

# Project Administration Manual

Project Number: 46416-002  
Loan Number: LXXXX  
July 2014

## Armenia: Power Transmission Rehabilitation Project

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## **Project Administration Manual Purpose and Process**

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Ministry of Energy and Natural Resources (MENR), Electro Power Systems Operator (EPSO) Closed Joint-Stock Company (CJSC), and High Voltage Electric Networks (HVEN) CJSC are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by MENR, EPSO, and HVEN of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At Loan Negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the Loan agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the Loan Agreement, the provisions of the Loan Agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.

## Abbreviations

ADB	=	Asian Development Bank
ADF	=	Asian Development Fund
APFS	=	audited project financial statement
EMP	=	environmental management plan
EMS	=	energy management system
EPSO	=	electro power systems operator
GDP	=	gross domestic product
HVEN	=	high voltage electric networks
ICB	=	international competitive bidding
IEE	=	initial environmental examination
IFRS	=	International Financial Reporting Standards
kV	=	kilovolt
LIBOR	=	London interbank offered rate
MENR	=	Ministry of Energy and Natural Resources
MOF	=	Ministry of Finance
PAM	=	project administration manual
PIU	=	project implementation unit
PMU	=	project management unit
PSRC	=	Public Services Regulatory Commission
QCBS	=	quality- and cost-based selection
SCADA	=	supervisory control and data acquisition
SPS	=	Safeguard Policy Statement
TOR	=	terms of reference

## I. PROJECT DESCRIPTION

1. The project will upgrade the national power system operation's reliability and efficiency, and enhance transmission capacity. The project will include three main components: (i) expansion of supervisory control and data acquisition (SCADA) system, (ii) rehabilitation of two existing 220-/110-kilovolt (kV) substation, and (iii) support for institutional development, capacity building, and project management. The project will increase the electricity supply to urban and rural consumers to support inclusive and sustainable economic development.<sup>1</sup>

2. The core problems in Armenia's energy sector are the low efficiency of energy resources utilization. Much of the sector's infrastructure was built during the Soviet era and has deteriorated significantly because of a lack of sufficient funding for rehabilitation and maintenance. The average age of power transmission assets is 45 years, distribution assets 32 years. Much of the existing transmission infrastructure has reached the end of its useful life and requires major rehabilitation or replacement to continue reliable operation.

3. The poor condition of these assets leads to a higher risk of system outages, high-maintenance costs, and reduced production efficiency. The inefficiency of power infrastructure results in higher consumption of imported fuels and reduced competitiveness. In case of any fault on the existing transmission network, a large power deficit will be incurred in populated areas and have considerable social and economic impacts. Additionally, a reliable transmission network with modern equipment is essential to ensure the safe and stable operation of the Armenia Nuclear Power Plant (400 megawatts),<sup>2</sup> as well as the requirement for enhancing power export to the neighboring countries.

4. To reduce such impacts, substantial investments on power sector infrastructure including generation, transmission, and distribution are undergoing. Private sector investment focuses on the rehabilitation of power generation plants and distribution networks, which are owned and operated by the private sector. A part of the high-voltage transmission lines and substations were partially rehabilitated in the past years, and investment on high-voltage transmission lines by other development partners will continue.<sup>3</sup> The first stage of SCADA and energy management system (EMS) was also established in the control center.<sup>4</sup> These SCADA and EMS systems presently only achieve the basic function and need to be upgraded and expanded in order to achieve full functions and efficiency.<sup>5</sup> Investment on substations was not sufficient compared with the system rehabilitation requirements, thus limiting system operational functions and reliability. Expansion of the SCADA system and rehabilitation of the remaining aging transmission assets are urgently required.

5. The project will increase the efficiency of power system operation and reduce

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<sup>1</sup> Asian Development Bank (ADB). 2012. *Technical Assistance to Armenia for Preparing Power Transmission Rehabilitation*. Manila.

<sup>2</sup> The Armenia Nuclear Power Plant (NPP) was built in the 1970–80s. The government committed to replace the existing capacity of the Armenia NPP by building a new NPP of about 1,100 megawatts. As per the government's plan, a new NPP could be operational by year 2021, which means that the existing Armenia NPP will be retired only after completion of the new unit. In August 2010, an agreement was signed between the Governments of Armenia and Russia "On construction of a new nuclear power unit on the territory of the RoA".

<sup>3</sup> Development Coordination (accessible from the list of linked documents in Appendix 2).

<sup>4</sup> Financed jointly by the World Bank and the Japan Bank for International Cooperation (JBIC) in 1999-2004.

<sup>5</sup> The SCADA system hardware should partially be upgraded and supplemented in order to cater to enhanced performance and to provide prerequisites for implantation of enhanced functionality. Software should also be upgraded to the latest release in order to meet state-of-the-art EMS functionality and Inter-Control-Center Communication capability based on international standard communication protocols.

transmission losses, which are essential to improve energy security and reduce emissions of greenhouse gases. Rehabilitation of existing substations will improve the reliability and quality of power supply to urban and rural consumers, alleviating regional disparities within Armenia and supporting for inclusive and sustainable economic development. In addition, an efficient and reliable power system will facilitate expanding cross-border power trade in the region.

6. **Impact and Outcome.** The expected impact will be improved and efficient power supply in Armenia. The expected outcome will be increased operational efficiency of domestic transmission network.

7. **Outputs.** The project outputs consist of the following components:

- (i) **Expansion of the Supervision Control and Data Acquisition (SCADA) system and Energy Management System (EMS).** This includes installation of SCADA hardware and software, communication equipment, and optical ground wire; improvement and upgrading of the load dispatch centers, and training on SCADA and the EMS.
- (ii) **Rehabilitation of 220 kilovolt substations in Agarak 2 and Shinuhayr.** Replacement of aging power transformers, circuit breakers, instrument transformers, disconnectors, and control and protection equipment with modern technology in Agarak 2 and Shinuhayr.
- (iii) **Institutional development, capacity building, and project management.** This includes consulting services for project management and supervision, and capacity building for EPSO and HVEN staff by providing financial, technical, and operations training.

## II. IMPLEMENTATION PLANS

8. The project will be implemented over a 60-month period from December 2014 to December 2019. The turnkey contracts are expected to be awarded in the second quarter of 2015. The Ministry of Energy and Natural Resources (MENR) and the implementation consultants will prepare a detailed implementation schedule during the preconstruction phase of the project and submit it to the Asian Development Bank (ADB). The project's milestones of readiness activities and overall project implementation schedule are as follows.

### A. Project Readiness Activities

Indicative Activities	2014												Responsibility
	2	3	4	5	6	7	8	9	10	11	12		
Advance contracting actions:													MENR, EPSO, HVEN, ADB
Preparation of bid documents and recruitment of implementation consultants				x	x	x	x	x					
Establish project implementation arrangements	x												MENR, EPSO, HVEN
Loan negotiation					x								GOA, ADB
ADB Board Consideration						x							ADB
Loan signing								x					GOA, ADB
Government legal opinion provided										x			GOA, ADB
Loan effectiveness											x		ADB

ADB = Asian Development Bank, EPSO = Electro Power Systems Operator, GOA = Government of Armenia, HVEN = High Voltage Electric Networks, MENR = Ministry of Energy and Natural Resources.



### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations – Roles and Responsibilities

9. Details of the implementation organization key roles and responsibilities are indicated in the table below.

Project implementation organizations	Management Roles and Responsibilities
<b>Executing Agency</b> Ministry of Energy and Natural Resources (MENR)	<ul style="list-style-type: none"> <li>➤ Responsible for overall project supervision</li> <li>➤ Coordination on policy, planning, interagency and donor cooperation</li> <li>➤ Providing government counterpart support</li> </ul>
<b>Implementing Agency 1,</b> Electro Power Systems Operator (EPSO)	<ul style="list-style-type: none"> <li>➤ Finalizing survey, detailed design, bidding documents and contract awards for component (i)</li> <li>➤ Monitoring project activities and outputs, including periodic review, preparation of review reports identifying issues and action plans and their timely submission to ADB</li> <li>➤ Provide counterpart staff for the project</li> <li>➤ Maintain project accounts and record costs incurred for works under the project</li> <li>➤ Establishing strong financial management system and submitting timely withdrawal applications to ADB</li> <li>➤ Complying with applicable covenants in the Loan and Project Agreements</li> </ul>
<b>Implementing Agency 2,</b> High-Voltage Electric Networks (HVEN)	<ul style="list-style-type: none"> <li>➤ Finalizing survey, detailed design, bidding documents and contract awards for component (ii)</li> <li>➤ Monitoring project activities and outputs for both components financed by both ADB and the European Bank for Reconstruction and Development (EBRD), including periodic review, preparation of review reports identifying issues and action plans and their timely submission to ADB</li> <li>➤ Provide counterpart staff for the project</li> <li>➤ Maintain project accounts and record costs incurred for works under the project</li> <li>➤ Establishing strong financial management system and submitting timely withdrawal applications to ADB</li> <li>➤ Complying with applicable covenants in the Loan and Project Agreements</li> </ul>
<b>Ministry of Finance</b>	<ul style="list-style-type: none"> <li>➤ Signing the Loan Agreement;</li> </ul>
<b>Project Supervision Management Consultants</b>	<ul style="list-style-type: none"> <li>➤ Allocating and releasing counterpart funds</li> <li>➤ Processing and submitting to ADB any request, when required, for reallocating the loan proceeds</li> <li>➤ Providing support for overall project implementation and management, including both ADB and EBRD financed components</li> <li>➤ Providing support for project administration and quarterly progress reports</li> <li>➤ Providing support for project compliance with ADB</li> </ul>



regulations and guidelines

<b>Asian Development Bank (ADB)</b>	➤	Assistance in project accounting and preparation of withdrawal applications
	➤	Providing timely guidance at each stage of project implementation in accordance with the agreed implementation arrangements
	➤	Review all the documents that require ADB approval
	➤	Conduct an inception mission, periodic loan review missions, a midterm review, a completion mission for the project, and an overall project completion mission
	➤	Monitor and require compliance of all loan covenants
	➤	Timely process withdrawal applications and release eligible funds

