, group size reducing, etc.)		Yes	The responsible person for measures to prevent the spread of coronavirus Rustam Arakelyan is on-site and is ensuring relevant conditions
All activities	12.	All necessary hygienic materials needed for good hygienic practice and COVID-19 prevention are provided (soap, disinfectants, etc.)		Yes	All workers are provided with necessary hygienic materials (soap, disinfectants, etc.)
All activities	13.	First aid kit is available on-site and is accessible to all workers.		Yes	First aid kit available on-site
All activities	14.	Fire extinguisher available		Yes	Fire extinguisher available on-site
All activities	15.	Safety of the public is ensured		N/A	
<b>Emergency Response Plan</b>					
All activities	16.	Person in charge on emergency is appointed and is present on-site		Yes	The site responsible chief in charge on emergency issues from Contractor respectively is site manager: Karen Aghababayan

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All activities	17.	Copy of ERP and emergency contact list are available, updated and posted in a visible place at all worksites.		Yes	Copy of ERP and emergency contact list available on-site
All activities	18.	Accident report maintained		Yes	Accident report form available on-site
All activities	19.	Damage of utilities and/or other structures managed.		N/A	Electrical supply switches over under the responsibility of EPSO and HVEN according to the Contractor's request.
All activities	20.	The list of hospitals in Yerevan and regions is provided.		Yes	The list of hospitals in Yerevan and regions available on-site.
<b><u>Trainees and orientation courses</u></b>					
All activities	21.	Workers briefed on CEMP/ SEMP at time of starting employment.		Yes	New workers were not hired during reporting period.
All activities	22.	Workers briefed on ERP at time of starting employment.		Yes	New workers were not hired during reporting period.
All activities	23.	Job-specific environmental and safety training for workers provided		Yes	New workers were not hired during reporting period.

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All activities	24.	The trainings of HIV/ AIDs and COVID-19 prevention measures are provided.		Yes	The instruction of Contractor staff on issues of COVID 19 infection risks and disease prevention methods were conducted before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcolgel) and other personal hygiene goods.
<b><u>Work site cleanliness</u></b>					
All activities	25.	The work site kept clean from debris, garbage, etc.		Yes	The work site kept clean and the area near the towers was cleaned from debris, garbage, etc.
All activities	26.	Bins for garbage collection are installed		Yes	Bins for garbage collection are installed on-site
All activities using machinery	27.	Tires of trucks are cleaned before entering city/community roads and roads are not dirtied by mud and other construction related dirt		N/A	
All activities using liquid materials	28.	Spillages are managed properly		Yes	During monitoring visit spillages were not observed

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All activities	29.	The work site disinfection process for COVID-19 prevention is organized.		Yes	All workers are provided with and using the necessities to prevent the COVID-19 spread (disinfectants, masks, gloves, etc.).
<b>Public communication and grievance redress mechanism; environmental issues</b>					
All activities	30.	Meeting with community members on construction activities, environmental impacts and mitigation measures held		N/A	
All activities	31.	Register of complaints maintained, complains observed during the last visit addressed		Yes	Register of complaints available on-site
All activities	32.	People are notified on inconveniences: water, electricity breaks, etc.		N/A	Electrical supply switch overs under the responsibility of EPSO and HVEN according to the Contractor's request
<b>Environmental parameters:</b>					
<b>Dust control</b>					
Earth works, material delivery	33.	Trucks are operating using covers		N/A	In this stage of works trucks were not used
	34.	Dust control measures are effective		N/A	In this stage of works powder-making works were not implemented
	35.	Equipment and haul vehicles are fitted with effective emission control equipment		Yes	Equipment and haul vehicles are in operational stage. Technical inspection certificate is available
<b>Noise control</b>					

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Operation of machinery while earth works, material delivery	36.	Construction noise levels are acceptable at closest sensitive receptor		N/A	
	37.	Equipment fitted with effective silencers		Yes	Equipment and haul vehicles are in operational stage. Technical inspection certificate is available
	38.	Managed by restricting operating hours		Yes	Works implemented from 09:00 till 18:00.
	39.	Managed by portable noise barrier panels		N/A	
<b>Vibration control</b>					
Operation of machinery	40.	Managed by reducing time exposed to vibration		N/A	
	41.	Managed by portable vibration barrier panels		N/A	
<b>Erosion control:</b>					
Earthworks	42.	Excavated slopes stabilized		N/A	
<b>Tree planting</b>					
All activities	43.	Proper maintenance of re-planted trees and shrubs, protection of existing vegetation and lawns.		N/A	
<b>Construction waste management</b>					
Earthworks	44.	Materials and newly generated construction waste are retained in spoil dumps at temporary accumulation sites agreed with Consultant.		N/A	
Earthworks	45.	Remains of materials and previously detected construction waste is hauled from worksite		N/A	
Earth works, demolition of structures,	46.	Non-hazardous waste (excavation material, rocks, concrete and metallic parts, etc.) is managed in accordance with SEMP.		N/A	
Dismantling of utilities	47.	Utilities are dismantled and managed in accordance with SEMP		N/A	