## B. Key Persons Involved in Implementation

### Executing Agency

Ministry of Energy and Natural Resources	Officer's Name	Areg Galstyan
	Position	Deputy Minister
	Telephone	+37410-528704
	Email address	<a href="mailto:agalstyan@minenergy.am">agalstyan@minenergy.am</a>
	Office Address	Government House 2, Yerevan, 0010 Armenia
Electro Power Systems Operator (EPSO) (Implementing Agency – 1)	Officer's Name	Mnatsakan Mnatsakanyan
	Position	General Director
	Telephone	+37410-524725
	Email address	<a href="mailto:office@energyoperator.am">office@energyoperator.am</a>
	Office Address	27, Abovian Str. 0009, Yerevan, Armenia
High Voltage Electric Networks (HVEN) (Implementing Agency – 1)	Officer's Name	Sahak Abrahamyan
	Position	General Director
	Telephone	+37410-720010
	Email address	<a href="mailto:hvenbec@gmail.com">hvenbec@gmail.com</a>
	Office Address	1 Zoravar Andranik, Str., 0084 Yerevan, Armenia

### ADB

Division Director	Staff Name	Rune Stroem
	Position	Director, Energy Division, Central and West Asia Department (CWRD/CWEN)
	Telephone No.	+63-2-632-6356/5645
	Email address	<a href="mailto:rstroem@adb.org">rstroem@adb.org</a>
Mission Leader	Staff Name	Tianhua Luo
	Position	Senior Energy Specialist, CWEN
	Telephone No.	+63-2-632-6388/5391
	Email address	<a href="mailto:tluo@adb.org">tluo@adb.org</a>

## C. Project Organization Structure

10. The executing agency will be MENR. MENR has established a loan and project governance council chaired by the Minister, as well as a project management unit led by the Deputy Minister responsible for (i) overall project supervision; (ii) coordination on policy, planning, interagency and donor cooperation; and (iii) providing government counterpart support.

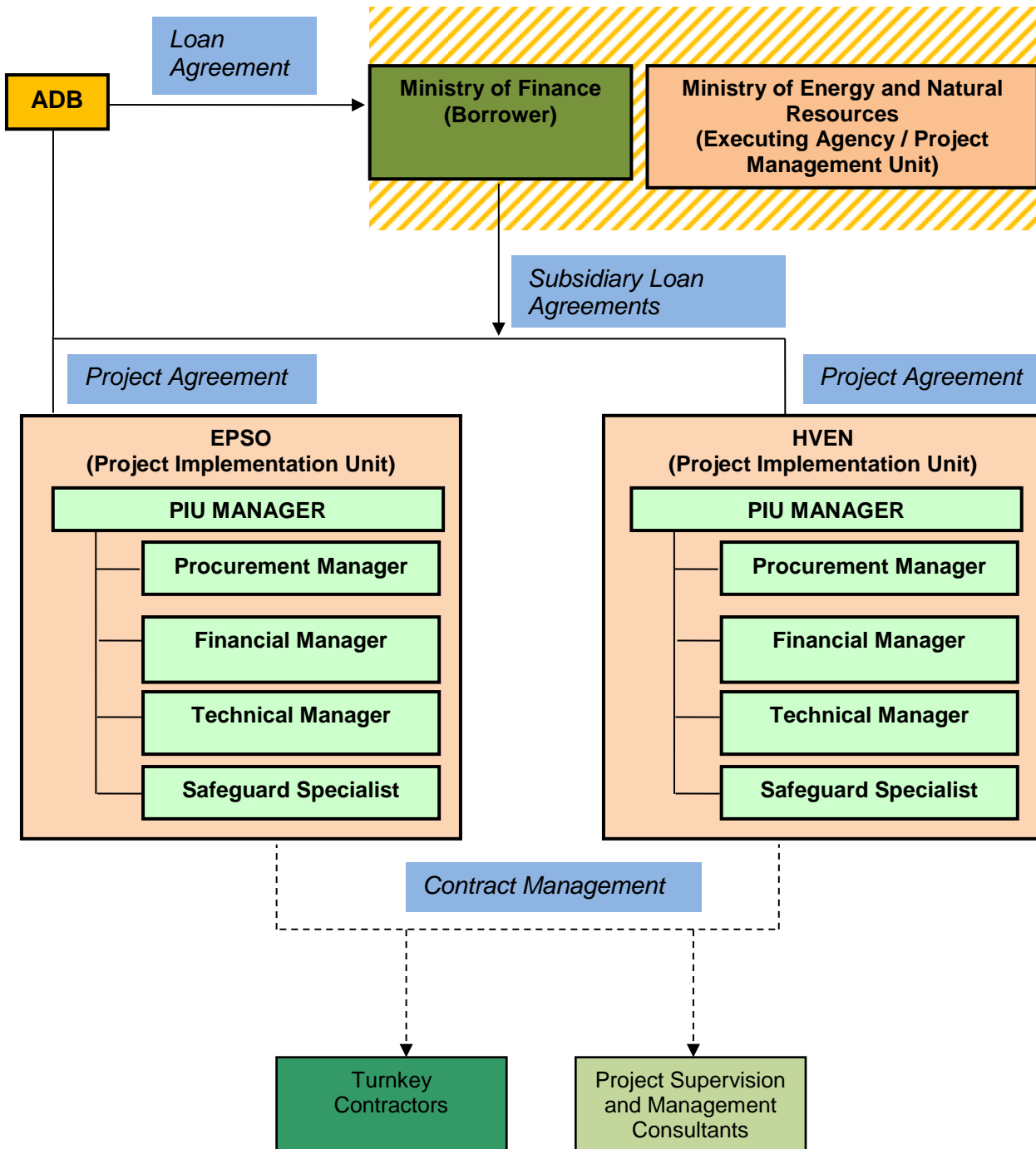
11. EPSO and HVEN will be the implementing agencies responsible for the implementation of SCADA and EMS and substation rehabilitation components, respectively. EPSO and HVEN will establish a dedicated project implementation unit (PIU) within the existing company structure. Each PIU will comprise at least three counterpart staff, supported by the project implementation consultants (PICs). The PIU will be responsible for day-to-day implementation and preparation of bid evaluation reports, project progress reports, administration of consulting and procurement contracts, applications for withdrawal of funds, and any other reports required by ADB.

12. The procurement capacity assessment revealed that EPSO and HVEN have adequate capacity albeit with limited experience with ADB procedure. Several transmission and substation rehabilitation projects funded by other international donors have been implemented with satisfactory performance. Procurement of goods and works from ADB loan proceeds will be undertaken following ADB's Procurement Guidelines (2013, as amended from time to time) and a procurement plan developed for the project. The procurement will follow international competitive bidding procedures using standard bidding documents for plants (single-stage, single envelope). Advance procurement action for procurement and consultants will be required. The government and MENR, EPSO, and HVEN have been advised that approval of advance procurement does not commit ADB to finance the project.

13. Project supervision and management will be outsourced to two consulting firms to support EPSO and HVEN with the project supervision and implementation. EPSO and HVEN will recruit two consulting firms for project supervision and management, respectively, in accordance with ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time).

14. The project organization structure and the staffing of the PIU is shown below.

## Project Organization Structure



ADB = Asian Development Bank, EPISO = Electro Power Systems Operator, HVEN = High Voltage Electric Networks, PIU = project implementation unit.

#### IV. COSTS AND FINANCING

15. The project costs consist of:
- (i) **Turnkey Contracts.** The turnkey contracts include (i) one turnkey contract for the expansion of SCADA system and EMS, under EPSO's responsibility; and (ii) one turnkey contract for the rehabilitation of 220-kV substations at Agarak 2 and Shinuhayr. Rehabilitation of substations will be under HVEN's responsibilities. All will be financed out of the loan proceeds which are relented by the borrower to EPSO and HVEN, respectively, in accordance with the Subsidiary Loan Agreements.
  - (ii) **Project Supervision and Management Consultants.** Project management will be outsourced to two consulting firms responsible for project supervision and management. They will be recruited by EPSO and HVEN, respectively. Both contracts will be financed out of the loan proceeds which are relented by the borrower to EPSO and HVEN, respectively, in accordance with the Subsidiary Loan Agreements.
  - (iii) **Taxes and duties, and Contingencies.** Taxes and duties, as well as contingencies will be covered under the Borrower counterpart contribution as their share of the project cost.
  - (iv) **Financial charges.** Financing charges during the implementation are financed out of the loan proceeds.
16. **Recurrent costs** of the PIU are part of the project costs to be financed by EPSO and HVEN as part of the government contribution for the operating expenses incurred at the PIU including external audit fees for the auditing of project accounts. However, these costs will be subject to audit and will be covered under the audited financial statement.

**A. Detailed Cost Estimates by Expenditure Category**  
(\$ million)

	Amount <sup>a</sup>
<b>A. Investment Costs</b>	
<b>1 SCADA</b>	<b>12.7</b>
1.1 Turnkey Contract	11.5
a Civil Works	0.0
b Rehabilitation of electrical equipment	11.5
1.2 Environment and Social Mitigation	0.0
1.3 Supervision Consultancy	1.2
<b>2 Substations</b>	<b>21.8</b>
2.1 Substations - Turnkey Contract	19.4
a Civil Works	3.3
b Rehabilitation of electrical equipment	15.7
c Environment and Social Mitigation	0.4
2.2 Supervision Consultancy	2.4
<b>3 Taxes and Duties<sup>b</sup></b>	<b>7.0</b>
<b>Subtotal (A)</b>	<b>41.5</b>
<b>B. Recurrent Costs</b>	
1 Project Management	0.6
<b>Subtotal (B)</b>	<b>0.6</b>
<b>Total Base Cost</b>	<b>42.1</b>
<b>C. Contingencies<sup>c</sup></b>	
1 Physical	3.9
2 Price	1.8
<b>Subtotal (C)</b>	<b>5.7</b>
<b>D. Financing Charges During Implementation<sup>d</sup></b>	
1 Interest During Implementation	2.2
<b>Subtotal (D)</b>	<b>2.2</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>50.0</b>

a In 2014 prices.

b Includes taxes and duties of US\$7.0 million to be financed from government resources.

c Physical contingencies computed at 10% of base cost. Price contingencies computed based on price escalation factors; includes provision for potential exchange rate fluctuation assuming purchasing power parity exchange rate.

d Includes interest rate fixed at 2% throughout loan maturity for the Special Funds Resources from the Asian Development Fund with no commitment charges for 25 years inclusive of 5 year grace period.

Source: Asian Development Bank.

## B. Allocation and Withdrawal of Loan Proceeds

### a. Allocation and Withdrawal of ADF Proceeds

<b>ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS</b>				
<b>Power Transmission Rehabilitation Project</b>				
<b>Number</b>	<b>Item</b>	<b>Amount Allocated (SDR)</b>		<b>Basis for Withdrawal from the Loan Account</b>
		<b>Category</b>	<b>Subcategory</b>	
1	Turnkey (SCADA and EMS Expansion) **	7,466,000		100% of total expenditure claimed*
2	Turnkey (Substations)***	12,595,000		100% of total expenditure claimed*
3	Consulting Services	2,337,000		
3A	SCADA and EMS Expansion**		779,000	100% of total expenditure claimed*
3B	Substations***		1,558,000	100% of total expenditure claimed*
4	Interest Charge	1,429,000		100% of amounts due
5	Unallocated	195,000		
	<b>Total</b>	<b>24,022,000</b>		

\* Exclusive of taxes and duties imposed within the territory of the Borrower.

\*\* Subject to the condition for withdrawal described in paragraph 6(a) of Schedule 3, Loan Agreement.

\*\*\* Subject to the condition for withdrawal described in paragraph 6(b) of Schedule 3, Loan Agreement.

## C. Detailed Cost Estimates by Financier

(\$ million)

	ADB ADF Amount	% of Cost Category	Government Amount	% of Cost Category	Total Cost
<b>A. Investment Costs</b>					
<b>1 SCADA</b>	<b>12.7</b>	<b>100%</b>	<b>0.0</b>	<b>0%</b>	<b>12.7</b>
1.1 Turnkey Contract	11.5	100%	0.0	0%	11.5
a Civil Works	0.0	-	0.0	-	0.0
b Rehabilitation of electrical equipment	11.5	100%	0.0	0%	11.5
1.2 Environment and Social Mitigation	0.0	-	0.0	-	0.0
1.3 Supervision Consultancy	1.2	100%	0.0	0%	1.2
<b>2 Substations</b>	<b>21.8</b>	<b>100%</b>	<b>0.0</b>	<b>0%</b>	<b>21.8</b>
2.1 Substations - Turnkey Contract	19.4	100%	0.0	0%	19.0
a Civil Works	3.3	100%	0.0	0%	3.3
b Rehabilitation of electrical equipment	15.7	100%	0.0	0%	15.7
c Environment and Social Mitigation	0.4	100%	0.0	0%	0.4
2.2 Supervision Consultancy	2.4	100%	0.0	0%	2.4
<b>3 Taxes and Duties</b>	<b>0.0</b>	<b>0%</b>	<b>7.0</b>	<b>100%</b>	<b>7.0</b>
<b>Subtotal (A)</b>	<b>34.5</b>	<b>83%</b>	<b>7.0</b>	<b>17%</b>	<b>41.5</b>
<b>B. Recurrent Costs</b>					
1 Project Management	0.0	0%	0.6	100%	0.6
<b>Subtotal (B)</b>	<b>0.0</b>	<b>0%</b>	<b>0.6</b>	<b>100%</b>	<b>0.6</b>
<b>Total Base Cost</b>	<b>34.5</b>	<b>82%</b>	<b>7.6</b>	<b>18%</b>	<b>42.1</b>
<b>C. Contingencies</b>					
1 Physical	0.2	5%	3.7	95%	3.9
2 Price	0.1	6%	1.7	94%	1.8
<b>Subtotal (C)</b>	<b>0.3</b>	<b>5%</b>	<b>5.4</b>	<b>95%</b>	<b>5.7</b>
<b>D. Financing Charges During Implementation</b>					
1 Interest During Implementation	2.2	100%	0.0	0%	2.2
<b>Subtotal (D)</b>	<b>2.2</b>	<b>100%</b>	<b>0.0</b>	<b>0%</b>	<b>2.2</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>37.0</b>	<b>74%</b>	<b>13.0</b>	<b>26%</b>	<b>50.0</b>

a In 2014 prices.

b Includes taxes and duties of US\$7.0 million to be financed from government resources.

c Physical contingencies computed at 10% of base cost. Price contingencies computed based on price escalation factors; includes provision for potential exchange rate fluctuation assuming purchasing power parity exchange rate.

d Includes interest rate fixed at 2% throughout loan maturity for the Special Funds Resources from the Asian Development Fund with no commitment charges for 25 years inclusive of 5 year grace period.

Source: Asian Development Bank.

## D. A. Detailed Cost Estimates by Outputs/Components

(\$ million)

	Total Cost	SCADA/ EMS Expansion Component 1		Substations Rehabilitation Component 2		Project Management and Capacity Buiding Component 3	
		% of Cost		% of Cost		% of Cost	
		Amount	Category	Amount	Category	Amount	Category
<b>A. Investment Costs</b>							
<b>1 SCADA</b>	<b>12.7</b>	<b>11.5</b>	<b>71%</b>	<b>0.0</b>	<b>0%</b>	<b>1.2</b>	<b>20%</b>
1.1 Turnkey Contract	11.5	11.5	71%	0.0	0%	0.0	0%
a Civil Works	0.0	0.0	0%	0.0	0%	0.0	0%
b Rehabilitation of electrical equipment	11.5	11.5	71%	0.0	0%	0.0	0%
c Environment and Social Mitigation	0.0	0.0	0%	0.0	0%	0.0	0%
1.2 Supervision Consultancy	1.2	0.0	0%	0.0	0%	1.2	20%
<b>2 Substations</b>	<b>21.8</b>	<b>0.0</b>	<b>0%</b>	<b>19.4</b>	<b>70%</b>	<b>2.4</b>	<b>40%</b>
2.1 Substations - Turnkey Contract	19.4	0.0	0%	19.4	69%	0.0	0%
a Civil Works	3.3	0.0	0%	3.3	12%	0.0	0%
b Rehabilitation of electrical equipment	15.7	0.0	0%	15.7	57%	0.0	0%
c Environment and Social Mitigation	0.4	0.0	0%	0.4	1%	0.0	0%
2.2 Supervision Consultancy	2.4	0.0	0%	0.0	0%	2.4	40%
<b>3 Taxes and Duties</b>	<b>7.0</b>	<b>2.2</b>	<b>14%</b>	<b>3.9</b>	<b>14%</b>	<b>0.9</b>	<b>14%</b>
<b>Subtotal (A)</b>	<b>41.5</b>	<b>13.7</b>	<b>84%</b>	<b>23.3</b>	<b>84%</b>	<b>4.5</b>	<b>74%</b>
<b>B. Recurrent Costs</b>							
Project Management	0.6	0.0	0%	0.0	0%	0.6	10%
<b>Subtotal (B)</b>	<b>0.6</b>	<b>0.0</b>	<b>0%</b>	<b>0.0</b>	<b>0%</b>	<b>0.6</b>	<b>10%</b>
<b>Total Base Cost</b>	<b>42.1</b>	<b>13.7</b>	<b>84%</b>	<b>23.3</b>	<b>84%</b>	<b>5.1</b>	<b>84%</b>
<b>C. Contingencies</b>							
1 Physical	3.9	1.3	8%	2.2	8%	0.5	8%
2 Price	1.8	0.6	4%	1.0	4%	0.2	4%
<b>Subtotal (C)</b>	<b>5.7</b>	<b>1.8</b>	<b>11%</b>	<b>3.1</b>	<b>11%</b>	<b>0.7</b>	<b>11%</b>
<b>D. Financing Charges During Implementation</b>							
Interest During Implementation	2.2	0.7	4%	1.2	4%	0.3	4%
<b>Subtotal (D)</b>	<b>2.2</b>	<b>0.7</b>	<b>4%</b>	<b>1.2</b>	<b>4%</b>	<b>0.3</b>	<b>4%</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>50.0</b>	<b>16.3</b>	<b>100%</b>	<b>27.7</b>	<b>100%</b>	<b>6.0</b>	<b>100%</b>

EMS = energy management system, SCADA = supervisory control and data acquisition.

a In 2014 prices.

b Includes taxes and duties of US\$7.0 million to be financed from government resources.

c Physical contingencies computed at 10% of base cost. Price contingencies computed based on ADB's cost escalation factors; includes provision for potential exchange rate fluctuation assuming purchasing power parity exchange rate.

d Includes interest rate fixed at 2% throughout loan maturity for the Special Funds Resources from the Asian Development Fund with no commitment charges for 25 years inclusive of 5 year grace period.