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Use of chemicals, lubricants, fuel, etc. while all activities	48.	Leakages and liquid waste are managed in accordance with SEMP.		N/A	
<b>Contractor's facilities and equipment</b>					
Contractor's camp establishment	49.	Site Management Plan for the Camp is available.		N/A	
Parking of machinery	50.	Machinery is parked in approved area		Yes	Machinery parked in the RoW near supporting pole of power
Mobile house	51.	Mobile house is installed in approved area		N/A	
Storage of materials	52.	Materials are stored in regular heaps and in approved areas		N/A	
Contractor's facilities	53.	Contractor's facilities are established according to SEMP		Yes	Contractor's facilities were available and managed according to SEMP

**Attachments / Վիզիտներ**

(Eg. Photos, Remarks, Laboratory reports etc) / (օրինակ՝ նկարներ, նշումներ, լաբորատոր հաշվառվածություններ, այլ)

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Նկար 1 / Picture 1

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Աղաք 2 / Picture 2

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Աղաք 3 / Picture 3

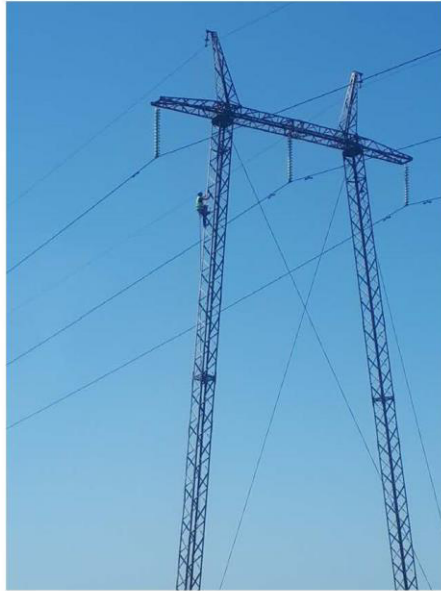
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Улау: 4 / Picture 4






**ADB Loan 3150 – ARM  
Power Transmission Rehabilitation  
Project Extension and Upgrade of the  
SCADA/EMS Project**



**Contract No. EPSO – 220**

**MONTHLY ENVIRONMENTAL REPORT  
June 2021**

**RDNT\_R\_HSE024\_en\_13072021**

Rev	01	13.07.2021	Date	Initial Version	Revision Details	A. Gabrielyan	Checked / Clearance																				
<b>Employer:</b> Electro Power System Operator (EPSO) Street Address: 27, Abovyan Str. Yerevan 0009, Armenia																											
<b>Consultant Joint Venture:</b> <table border="0"> <tr> <td>Lahmeyer International GmbH Friedberger Strasse 173 61118 Bad Vilbel, Germany</td> <td>CESI S.p.A. Via Rubattino 54 20134 Milan, Italy</td> <td>AMERIA 9, G. Lusavorich Str. Yerevan 0015, Armenia</td> </tr> </table>								Lahmeyer International GmbH Friedberger Strasse 173 61118 Bad Vilbel, Germany	CESI S.p.A. Via Rubattino 54 20134 Milan, Italy	AMERIA 9, G. Lusavorich Str. Yerevan 0015, Armenia																	
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<b>Provider (Redinet or Siemens):</b> "Redinet" CJSC																											
<b>Project:</b> ADB Loan 3150 – ARM Power Transmission Rehabilitation Project Extension and Upgrade of the SCADA/EMS Project																											
<b>Document Title:</b> Health, Safety and Environment Monthly Report June 2021 Առողջության, անվտանգության և շրջակա միջավայրի ամսական հաշվետվություն հունիս 2021 <b>Revision Number:</b> 001 <b>Date:</b> 13.07.2021 <b>Contractor's Document Number:</b> RDNT_R_HSE 024_en_13072021 <b>Page Number/s:</b> 41 <b>Brief Description of the Content of Document/Drawing:</b> Health, Safety and Environment Monthly Report June 2021 Առողջության, անվտանգության և շրջակա միջավայրի ամսական հաշվետվություն հունիս 2021																											
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Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
Extension and Upgrade of the SCADA/EMS Project

<b>ADB Loan 3150 – ARM: Power Transmission Rehabilitation Project Extension and Upgrade of the SCADA/EMS Project</b>	
<b>MONTHLY ENVIRONMENTAL, HEALTH AND SEFETY REPORT</b>	
<b>June 2021</b>	
<b>Contractor: Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium</b>	
Date	Drafted by
<b>13 July, 2021</b>	<b>Arman Khachatryan</b>



Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
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## LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADSS	All-dielectric self-supporting
AIDS	Acquired Immune Deficiency Syndrome
AP	Affected People
CC	Construction Contractor
CJSC	Closed Joint Stock Company
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPSO	Electro Power System Operator
ERP	Emergency Response Plan
HIV	Human Immunodeficiency Virus
HPP	Hydro Power Plant
HSE	Health, Safety and Environment
HSEMS	Health, Safety and Environment Management System
HSMS	Health and Safety Management System
HVEN	High Voltage Electric Networks
IA	Implementation Agency
MENR	Ministry of Energy and Natural Resources
OHL	Overhead Transmission Line
OPAC	Optical Attached Cable
OPGW	Optical Ground Wire
RA	Republic of Armenia (Armenia)
RoW	Right of Way
SCADA	Supervisory Control and Data Acquisition
SNCO	State Non-Commercial Organization
SS, S/S, s/s	Substation
ToR	Terms of References



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## **1. INTRODUCTION**

### **1.1. Preamble**

Monthly Environmental Report is prepared and submitted on monthly basis.

This monthly report covers the Environmental and Health and Safety activities of the Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium (hereby Contractor) of June, 2021.

### **1.2. Headline Information**

Construction works on the transmission lines and the rehabilitation of the SCADA system under the Extension and Upgrade of the SCADA/EMS (hereby Project) within the framework of “Power Transmission Rehabilitation Project” were commenced on April 01, 2021.





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## **2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES**

### **2.1. Project Description**

The Project area covers 4 regions (Syunik, Yerevan, Ararat, and Armavir) of the Republic of Armenia.

This Project presents the rehabilitation of the SCADA system, as well as the replacement of the existing ground wire by an Optical Ground Wire for **Tatev 1, 2 110kV, Nairit 1, 2 110kV, Nairi 220kV and Erebuni 220kV** transmission lines.

Project is foreseen to complement the Supervisory Control and Data Acquisition (SCADA) system in Armenia's national grid by ADB funding. This part of the project includes:

- around 82 km length (extension of the project) along Tatev 1, 2 110kV, Nairit 1, 2 110kV, Nairi 220 kV and Erebuni 220 kV OHLs the existing ground wire replacement by an Optical Ground Wire (OPGW)
- ADSS (All Dielectric Self Supporting), - at an around 2 km ADSS optical fiber cable will be installed,

According to the Initial Environmental Assessment (IEE) the Project was considered to be a Category B project and not requiring an Environmental Impact Assessment (EIA).

The replacement of the existing earth wire by OPGW will be done in a way that access with small trucks will be necessary only to angle towers (max. ca. 10 suspension towers in between). All other towers in between will be approachable only by footpath. The re-stringing works will not interfere with objects or terrain between the section towers.

In order to strengthen and to maintain a reliable power supply in Armenia, there is no alternative to the proposed rehabilitation measures.

In general, the main rehabilitation measures in the frame of Project activities will cover replacement and extension of electrical equipment, OPGW and OPAC.

### **2.2. Project Contracts and Management**

#### **Contractor**

Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium here in

---

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after the Contractor is an entity responsible for the implementation of the present SEMP. Contractor's Environmental, Health and Safety Specialist (EHSS) are responsible for developing, implementing and monitoring the SEMP procedures.

#### **Contractor's staff responsibilities for managing the SEMP**

The persons within the Contractor's team who are directly responsible for supervising the SEMP activities are:

- ✓ Environmental Specialist – Arman Khachatryan
- ✓ Health and Safety Specialist – Mikael Tevosyan
- ✓ Contractor's Site Engineer – Karen Agababyan
- ✓ Contractor's Site Foreman – Rustam Arakelyan

#### **Consultant**

Tractebel Engineering GmbH, CESI S.p.A. and AMERIA Consultant Joint Venture (LI/CESI/Ameria) here in after the Consultant or PIC, is represented by the Resident Engineer (RE). The Environmental, Health and Safety Specialist of Consultant (HSE) is the main contact point between the Contractor and the Supervising Consultant. The HSE is responsible to the RE. All written communications with the Contractor concerning the SEMP will be via the RE.

#### **Implementing agency**

Roles and responsibilities of the IA are defined according to the IEE and ADB Loan agreement.