Source: Asian Development Bank.



## E. Detailed Cost Estimates by Year

(\$ million)

	Total Cost	2014	2015	2016	2017	2018	2019
<b>A. Investment Costs</b>							
<b>1 SCADA</b>	<b>12.7</b>	<b>0.1</b>	<b>1.1</b>	<b>0.0</b>	<b>11.4</b>	<b>0.0</b>	<b>0.0</b>
1.1 Turnkey Contract	11.5	0.0	1.1	0.0	10.3	0.0	0.0
a Civil Works	0.0	0.0	0.0	0.0	0.0	0.0	0.0
b Rehabilitation of electrical equipment	11.5	0.0	1.1	0.0	10.3	0.0	0.0
c Environment and Social Mitigation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2 Supervision Consultancy	1.2	0.1	0.0	0.0	1.1	0.0	0.0
<b>2 Substations</b>	<b>21.8</b>	<b>0.2</b>	<b>2.0</b>	<b>9.0</b>	<b>8.4</b>	<b>1.4</b>	<b>0.7</b>
2.1 Substations - Turnkey Contract	19.4	0.0	2.0	9.0	8.4	0.0	0.0
a Civil Works	3.3	0.0	0.3	1.5	1.4	0.0	0.0
b Rehabilitation of electrical equipment	15.7	0.0	1.6	7.3	6.9	0.0	0.0
c Environment and Social Mitigation	0.4	0.0	0.1	0.2	0.1	0.0	0.0
2.2 Supervision Consultancy	2.4	0.2	0.0	0.0	0.0	1.4	0.7
<b>3 Taxes and Duties</b>	<b>7.0</b>	<b>0.1</b>	<b>0.6</b>	<b>1.8</b>	<b>4.0</b>	<b>0.3</b>	<b>0.1</b>
<b>Subtotal (A)</b>	<b>41.5</b>	<b>0.4</b>	<b>3.8</b>	<b>10.9</b>	<b>23.8</b>	<b>1.7</b>	<b>0.9</b>
<b>B. Recurrent Costs</b>							
Project Management	0.6	0.1	0.1	0.1	0.1	0.1	0.1
<b>Subtotal (B)</b>	<b>0.6</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>
<b>Total Base Cost</b>	<b>42.1</b>	<b>0.5</b>	<b>3.9</b>	<b>11.0</b>	<b>23.9</b>	<b>1.8</b>	<b>1.0</b>
<b>C. Contingencies</b>	<b>5.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>5.0</b>	<b>0.0</b>	<b>0.7</b>
<b>D. Financing Charges During Implementation</b>	<b>2.2</b>	<b>0.0</b>	<b>0.1</b>	<b>0.2</b>	<b>0.6</b>	<b>0.7</b>	<b>0.7</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>50.0</b>	<b>0.5</b>	<b>3.9</b>	<b>11.2</b>	<b>29.6</b>	<b>2.5</b>	<b>2.3</b>
% Total Project Cost	100%	1.1%	7.9%	22.3%	59.1%	5.0%	4.7%

SCADA = supervisory control and data acquisition.

a In 2014 prices.

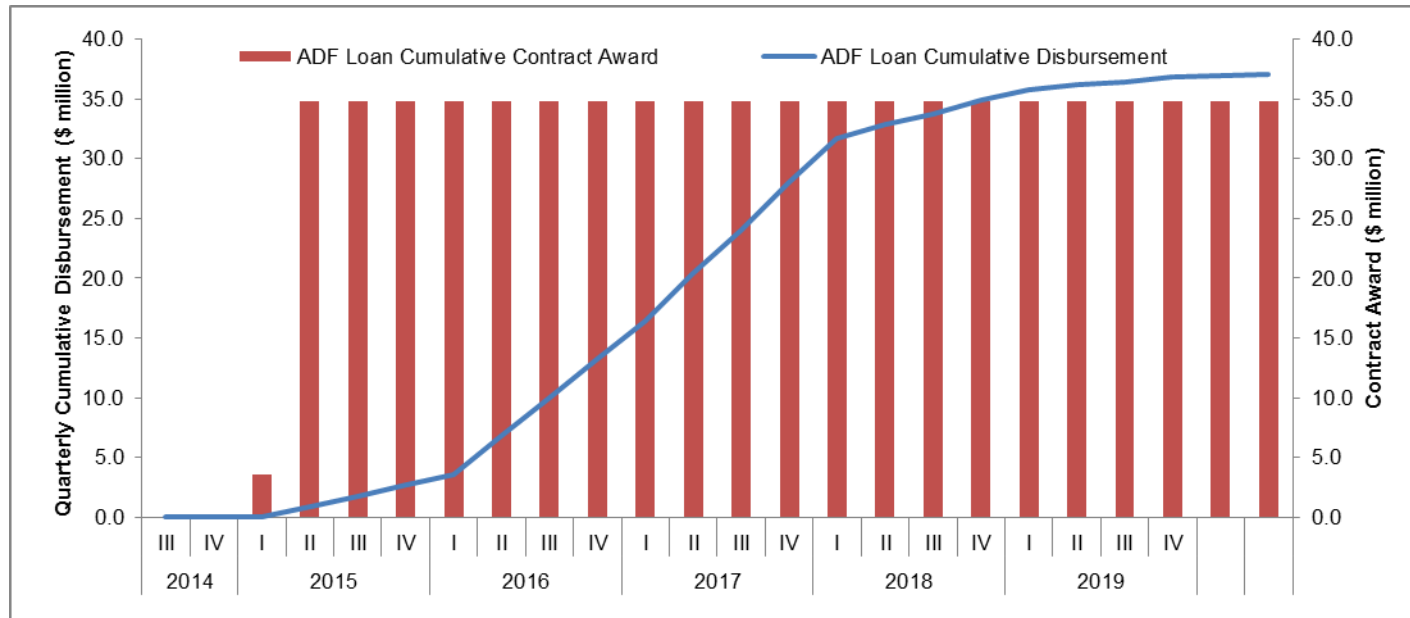
b Includes taxes and duties of US\$7.0 million to be financed from government resources.

c Physical contingencies computed at 10% of base cost. Price contingencies computed based on ADB's cost escalation factors; includes provision for potential exchange rate fluctuation assuming purchasing power parity exchange rate.

d Includes interest rate fixed at 2% throughout loan maturity for the Special Funds Resources from the Asian Development Fund with no commitment charges for 25 years inclusive of 5 year grace period.

Source: Asian Development Bank.

## F. Contract and Disbursement S-curve



ADF = Asian Development Fund.  
Source: Asian Development Bank.