### **2.3. Project Activities during current reporting period**

In the reporting period the following activities were implemented in Project:

Extension and Upgrade of the SCADA/EMS is being implemented by Redinet CJSC and Siemens Aktiengesellschaft, Österreich Contractor Consortium.

During the reporting period (June 01th to 30th, 2021) Contractor continues stringing, fixing and installation works on "Nairi 220kV" transmission line.

The following construction works have been implemented during the reporting period:

**Table 1:** *Type of construction works implemented during the month*

June 2021

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Type of works	Section	Status of works
<b>Nairi 220kV transmission line</b>		
OPGW stringing, fixing and installation	Towers N 30-39 ~ 3248m Towers N 39-46 ~ 2869m Towers N 59-62 ~ 896m Towers N 62-65 ~ 696m HP – 67 ~ 553m Towers N 62-65 ~ 487m	Finished

No other construction works have been carried out.

On the table below presents the maximum and minimum number of workers worked on construction on “Nairi 220kV” transmission lines during reporting period and anticipated changes in staff in following period.

**Table 2:** Number of workers

Construction site	Number of workers in June		Anticipated changes in staff in June 2021
	Minimum	Maximum	
<b>Nairi 220kV transmission line</b>	6 person	11 person	Changes in staff are not anticipated in June

#### 2.4. Description of Any Changes to Project Design

No changes.

#### 2.5. Description of Any Changes to Agreed Construction methods

No changes.



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### **3. ENVIRONMENTAL SAFEGUARD ACTIVITIES**

#### **3.1. General Description of Environmental Safeguard Activities**

##### **Activities**

Contractor's Environmental Health and Safety team have been implemented the following works during the reporting period.

- a. Based on world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site.
- b. A responsible person for measures to prevent the spread of coronavirus disease was appointed and all the measures presented in H&S Plan and ERP parts of EMP were accomplished (Responsible person` Site Foreman, Arakelyan Rustam)
- c. Organized and held environmental monitoring and Health and Safety inspection visits to construction sites.
- d. The Environmental, H&S training for the engineering staff, foremens and workers was organized on 28.06.2021 in the general office of the Redinet LLC in the meeting hall.

##### **Submitted documents**

No documents have been submitted.

##### **Communication with Consultant and IA**

The communication in this reporting period with Consultant and IA was held in following order:

- 03.06.2021 - HSE Monthly Report for May 2021 – from: [a.gabrielyan@redinet.am](mailto:a.gabrielyan@redinet.am), to: [epso.projects@energyoperator.am](mailto:epso.projects@energyoperator.am);
- 11.06.2021 – Contractor's Environmental Specialist sent the photos of 11.06.2021 site visit to the Engineer – from: [armcreed77@gmail.com](mailto:armcreed77@gmail.com), to: [armbod@yahoo.fr](mailto:armbod@yahoo.fr);
- 12.06.2021 – The Engineer sent information about discrepancies, which were recorded during site visit to the Contractor's Environmental Specialist – from: [armbod@yahoo.fr](mailto:armbod@yahoo.fr), to: [armcreed77@gmail.com](mailto:armcreed77@gmail.com). The Environmental Specialist answered, that he will follow, that the recorded discrepancies will be corrected soon;
- 20.06.2021 – The Enginner sent the information for the Environmental, H&S training



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for the engineering staff, foremens and workers who work on OPGW, which was organized and implemented on 28.06.2021 by the Contractor's Environmental Specialist - from: [armbod@yahoo.fr](mailto:armbod@yahoo.fr), to: [armcreed77@gmail.com](mailto:armcreed77@gmail.com).

### 3.2. Site Audits

On June 11, 2021 the Contractor's Environmental Specialist and Engineer made a monitoring visit to the construction site on "Nairi 220kV" transmission line near towers N 43-44 to monitor compliance of Site-Specific Environmental Management Plan during Project implementation works. A site visit monitoring check lists were filled in and were provided to the Consultant team as a Mitigation Compliance & Inspection Monitoring report (see annex 1).

During the construction works some discrepancies were recorded, which are described in Summary and Mitigation Compliance & Inspection Monitoring Checklist.

The team was comprised as follows:

#### Contractor -Redinet LLC

"Nairi 220kV" transmission lines construction engineer: Karen Agababyan  
Environmental Specialist: Arman Khachatryan

Engineer – Environmental, Health and Safety (EHS) expert: Armen Bodoyan

The purpose of the visits was the regular monitoring of the site to check compliance with SEMP:

- ✓ Study the current situation and form a complete picture on the existing construction work activities;
- ✓ Assess environmental, health and safety situation.