### Contract Awards (\$ million)

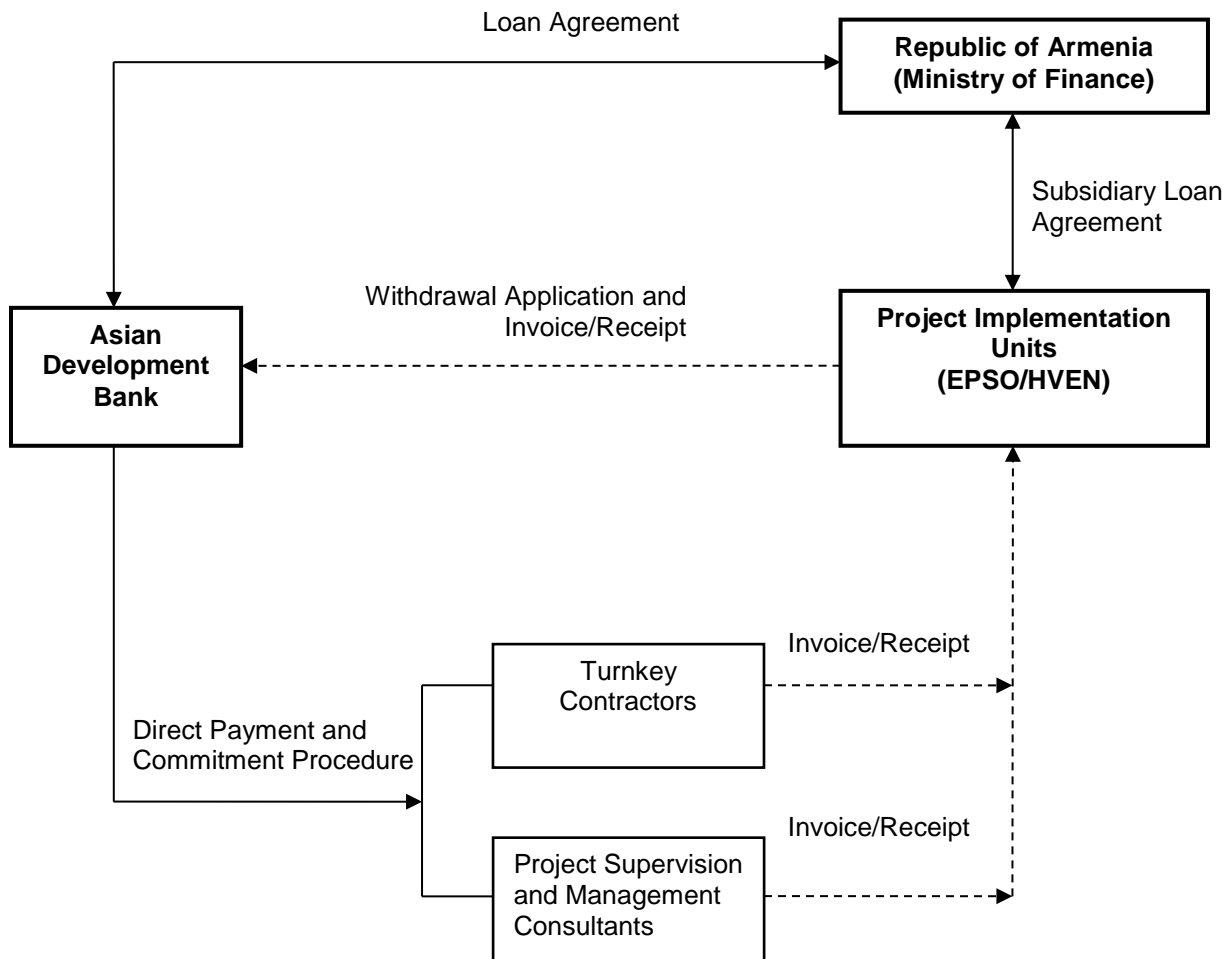
Year	Q1	Q2	Q3	Q4	Total
2014	0.000000	0.000000	0.000000	0.000000	0.000000
2015	3.600000	0.000000	0.000000	31.020000	34.620000
2016	0.000000	0.000000	0.000000	0.000000	0.000000
2017	0.000000	0.000000	0.000000	0.000000	0.000000
2018	0.000000	0.000000	0.000000	0.000000	0.000000
2019	0.000000	0.000000	0.000000	0.000000	0.000000

Note: Exclusive of unallocated/contingency of \$2.38 million

### Disbursements (\$ million)

Year	Q1	Q2	Q3	Q4	Total
2014	0.000000	0.000000	0.000000	0.000000	0.000000
2015	0.000110	0.898651	0.864087	0.898651	2.661500
2016	0.864087	3.297262	3.137209	3.297262	10.595820
2017	3.137209	3.974985	3.668204	3.974985	14.755383
2018	3.668204	1.183961	0.843442	1.183961	6.879568
2019	0.843442	0.489042	0.142811	0.489042	1.964337
2020	0.137574	0.005818	0.000000	0.000000	0.143393

**G. Fund Flow Diagram**



EPSO = Electro Power Systems Operator, HVEN = High Voltage Electric Networks.

## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

17. The financial management of EPSO and HVEN is found to be adequately established. Based on the financial management assessment carried out in accordance with ADB's Financial Management and Analysis of Projects (2005), it was established that both companies have adequate financial management arrangements for the purpose of processing and implementing the project. EPSO and HVEN are experienced in implementing donor-financed infrastructure projects<sup>6</sup> and are familiar with the project account management procedure, financial reporting and internal control as generally required by the international development agencies. The pre-mitigation risk level of EPSO and HVEN's financial management capacity is therefore considered moderate to low. Both institutions will cause the PIU to supervise project implementation in accordance with ADB policies and procedures, and maintain adequate bookkeeping and financial reporting for project.

18. Both institutions have well-functioning board of directors with representatives from different government agencies including but not limited to MENR and Ministry of Finance (MOF). The boards set corporate objectives and performance targets; and review and approve risk policies, capital expenditure and investment plans, and annual budget. It is a general practice with large state-owned enterprises that the sole shareholder, i.e., the Republic of Armenia, would delegate the supervisory responsibility of its shareholding to the relevant line ministries. In the case of EPSO and HVEN, MENR acts as the assignee and issues order for an internal audit to be carried out twice a year in both EPSO and HVEN. The audit is conducted by the department of internal audit from MENR and the report is presented to the shareholder and board members. This is a mandatory requirement as per the Charter of the companies. Findings and recommendations are discussed at the board meetings and relevant corporate strategies and policies may be amended as per the board resolution. EPSO's and HVEN's management advised that the last internal audit report found the companies to be generally in compliance and that all suggested remedial actions have been taken by the management subsequent to the report. It is not expected that an internal audit function would be established within HVEN and/or EPSO as the current system is found to be functional and productive. The size of the operation, number of activities, and the nature of the business which is highly regulated also do not provide economies of scale for the setup of an internal audit department within the companies. The two companies are likely to remain in sovereign ownership therefore such system is expected to continue.

19. Both EPSO and HVEN prepared audited the financial statements in accordance with the International Financial Reporting Standards (IFRS) and International Standards on Auditing. EPSO completed updating its accounting practice and policy in line with the latest IFRS and its audited financial report for the fiscal year (FY) 2012 was in full compliance with the IFRS. Similarly for HVEN, its FY2012 financial report was prepared in compliance with the IFRS. It did not apply several new and revised IFRS which had been issued but not yet become effective at the time of reporting. HVEN management advised that all latest IFRS would be applied in the financial report for the subsequent fiscal year. It was established that sufficient capacity exists in both institutions to continue the preparation of accounts and financial report in accordance with the International Standards on Auditing and IFRS for both the companies, as well as the project. Both institutions tender for external auditing services annually. HVEN received unqualified

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<sup>6</sup> These donors include the World Bank and KfW for HVEN; and World Bank and Japan Bank for International Cooperation for EPSO.

opinion for FYs2010 and 2011 and qualified opinion for FY2012 for which management had not completed assessment of recoverable values as part of an impairment test. However, all other aspects of the financial statements were found to be in compliance with IFRS. EPSO received unqualified opinion for FY2011 and FY2012. The accounting and financial reporting system (Russian software 1C) used in both institutions provide automatic financial report generation and are operated and maintained by adequately trained staff. The same accounting software will be used for the preparation of project accounts and financial report. The only risk that remains in the aspect of capacity is the limited number of English-speaking staff. EPSO has recruited an English-speaking procurement specialist and is interviewing candidates for an English-speaking accountant. HVEN already has two English-speaking staff working on donor-financed projects. It is expected that additional staff may be recruited. Assistance will be provided by the supervision consultants for implementing the ADB project.

20. The adoption of IFRS and implementation of several donor-financed projects prompted both EPSO and HVEN to operate and report their business and financial activities in accordance with international standards. The financial performance of both EPSO and HVEN is closely linked to the tariff determined by the Public Services Regulatory Commission (PSRC). The objective of the tariff-determination methodology is to ensure that the companies recover their costs of business through tariff which is determined and approved based on (i) a pre-determined allowable cost base, (ii) allowable return on the assets, and (iii) any other specific variables which need to be justified in the tariff application. The companies are required to submit their financial reports every six months to PSRC for review and confirmation. By no later than 1 June 2015, EPSO and HVEN will prepare and submit to the PSRC for consideration and approval their investment plans for the Project for the purposes of determining the tariff.

21. For investment projects and associated financing costs, if they were approved by the government as it would be in the case for the project, PSRC would issue a written commitment that such costs and loan repayment would be recovered through tariff and be included in the next tariff determination and adjustment. However, it was established that there would still remain certain gaps as the investment costs would usually occur ahead of the new tariff determination. Similarly for repayment of loan, a shortfall or surplus in cash may occur should there be significant movement in foreign exchange rate prior to the next tariff adjustment date. Such gaps are reflected in the historical financial statements of both EPSO and HVEN as other gains or losses. However, historical tariff as a whole allowed for full cost recovery on investment projects. The government undertook that all costs associated with the project including inflation and currency risk would be paid for through tariff and that any shortfall in cash as a result of variations in exchange rates, if cannot be made up with the internal resources of the companies, would be addressed through other means including extension of a short-term loan at zero interest rate to EPSO and/or HVEN. The tariff would then take all such costs into consideration.

22. The project is expected to avoid energy supply disruption with the envisaged rehabilitation and system expansion work. However, this project will be the first ADB-financed transaction in the energy sector in Armenia, therefore, PIU staff training will be necessary in order for the PMU at MENR and the PIUs at both EPSO and HVEN to be familiarized with ADB procedures. As such, the project will include the following measures:

- (i) Establish PMU and PIU. EPSO and HVEN will maintain separate project accounts;
- (ii) Conduct PMU and PIU staff training for ADB procedures (procurement and disbursement);
- (iii) Recruiting an international consulting firm to provide assistance in project implementation;

- (iv) Establishing a direct payment procedure and/or commitment procedure for disbursements to contractors and consultants; and
- (v) Project financial statements and entity-level financial statements annually audited in accordance with international auditing standards by an external independent auditor acceptable to ADB.

23. Overall control risks could be mitigated to low level through various mitigation measures as shown in the table below.