#### Description of the visit

The participants visited the construction area, review the existing environmental and HS situation on site and discussed the possible environmental and HS issues which could occur or exist during the construction, and related documentations existence, health and safety, environmental requirements during the works process.





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### 3.3. Issues Tracking (Based on Non-Conformance Notices)

During the monitoring visit on 11 of June, 2021 to the Nairi 220kV transmission line, no discrepancies were recorded.

#### Summary of Issues Tracking Activity for June 2021

**Table 5.** Summary of Issues Tracking Activity for June 2021

	Nairi 220kV	Total for the Project for June 2021
Total Number of Issues for Project	4	4
Number of Open Issues	0	0
Number of Closed Issues	4	4
Percentage Closed	100%	100%
Issues Opened This Reporting Period	4	4
Issues Closed This Reporting Period	4	4

#### Defect notices received and status of all non-conforming work

In the reporting period no non-compliance notices were issued by the Consultant.

### 3.4. Trends

Good performance of SEMP requirements was demonstrated.

**Table 6.** Trends of issues

Monthly Report	Total No of Issues	% issues Closed	% issues closed late
January 2020	N/A	N/A	N/A
February 2020	N/A	N/A	N/A
March 2020	0	0	0
September 2020	0	0	0
November 2020	0	0	0
April 2021	1	0	100
May 2021	1	0	100
June 2021	4	100	0
July 2021	-	-	-
August 2021	-	-	-
September 2021	-	-	-
October 2021	-	-	-
November 2021	-	-	-
December 2021	-	-	-
January 2021	-	-	-



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February 2021	-	-	-
March 2021	-	-	-

### **3.5. Unanticipated Environmental Impacts or Risks**

The unanticipated environmental impacts and risks which were not identified in the Impact Assessment process was not have identified in the current period.



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## **4. RESULTS OF ENVIRONMENTAL MONITORING**

### **4.1. Overview of Monitoring Conducted during Current Period**

Instrumental monitoring was not carried out during reporting period. During reporting month, before starting the construction works near to the houses all inhabitants were warned and all relevant measures to protect the people and their property were implemented.

During the reporting period the topsoil was not generated.

### **4.2. Trends**

Not applicable

### **4.3. Summary of Monitoring Outcomes**

Not applicable

### **4.4. Material Resources Utilisation**

#### **4.4.1. Current Period**

Not applicable

#### **4.4.2. Cumulative Resource Utilisation**

Not applicable

### **4.5. Waste Management**

The following waste was generated and/ or removed during the reporting period:

Construction waste generated as a result of demolition of old grounding wires is temporary collected in the Redinet CJSC base in Yerevan before handed over to HVEN. All used/empty coils of Fiber Optic Cables and dismantled/changed old equipment temporary collected in the Redinet CJSC base in Yerevan before handled over to EPSO. The materials collected in the Redinet CJSC base were not handled over during reporting period.

Solid waste (garbage) was collected in bins specially installed at construction site, then was transported to the Redinet CJSC base in Yerevan and will be transported to the relevant dump site by Kanaker-Zeytun Administrative district (according to the Payment invoice for





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2020 year).

Household waste was collected in relevant bins installed at construction site, then was transported to the Redinet CJSC base in Yerevan and dumped in garbage bins.

No COVID-19 related wastes were generated during the Project implementation in the June 2021.

No hazardous wastes, no dangerous wastes were generated during the Project implementation in the June 2021.

The site was handed under the condition of further obligatory cleaning, improvement.

#### **4.6. Health and Safety**

##### **4.6.1. Community Health and Safety**

No incidents have occurred during the reporting period

The site foreman` Rustam Arakelyan was present at the construction site all the time and was ready to answer to all questions from inhabitants/interested persons.

Complaints register - books prepared and available in the construction site. In the reporting period no complaints were received.

##### **4.6.2. Worker Safety and Health**

No incidents have occurred during the reporting period

Appropriate Health and Safety inductions were implemented during construction works in "Nairi 220kV" transmission lines. The foremens of mentioned construction sites were instructed to keep the HS induction journals in construction sites. All Contractor's workers and staff were provided with and using job-specific PPE. All mechanisms and tools (set of hand tools, hand winch, counterweights, etc.) which were used by workers during reporting month were inspected and safe.

Due to world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcogel) and other personal hygiene goods. No COVID-19 symptoms were found in any of the staff.



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The workers were provided by sanitary-hygienic necessities within construction site; mealtime and rest facilities, washing and drinking water. Also due to COVID-19 pandemic, the workers were provided by disinfectants, gloves, protective masks etc.