**Table 1: Financial Management Risks and Mitigation Measures of HVEN**

<b>Risk</b>	<b>Risk Assessment</b>	<b>Management Plan and/or Mitigation Measures</b>	<b>Risk after Mitigation</b>
1. Inherent risks (specific to HVEN)	Moderate	<ul style="list-style-type: none"> <li>• The PIU to be supported by implementation consultants. Training on ADB procedures to be provided.</li> <li>• HVEN staff has extensive experience in managing donor-funded infrastructure loan projects and is reasonably familiar with international practice in the context of procurement and disbursement procedures and reporting requirements.</li> <li>• The project management unit to be established at the Ministry of Energy and Natural Resources level will be responsible for coordination in project implementation.</li> </ul>	Low
2. Financial risks	High/ Substantial	<ul style="list-style-type: none"> <li>• Government undertakes to provide additional assurance in the form of a covenant in the loan agreement with ADB on future tariff adjustment to provide for full recovery of costs associated with the project including interest charges, loan repayment and exchange rate variations.</li> <li>• HVEN to file for new tariff petition as soon as the project is approved by the government.</li> <li>• HVEN to continue communication with the regulatory commission on major changes required in tariff as a result of ongoing business planning and extraordinary items to ensure that the tariff determined retains its financial sustainability.</li> </ul>	Substantial
3. Flow funds arrangements	Moderate/Low	<ul style="list-style-type: none"> <li>• ADB direct payment, commitment letters, and reimbursement procedures are to be used for the project. No imprest account will be established.</li> <li>• Relending agreement between the Ministry of Finance and HVEN to be submitted to ADB.</li> </ul>	Low
4. Staffing	Substantial/ Moderate	<ul style="list-style-type: none"> <li>• HVEN to be responsible for retaining adequate staffing and timely payment of salaries to staff. Existing expertise can be leveraged however HVEN needs to ensure that dedicated resources is assigned to implement ADB's project.</li> </ul>	Moderate

<b>Risk</b>	<b>Risk Assessment</b>	<b>Management Plan and/or Mitigation Measures</b>	<b>Risk after Mitigation</b>
		<ul style="list-style-type: none"> <li>Recruitment of additional English-speaking accountants was suggested. The international consultant will also assist in report preparation and translation.</li> </ul>	
5. Accounting policies, procedures, and systems	Low	<ul style="list-style-type: none"> <li>A separate accounting code/entry to be established and maintained for the project in order to minimize risk.</li> <li>Documented procedures and staff training to be provided to retain institutional knowledge.</li> </ul>	Low
6. Internal audit	Substantial/ Moderate	<ul style="list-style-type: none"> <li>The semiannual audit report is presented to the board of directors and key findings and conclusions documented in the minutes of meetings. The minutes of meetings are submitted to ADB semiannually for discussion during the review missions.</li> </ul>	Moderate
7. External audit	Moderate	<ul style="list-style-type: none"> <li>Loan/Project Agreements require HVEN financial statements and project financial statements to be audited in accordance with international standards on auditing by auditor acceptable to ADB. HVEN will submit to ADB the audited project financial statements within six months of the end of the fiscal year.</li> </ul>	Moderate/ Low
8. Reporting and monitoring	Moderate	<ul style="list-style-type: none"> <li>A reporting system, which will have a functionality for automatic generation of financial reports to be established and maintained for the project.</li> <li>Implementation consultants will be recruited to assist PIU in supervising the project implementation, recording project costs, preparing withdrawal applications and progress reports.</li> </ul>	Low
9. Information systems	Moderate/Low	<ul style="list-style-type: none"> <li>Information systems and processes to be maintained and if necessary, enhanced to meet the demands of organization, ensure operational stability, and allow for full consolidation of management information, as well as financial data.</li> </ul>	Low
Overall	Moderate		Moderate/ Low

ADB = Asian Development Bank, HVEN = High Voltage Energy Networks, CJSC (Vysokovoltnye Electriccheskie Sety), PIU = project implementation unit.

**Table 2: Financial Management Risks and Mitigation Measures of EPSO**

<b>Risk</b>	<b>Risk Assessment</b>	<b>Management Plan and/or Mitigation Measures</b>	<b>Risk after Mitigation</b>
1. Inherent risks (specific to EPSO)	Substantial/ Moderate	<ul style="list-style-type: none"> <li>The PIU to be supported by international consultants.</li> <li>EPSO staff has limited experience in managing donor-funded infrastructure loan projects but is reasonably familiar with international practice in the context of</li> </ul>	Moderate

Risk	Risk Assessment	Management Plan and/or Mitigation Measures	Risk after Mitigation
		<p>procurement and disbursement procedures, and reporting requirements. Training on ADB procedures to be provided by the implementation consultants.</p> <ul style="list-style-type: none"> <li>The project management unit to be established at the Ministry of Energy and Natural Resources level will be responsible for coordination in project implementation.</li> </ul>	
2. Financial risks	Substantial/Moderate	<ul style="list-style-type: none"> <li>Government undertakes to provide additional assurance in the form of a covenant in the loan agreement with ADB on future tariff adjustment to provide for full recovery of costs associated with the project including interest charges, loan repayment and exchange rate variations.</li> <li>EPSO to file for new tariff petition as soon as the project is approved by the government.</li> </ul>	Moderate
3. Flow funds arrangements	Moderate/Low	<ul style="list-style-type: none"> <li>ADB direct payment, commitment letters, and reimbursement procedures are to be used for the project. No imprest account will be established.</li> <li>Relending agreement between the Ministry of Finance and EPSO to be submitted to ADB.</li> </ul>	Low
4. Staffing	Substantial/Moderate	<ul style="list-style-type: none"> <li>EPSO to be responsible for retaining adequate staffing and timely payment of salaries to staff. Existing expertise can be leveraged however EPSO needs to ensure that dedicated resources is assigned to implement ADB's project.</li> <li>Recruitment of the English-speaking accountant to be completed before project implementation commences. The international consultant will also assist in report preparation and translation.</li> </ul>	Moderate
5. Accounting policies, procedures, and systems	Low	<ul style="list-style-type: none"> <li>A separate accounting code/entry to be established and maintained for the project in order to minimize risk.</li> <li>Documented procedures and staff training to be provided to retain institutional knowledge.</li> </ul>	Low
6. Internal audit	Substantial/Moderate	<ul style="list-style-type: none"> <li>The semiannual audit report is presented to the board of directors and key findings and conclusions documented in the minutes of meetings. The minutes of meetings are submitted to ADB every semiannually for discussion during the review missions.</li> </ul>	Moderate
7. External audit	Moderate	<ul style="list-style-type: none"> <li>Loan/Project Agreements require EPSO financial statements and project financial statements to be audited in accordance with international standards on auditing by auditor acceptable to ADB. EPSO will</li> </ul>	Moderate/Low



Risk	Risk Assessment	Management Plan and/or Mitigation Measures	Risk after Mitigation
		submit to ADB the audited project financial statements within six months of the end of the fiscal year.	
8. Reporting and monitoring	Moderate	<ul style="list-style-type: none"> <li>A reporting system, which will have a functionality for automatic generation of financial reports to be established and maintained for the project.</li> <li>Implementation consultants will be recruited to assist PIU in supervising the project implementation, recording project costs, preparing withdrawal applications and progress reports.</li> </ul>	Moderate/ Low
9. Information systems	Moderate	<ul style="list-style-type: none"> <li>Progress of the implementation of the 1C software to replace the existing Soft master accounting software and its completion report to be presented to the board of directors and documented in the meeting of minutes. The minutes of meetings are to be submitted to ADB for discussion during review missions.</li> </ul>	Moderate/ Low
Overall	Moderate		Moderate/ Low

ADB = Asian Development Bank, EPSO = Electro Power Systems Operator, CJSC (Operator Systemy Elektroenergetiky), PIU = project implementation unit.

## B. Disbursement

24. The Loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),<sup>7</sup> and detailed arrangements agreed upon between the government and ADB.

25. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS),<sup>8</sup> ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list (Appendix 5) to subprojects financed by ADB.

26. Payments for goods and consulting services will be disbursed by ADB through commitment and direct payment procedures as applicable, and should be certified by the relevant PIU Project Director based on the payment terms in the contracts. Each PIU, through MENR, will be responsible for (i) preparing disbursement projections; (ii) requesting budgetary allocations for counterpart funds; (iii) collecting supporting documents; and (iv) preparing and sending withdrawal applications to ADB. Each withdrawal application must include the claim or invoice from the supplier or consultant and approved by the borrower's authorized representative. MOF will ensure necessary funds are made available and/or in-kind contributions are made available for their respective counterpart responsibilities.

27. Before the submission of the first withdrawal application, MOF should submit to ADB

<sup>7</sup> Available at: [http://www.adb.org/Documents/Handbooks/Loan\\_Disbursement/loan-disbursement-final.pdf](http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf)

<sup>8</sup> Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is \$100,000 equivalent, unless otherwise approved by ADB. Withdrawal applications and supporting documents will demonstrate, among other things, that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

### **C. Accounting**

28. EPSO and HVEN will cause their respective PIUs to maintain separate project accounts for all expenditures incurred on the project. The PIUs will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

29. At the PIUs, a dedicated project financial officer would be responsible for recording the project costs, preparation of loan disbursements and preparation of progress reports to ADB.

### **D. Auditing and Public Disclosure**

30. EPSO and HVEN will cause the detailed consolidated project financial statements to be audited in accordance with International Standards on Auditing and with the government's audit regulations, by an independent auditor acceptable to ADB. The audited financial statements for the HVEN and EPSO and audited project financial statements (APFS) will be submitted in the English language to ADB within six months of the end of the fiscal year by the HVEN and EPSO.

31. EPSO and HVEN will also have the entity-level financial statements to be audited in accordance with International Standards on Auditing by an independent auditor acceptable to ADB. The audited entity-level financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within one month after their approval by the competent authority.