Electrical supplies switch over made during reporting period in "Nairi 220kV" transmission lines the frame of under the responsibility of EPSO and HVEN according to the Contractor's request.

#### **Traffic management**

During reporting month, before starting the construction works near to the houses all inhabitants were warned and all relevant measures to protect the people and their property were implemented.

Construction traffic was organized not to interfere with public traffic, not to block the public and pedestrians' roads, as well as the entrance into properties, small businesses.

All construction works were commenced at 09.00 am and complete at 6.00pm.

Traffic of machinery was organized within RoW. New alternative/temporary roads for machinery and trucks traffic were not constructed during reporting period.

Driving and technical inspection licenses trucks/machinery were checked by Contractor's Environmental, Health and Safety specialist before they were employed.

During the reporting period public roads were not blocked and road traffic was not interrupted.

### **4.7. Training**

#### **Staff trainings**

Contractor organized and implemented environmental, H&S training for the engineering staff, foremens and workers who work on OPGW on 28.06.2021 in the general office of the Redinet LLC in the meeting hall.

During the training the workers were informed about:

- General principles of H&S and Environmental protection;
- Dangers, that could happen during the mentioned project implementation;
- Relevant events, that can help to prevent the dangers or dangerous situations;
- The significance of availability of first-aid kits and extinguishers on the construction sites;
- The COVID-19 spread prevention measures;



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- Organization of emergency medical care in case of a bite of a snake and/or a scorpion;
- Heat Stress Prevention Work Practices.

New workers were not hired during reporting period.

Photos of the environmental, H&S training for the engineering staff, foremens and workers are attached (see attachements).

In case of COVID 19 infection risks the instruction on issues of disease prevention methods were conducted for Contractor's staff before the actual construction works were started. The staff was informed about the risks of COVID-19 and about the measures to prevent the spread of coronavirus disease before the works were started.



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## **5. FUNCTIONING OF THE SEMP**

### **5.1. SEMP Review**

Contractor was able to implement fully the requirements set out in the SEMP. There was no any area where the contractor has not been able to implement mitigation or monitoring measures.

There were not needed to change, reduce or remove the mitigation measures set out in the SEMP. The SEMP is effective.



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## **6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT**

### **6.1. Good Practice**

Cases with good practice during reporting period was not recorded. All routine construction works were implemented according to the SEMP requirements.

### **6.2. Opportunities for Improvement**

Areas which may be outside of the formal SEMP implementation process, but which changes to construction techniques, mitigation etc would result in an improvement or reducing in environmental, health and safety performance of the project were not identified during reporting period.



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## **7. SUMMARY AND RECOMMENDATIONS**

### **7.1. Summary**

During the reporting period Contractor's Environmental Specialist and Engineer conducted monitoring visits to the Project construction sites to monitor implementation of all mitigation measures of mentioned in the SEMP. During the construction works non-compliance discrepancies were recorded. Some discrepancies have been identified during site visit, which are:

- Missing bins for COVID-19 wastes;
- Negligence in the working truck;
- Fire extinguisher, which was out of date.

All discrepancies were recorded by the Contractor and solved in a short time.

In the reporting period non-compliance notices were not received from the Consultant.

Due to world wide situation with COVID 19 pandemia the instruction of Contractor staff on issues of infection risks and disease prevention methods (including the use of face protective masks, social distance, disinfection of work surfaces and personal hygiene) were implemented before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcogel) and other personal hygiene goods. A responsible person for measures to prevent the spread of coronavirus disease, Rustam Arakelyan was there and controlled the situation over prevention measures.

All construction works in the frame of the Project were implemented in accordance with SEMP and IEE requirements.

### **7.2. Recommendations**

During the reporting month Contractor had not any recommendations for changes to the Environmental Safeguarding process for the project.

### **7.3. Future program**

The following activities are planned for July 2021:

- ✓ OPGW preparation and installation on Erebuni 220kV and Nairi 220kV transmission lines;



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- ✓ Daily supervision of environmental, health and safety activity during construction process by Site foreman;
- ✓ Regular monitoring visits and reporting on environmental safeguards by Contractor's Environmental, Health and Safety Specialists;
- ✓ Organize environmental, health and safety corrective action based on Consultant Monitoring reports and supervisors verbal instructions (if any);
- ✓ Consultation to IA and Consultant on any environmental issues (if needed);
- ✓ Monthly reporting on HSE safeguards.