32. The annual audit report will include an audit management letter and audit opinions which cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether loan and grant proceeds were used only for the purposes of the project or not; and (iii) the level of compliance for each financial covenant contained in the legal agreements for the project.

33. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

34. The government, EPSO and HVEN have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the APFS.<sup>9</sup> ADB

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<sup>9</sup> ADB Policy on delayed submission of audited project financial statements:

- When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.

reserves the right to require a change in the auditor (in a manner consistent with the constitution of the recipient, or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

35. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011).<sup>10</sup> After review, ADB will disclose the annual APFS and the opinion of the auditors on the project financial statements within 30 days of the date of their receipt by posting them on ADB's website. The Audit Management Letter will not be disclosed.

## VI. PROCUREMENT AND CONSULTING SERVICES

### A. Advance Contracting

36. All advance contracting will be undertaken in conformity with ADB's *Procurement Guidelines* (2013, as amended from time to time) (ADB's *Procurement Guidelines*)<sup>11</sup> and ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time) (ADB's *Guidelines on the Use of Consultants*).<sup>12</sup> The issuance of invitations to bid under advance contracting will be subject to ADB approval. The borrower, MENR, EPSO, and HVEN have been advised that approval of advance contracting does not commit ADB to finance the project.

37. **Advance contracting.** The project involves procurement of (i) two international competitive bidding procurement contracts for plant: design, supply and install; and (ii) recruitment of two consulting firms for project implementation using quality- and cost-based selection (QCBS) using a quality-cost ratio of 90:10.

### B. Procurement of Goods, Works and Consulting Services

38. All procurement of goods and works will be undertaken in accordance with ADB's *Procurement Guidelines*. The detailed procurement plan is given in Section C.

39. ICB procedures will be used for turnkey contracts valued at \$1,000,000 or higher, and for supply of goods valued at \$500,000 or higher. Shopping will be used for goods below \$100,000.

40. EPSO will employ a turnkey contractor or contractors to perform final design, procurement and construction of the expansion of SCADA system and EMS system. The turnkey contract will be awarded using ICB, following the ADB Standard Bidding Document Plant using a Single-Stage, Single-Envelope bidding procedure.

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- When audited project financial statements have not been received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement and issuance of new commitment letters. ADB will (i) inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next six months.
  - When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.

<sup>10</sup> Available from <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>.

<sup>11</sup> Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>

<sup>12</sup> Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>

41. HVEN will employ one turnkey contractor to perform final design, procurement, installation, and testing and commissioning of concerned equipment at existing substations of Agarak 2, and Shinuhayr. The turnkey contract will be awarded using ICB, following the ADB Standard Bidding Document Plant using a Single-Stage, Single-Envelope bidding procedure.

42. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages is in Section C.

43. All consultants will be recruited according to ADB's *Guidelines on the Use of Consultants*.<sup>13</sup> The terms of reference for all consulting services are detailed in Section D.

44. An estimated 48 person-months (24 international, 24 national) of consulting services are required to assist EPSO for (i) project management and implementation, and (ii) strengthen the institutional and operational capacity. An estimated 130 person-months (60 international, 70 national) of consulting services are required to assist HVEN for (i) project management and implementation, and (ii) strengthen the institutional and operational capacity. The consulting firms will be engaged using QCBS with a ratio of 90:10 due to the complexity of the assignment and the application of modern technologies.

### C. Procurement Plan

#### Basic Data

<b>Project Name:</b> Power Transmission Rehabilitation Project	
<b>Project Number:</b> 46416-002	<b>Approval Number:</b>
<b>Country:</b> Armenia, Republic of	<b>Executing Agency:</b> Ministry of Energy and Natural Resources of the Republic of Armenia
<b>Project Financing Amount:</b> US\$ 80,000,000 <b>ADB Financing:</b> US\$ 37,000,000 <b>Cofinancing (ADB Administered):</b> <b>Non-ADB Financing:</b> US\$ 43,000,000	<b>Implementing Agency:</b> Electro Power Systems Operator, High Voltage Electric Network
<b>Date of First Procurement Plan:</b> 12 March 2014	<b>Date of this Procurement Plan:</b> 6 June 2014

### A. Methods, Thresholds, Review and 18-Month Procurement Plan

#### 1. Procurement and Consulting Methods and Thresholds

45. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works		
Method	Threshold	Comments
International Competitive Bidding for Goods	US\$ 500,000 and Above	
International Competitive Bidding for Works	US\$ 1,000,000 and Above	

Consulting Services	
Method	Comments
Quality- and Cost-Based Selection for Consulting Firm	

<sup>13</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

## 2. Goods and Works Contracts Estimated to Cost \$1 Million or More

46. The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
1	Turnkey contractor for expansion of SCADA and EMS	11,500,000.00	ICB	PRIOR	1S1E	Q3 / 2014	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Plant
2	Turnkey contractor for rehabilitation of existing substations of Agarak 2 and Shinuhayr	19,400,000.00	ICB	PRIOR	1S1E	Q3 / 2014	Prequalification of Bidders: N  Domestic Preference Applicable: N  Bidding Document: Plant

## 3. Consulting Services Contracts Estimated to Cost \$100,000 or More

47. The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
3	Project Supervision and Management Consultants for SCADA and EMS	1,200,000.00	QCBS	PRIOR	Q2 / 2014	FTP	Assignment: International  Quality-Cost Ratio: 90:10  Comments: Due to the complexity of the assignment and the application of modern technologies.
4	Project Supervision and Management Consultants for 4 Substations (Agarak 2, Ararat 2 Shinuhayr, and Yeghegnadzor) Rehabilitation	2,400,000.00	QCBS	PRIOR	Q2 / 2014	FTP	Assignment: International  Quality-Cost Ratio: 90:10  Comments: Due to the complexity of the assignment and the application of modern technologies.

#### 4. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

48. The following table groups smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

Goods and Works								
Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
None								

Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
None								

#### B. Indicative List of Packages Required Under the Project

49. The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Comments
None							

Consulting Services							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior/Post)	Type of Proposal	Comments
None							

#### D. Consultant's Terms of Reference

50. The outline terms of references (TORs) for the PICs are provided below and the detailed TORs (draft) are given in the supplementary documents.

51. Two PIC firms will be engaged to assist EPSO and HVEN, for implementation of the project. The PIC's responsibility will include (i) support for bidding process, preparation of bid evaluation report, and assisting for contract negotiations and award; (ii) reviewing detailed engineering designs; (iii) supervision of the works of the turnkey contractors; (iv) preparation of project progress reports; (v) support for financial management and reporting; (vi) supervision of final testing and commissioning of the works; (vii) supervision of social and environmental management activities; (viii) training for PIU staff; and (ix) overall project implementation and monitoring.

Positions	Number	Person–Months
<b>Component 1: SCADA/EMS</b>		
<b>International</b>	<b>4</b>	<b>24</b>
SCADA expert/Team leader	1	12
Telecommunication Engineer	1	4

Transmission Line (OPGW) Engineer	1	4
Procurement Specialist	1	4
<b>National</b>	<b>3</b>	<b>24</b>
Electrical Engineer	2	18
Environmental and Social Safeguard Specialist	1	6
<b>Total</b>	<b>7</b>	<b>48</b>
<b>Component 2: Substation Rehabilitation</b>		
<b>International</b>	<b>6</b>	<b>60</b>
Substation Engineer - Team leader	1	30
Electrical and Control Engineer	1	8
Protection Engineer	1	4
Civil Engineer	1	12
Environment Specialist	1	2
Procurement Specialist	1	4
<b>National</b>	<b>5</b>	<b>70</b>
Civil Engineer	2	30
Electrical Engineer	2	30
Environmental and Social Safeguard Specialist	1	10
<b>Total</b>	<b>11</b>	<b>130</b>

52. The full-time team leaders will be based in the EPSO and HVEN and will visit project areas on a regular basis. The other international and national experts will work on an intermittent basis and will visit project areas as required.

## VII. SAFEGUARDS

53. **Environmental.** The project is classified as environmental category B under ADB's Safeguard Policy Statement (2009). An initial environmental examination (IEE), including two separate environmental management plans (EMPs) each for HVEN and EPSO, were prepared. The IEE has been disclosed per ADB public disclosure requirements.<sup>14</sup> A separate EMP has been prepared for HVEN and EPSO. HVEN and EPSO have staff responsible for safety but will be assisted by and get on-the-job environmental training from the PIC. The cost for implementing the EMP will be covered by ADB loan.

54. The main environmental impacts of the project would occur mainly during the construction phase as a result of wastes generated during equipment replacement and construction work for earth wire replacement. These environmental issues will be related to: (i) management of the used oil and grease wastes, including identification and special disposal of polychlorinated biphenyls containing oils; (ii) disposal of scrap metal, old batteries, and other solid wastes; (iii) occupational health and safety at the project sites; (iv) proper handling and monitoring of sulfur hexafluoride circuit breakers; and (v) limited air and noise pollution, as well as tree cutting within the right-of-ways. Potential negative environmental impacts during operation phase include sulfur hexafluoride leakage and electromagnetic fields. The EMP specifies adequate mitigation measures and monitoring plans to cover these impacts. Adequate storage facilities will be constructed at each substation for safe temporary storage of released oils and batteries. Non-polychlorinated biphenyl oils will be refined for reusing onsite by a licensed company. Separate EMP has been prepared for HVEN and EPSO.