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## 8. ANNEXES





Redinet CJSC - Siemens Aktiengesellschaft, Österreich  
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## Annex 1

## MITIGATION COMPLIANCE &amp; INSPECTION MONITORING CHECKLIST

**Project:** Extension and Upgrade of the SCADA/EMS Project

**Implementing Agency:** Redinet LLC

**Scope of Inspection:** Nairi transmission line, Towers N 43-44

**Date:** 11.06.2021

**Weather Condition:** Sunny

**Attendees Name & Position:** Arman Khachatryan, Environmental Specialist (Redinet LLC); Armen Bodoyan, Engineer

**Project:** Extension and Upgrade of the SCADA/EMS Project

WORK SITE: General					
Environmental management: environmental team, health & safety, emergency, trainings, grievance redress mechanism					
Construction Activity		Mitigation Measure (as per EMP/SEMP)	Consultant's corrective action request available	Mitigation/ corrective action implemented Yes / No /N/A	Comments
<u>Environmental team</u>					
All activities	1.	Person in charge on environmental management is appointed and is present on-site.		Yes	The site responsible chief in charge on environmental management issues from Contractor respectively is site manager: Karen Aghababayan

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All activities	2.	Person in charge on H&S management is appointed and is present on-site		<b>Yes</b>	The site responsible chief in charge on H&S management issues from Contractor respectively is site manager: Karen Aghababayan
<b><u>Health &amp; safety</u></b>					
All activities	3.	Warning signs and exclusion barriers erected around work site areas.		<b>N/A</b>	The relevant person from workers is appointed to exclude the possibility of outsider's entrance
All activities	4.	Access of strangers and outsiders is excluded.		<b>N/A</b>	
All activities	5.	Workers are provided with and are using the uniform, applicable safety/protection equipment for site conditions		<b>Yes</b>	All workers are provided with applicable PPE.

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All activities	6.	Workers are provided with all the necessities to prevent the COVID-19 spread (masks, gloves, etc.)		<b>Yes</b>	All workers are provided with and using the necessities to prevent the COVID-19 spread (masks, gloves, etc.)
All activities	7.	Unsafe practices on-site are excluded		<b>Yes</b>	All workers are provided with and using job-specific PPE. All mechanisms and tools (set of hand tools, hand winch, counterweights, etc.) which were used by workers were inspected and safe
Works on overpasses	8.	Safety on the overpasses is ensured		<b>N/A</b>	
All activities	9.	Worker's health checks implemented		<b>Yes</b>	Medical worker/Doctor was already hired by Contractor. The responsible person for measures to prevent the spread of coronavirus is Rustam Arakelyan

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All activities	10.	Sanitary-hygienic conditions for workers are provided: drinking and washing water supply, mealtime utilities, rest time, etc.		<b>Yes</b>	The rest and mealtime utilities are provided. Drinking water for workers is provided.
All activities	11.	All conditions for COVID-19 spread prevention are implemented (social distance, frequently handwashing, group size reducing, etc.)		<b>Yes</b>	The responsible person for measures to prevent the spread of coronavirus Rustam Arakelyan is on-site and is ensuring relevant conditions
All activities	12.	All necessary hygienic materials needed for good hygienic practice and COVID-19 prevention are provided (soap, disinfectants, etc.)		<b>Yes</b>	All workers are provided with necessary hygienic materials (soap, disinfectants, etc.)
All activities	13.	First aid kit is available on-site and is accessible to all workers.		<b>Yes</b>	First aid kit available on-site
All activities	14.	Fire extinguisher available		<b>Yes</b>	Fire extinguisher was out of date
All activities	15.	Safety of the public is ensured		<b>N/A</b>	
<b><u>Emergency Response Plan</u></b>					
All activities	16.	Person in charge on emergency is appointed and is present on-site		<b>Yes</b>	The site responsible chief in charge on emergency issues from Contractor respectively is site manager: Karen Aghababayan

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All activities	17.	Copy of ERP and emergency contact list are available, updated and posted in a visible place at all worksites.		Yes	Copy of ERP and emergency contact list available on-site
All activities	18.	Accident report maintained		Yes	Accident report form available on-site
All activities	19.	Damage of utilities and/or other structures managed.		N/A	Electrical supply switches over under the responsibility of EPSO and HVEN according to the Contractor's request.
All activities	20.	The list of hospitals in Yerevan and regions is provided.		Yes	The list of hospitals in Yerevan and regions available on-site.
<b><u>Trainees and orientation courses</u></b>					
All activities	21.	Workers briefed on CEMP/ SEMP at time of starting employment.		Yes	New workers were not hired during reporting period.
All activities	22.	Workers briefed on ERP at time of starting employment.		Yes	New workers were not hired during reporting period.
All activities	23.	Job-specific environmental and safety training for workers provided		Yes	New workers were not hired during reporting period.

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All activities	24.	The trainings of HIV/ AIDs and COVID-19 prevention measures are provided.		Yes	The instruction of Contractor staff on issues of COVID 19 infection risks and disease prevention methods were conducted before the entrance to the construction site. All Contractor's workers and staff were provided with and using face protective masks, disinfection liquids (alcolgel) and other personal hygiene goods. Contractor organized and implemented environmental, H&S training for the engineering staff, foremens and workers who work on OPGW on 28.06.2021.
<b><u>Work site cleanliness</u></b>					
All activities	25.	The work site kept clean from debris, garbage, etc.		Yes	The work site kept clean and the area near the towers was cleaned from debris, garbage, etc.
All activities	26.	Bins for garbage collection are installed		Yes	Bins for garbage collection are installed on-site
All activities using machinery	27.	Tires of trucks are cleaned before entering city/community roads and roads are not dirtied by mud and other construction related dirt		N/A	

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All activities using liquid materials	28.	Spillages are managed properly		Yes	During monitoring visit spillages were not observed
All activities	29.	The work site disinfection process for COVID-19 prevention is organized.		Yes	All workers are provided with and using the necessities to prevent the COVID-19 spread (masks, gloves, etc.). The disinfectants were missing.
<b>Public communication and grievance redress mechanism: environmental issues</b>					
All activities	30.	Meeting with community members on construction activities, environmental impacts and mitigation measures held		N/A	
All activities	31.	Register of complaints maintained, complains observed during the last visit addressed		Yes	Register of complaints available on-site
All activities	32.	People are notified on inconveniences: water, electricity breaks, etc.		N/A	Electrical supply switch overs under the responsibility of EPSO and HVEN according to the Contractor's request
<b>Environmental parameters:</b>					
<b>Dust control</b>					
Earth works, material delivery	33.	Trucks are operating using covers		N/A	In this stage of works trucks were not used
	34.	Dust control measures are effective		N/A	In this stage of works powder-making works were not implemented

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	35.	Equipment and haul vehicles are fitted with effective emission control equipment		Yes	Equipment and haul vehicles are in operational stage. Technical inspection certificate is available
<b>Noise control</b>					
Operation of machinery while earth works, material delivery	36.	Construction noise levels are acceptable at closest sensitive receptor		N/A	
	37.	Equipment fitted with effective silencers		Yes	Equipment and haul vehicles are in operational stage. Technical inspection certificate is available
	38.	Managed by restricting operating hours		Yes	Works implemented from 09:00 till 18:00.
	39.	Managed by portable noise barrier panels		N/A	
<b>Vibration control</b>					
Operation of machinery	40.	Managed by reducing time exposed to vibration		N/A	
	41.	Managed by portable vibration barrier panels		N/A	
<b>Erosion control:</b>					
Earthworks	42.	Excavated slopes stabilized		N/A	
<b>Tree planting</b>					
All activities	43.	Proper maintenance of re-planted trees and shrubs, protection of existing vegetation and lawns.		N/A	
<b>Construction waste management</b>					
Earthworks	44.	Materials and newly generated construction waste are retained in spoil dumps at temporary accumulation sites agreed with Consultant.		N/A	

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Earthworks	45.	Remains of materials and previously detected construction waste is hauled from worksite		N/A	
Earth works, demolition of structures,	46.	Non-hazardous waste (excavation material, rocks, concrete and metallic parts, etc.) is managed in accordance with SEMP.		N/A	
Dismantling of utilities	47.	Utilities are dismantled and managed in accordance with SEMP		N/A	
Use of chemicals, lubricants, fuel, etc. while all activities	48.	Leakages and liquid waste are managed in accordance with SEMP.		N/A	
<b><u>Contractor's facilities and equipment</u></b>					
Contractor's camp establishment	49.	Site Management Plan for the Camp is available.		N/A	
Parking of machinery	50.	Machinery is parked in approved area		Yes	Machinery parked in the RoW near supporting pole of power
Mobile house	51.	Mobile house is installed in approved area		N/A	
Storage of materials	52.	Materials are stored in regular heaps and in approved areas		N/A	
Contractor's facilities	53.	Contractor's facilities are established according to SEMP		Yes	Contractor's facilities were available and managed according to SEMP

**Attachments / Վիզի ելակներ**

(Eg. Photos, Remarks, laboratory reports etc) / (օրինակ՝ նկարներ, նշումներ, լաբորատոր հաշվետվություններ, և այլ)

**Photos of site visit (11.06.2021)**

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Улап 2 / Picture 2

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Улап 3 / Picture 3

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Նկար 5 / Picture 5

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*Photos of the environmental, H&S training for the engineering staff, foremen and workers (11.06.2021)*



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