<sup>14</sup> Efforts were made to collaborate with EBRD to satisfy the safeguard requirements of ADB and EBRD. This includes sharing with EBRD the original IEE which was prepared to cover all proposed substations, and a letter exchange with EBRD explaining how the responsibilities of ADB and EBRD for safeguard preparation and implementation are allocated.

55. Two PIUs of HVEN and EPSO will be responsible for implementing the respective EMPs, with assistance from the PIC and relevant staff of HVEN and EPSO. Environmental mitigation measures will be implemented by the contractors. Environmental monitoring will be performed by PIC. Monitoring results will be included in contractor's monthly reporting, the project quarterly progress reports and semiannual environmental reports. HVEN and EPSO have staff responsible for safety but will be assisted by and get on-the-job training from the PIC.

56. The cost for implementing the EMP will be covered by the loan. The costs of mitigation measures will be included in contractor contracts, and the cost for environmental monitoring and capacity building will be included in the consulting services of the PIC.

57. **Involuntary resettlement.** The project will have no land acquisition issues as rehabilitation works will be limited to the confines of the substation. The project is therefore classified as C for Involuntary Resettlement under ADB's Safeguard Policy Statement (2009).

58. **Indigenous peoples.** The project is classified as Category C under ADB's Safeguard Policy Statement (2009). The project is not expected to affect indigenous peoples as defined under the Safeguard Policy Statement.

## VIII. GENDER AND SOCIAL DIMENSIONS

59. **Gender.** The project is gender neutral. However, EPSO and HVEN will ensure that (i) equal wages for male and female workers should be ensured, and (ii) appropriate sanitary facilities at substations for female workers should be installed.

60. **Social dimensions.** The project does not entail impacts on affordability, employment, HIV/AIDS, etc. However, the turnkey contractor's contract will explicitly state equal opportunities for all social groups, equal pay for equal work regardless of gender, and prohibition of child labor.



## VIII. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

### A. Project Design and Monitoring Framework

#### DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Improved reliability and efficient power supply in Armenia</p>	<p>Per capita consumption of power increased to 3,000 kWh by 2023 (2013 baseline: 2,000 kWh)</p> <p>Annual electricity supply increased to 15,000 GWh by 2023 (2013 baseline: 6,300 GWh)</p> <p>Power system losses reduced to 8% by 2023 (2013 baseline: 12.7%)</p>	<p>EPSO and HVEN annual reports</p> <p>National statistics on per capita power consumption and annual electricity supply published by the Ministry of Energy and Natural Resources</p> <p>EPSO and HVEN project completion reports</p>	<p><b>Assumption</b> Government policy will continue to support energy infrastructure modernization.</p> <p><b>Risk</b> Limited financial support may delay the expansion of power generation and distribution assets.</p>
<p><b>Outcome</b> Increased operating efficiency of the domestic transmission network</p>	<p>Full compliance with grid code and stability requirements on power system operation set by the regulator by 2020 (2013 baseline: partly complied with)</p> <p>Number of unplanned outages in the 220 kV substations reduced to 5 times per year (2013 baseline, 8 times)</p>	<p>EPSO and HVEN annual reports</p> <p>EPSO and HVEN project completion reports</p>	<p><b>Assumption</b> Timely implementation of transmission rehabilitation projects financed by other financiers</p>
<p><b>Outputs</b></p> <p>1. Expansion of SCADA system and EMS fully implemented</p> <p>2. Rehabilitation of two 220 kV substations in Agarak 2 and Shinuhayr</p> <p>3. Institutional development, capacity building, and project management successfully completed</p>	<p>SCADA system and EMS cover 100% of transmission network by 2017 (2013 baseline: partially installed)</p> <p>Substation capacity increased by 250 MVA by 2020 (2013 baseline: 380 MVA)</p> <p>Project implemented on time and within budget PIU staff from EPSO and HVEN trained on ADB procurement and safeguard practices</p> <p>At least 10 operations staff</p>	<p>EPSO and HVEN annual reports</p> <p>EPSO and HVEN records of commissioning</p> <p>EPSO and HVEN annual reports</p> <p>EPSO and HVEN records of commissioning</p> <p>EPSO and HVEN project completion reports</p>	<p><b>Assumption</b> Access to competent contractors and high-quality equipment and material</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	from EPSO and at least 30 from HVEN acquired knowledge and skills regarding SCADA, EMS, and substation operation and maintenance		
<p><b>Activities with Milestones</b></p> <p><b>1. Expansion of SCADA system and EMS</b></p> <p>1.1 Recruit project implementation consultants (Q1 2015)</p> <p>1.2 Complete bid evaluation and award contract package (Q2 2015)</p> <p>1.3 Expand SCADA system and EMS in accordance with the contracts (Q4 2016)</p> <p>1.4 Fully commission SCADA system and EMS (Q4 2016)</p> <p><b>2. Rehabilitation of two 220 kV substations at Agarak 2 and Shinuhayr</b></p> <p>2.1 Recruit project implementation consultants (Q1 2015)</p> <p>2.2 Complete bid evaluation and award contract package (Q3 2015)</p> <p>2.3 Rehabilitate substations in accordance with the contracts (Q4 2019)</p> <p>2.4 Fully commission substations (Q1 2020)</p> <p><b>3. Institutional development, capacity building, and project management</b></p> <p>3.1 Establish project implementation units (Q3 2014)</p> <p>3.2 Prepare capacity development plan (Q4 2014)</p> <p>3.3 Train PIU staff from EPSO and HVEN on ADB procurement and project safeguard practices (Q4 2014)</p> <p>3.4 Train at least 10 operations staff from EPSO and at least 30 from HVEN on SCADA, EMS, and substation operation and maintenance by the contractors and supervision consultants (Q4 2019)</p>			<p><b>Inputs</b></p> <p>ADB ADF: SDR24,022,000 (\$37 million equivalent)</p> <p>Government: \$13 million equivalent</p>

ADB = Asian Development Bank; ADF = Asian Development Fund; EMS = energy management system; EPSO = Electro Power Systems Operator; GWh = gigawatt-hour; HVEN = High Voltage Electric Networks; kV = kilovolt; kWh = kilowatt-hour; MVA = megavolt-ampere; PIU = project implementation unit; SCADA = supervisory control and data acquisition; SDR = special drawing rights.

Source: Asian Development Bank.

Note: In parallel, the European Bank for Reconstruction and Development (EBRD) will provide \$30 million to assist in the financing of rehabilitation of another two substations at Ararat 2 and Yeghegnadzor. The EBRD cofinancing will be under collaborative cofinancing arrangements and will not be administered by ADB.

## B. Monitoring

61. **Project performance monitoring.** Following indicators will be updated in the quarterly progress reports and at the time of semiannual meetings and the midterm review expected in two years from the date of loan effectiveness.

62. **Compliance monitoring.** Loan covenants—policy, legal, financial, economic, environmental, and others—will be monitored through semiannual project meeting and the midterm review.

63. **Sector development.** The government, through MENR, EPSO and HVEN, shall ensure that ADB is kept informed of the key power sector policy reforms including tariff methodologies and the implementation progress of the power sector investment plan.

### 64. **Financial Management**

- (i) EPSO and HVEN maintain its debt service coverage ratio at not less than 1.1 from 2018 and onwards; and
- (ii) EPSO and HVEN maintain its self-financing ratio at not less than 20%.

### 65. **Accounting, auditing, and reporting.** EPSO and HVEN shall:

- (i) maintain separate accounts for the project;
- (ii) have such accounts and related financial statements (balance sheet, income statement, cash flow statement and related statements) audited annually, in accordance with international financial auditing and accounting standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB;
- (iii) furnish to ADB as soon as available, but in any event not later than 7 months after the end of each related fiscal year to which they relate, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the loan proceeds and compliance with the financial covenants of the Loan Agreement based on the company's consolidated audited accounts and financial statements) all in the English language;
- (iv) furnish to ADB as soon as available, but in any event not later than 6 months after the end of each related fiscal year to which they relate, certified copies of the company consolidated audited accounts and financial statements and the report of the auditors relating thereto all in the English language; and
- (v) furnish ADB such further information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.

66. **Environment.** EPSO and HVEN shall not award any works contract which involves environmental impacts until (i) the government or relevant environment authority, as appropriate, has granted the final approval of the IEE; and (ii) EPSO and HVEN have incorporated the relevant provisions from the EMP into the works contract, consulting services, and PIU institutional arrangements for EMP implementation.

67. EPSO and HVEN ensure that the preparation, design, construction, implementation, operation and decommissioning of the project comply with (a) all applicable laws and regulations of Armenia relating to environment, health and safety; (b) the environmental safeguards under the SPS; and (c) all measures and requirements set forth in the IEE, the

EMP, and any corrective or preventative actions set forth in a safeguards monitoring report.

68. **Social.** EPSO and HVEN ensure that all land and all rights-of-way required for the project are made available to the works contractor in accordance with the schedule agreed on under the related works contract.

69. **Safeguards Related Provisions in Bidding Documents and Works Contracts.** EPSO and HVEN ensure that all bidding documents and contracts for works contain provisions that require contractors to:

- (i) comply with the measures relevant to the contractor set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a safeguards monitoring report;
- (ii) make available a budget for all such environmental measures;
- (iii) provide the government with a written notice of any unanticipated environmental or resettlement risks or impacts that arise during construction, implementation or operation of the project that were not considered in the IEE and the EMP;
- (iv) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and
- (v) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.

70. **Safeguards monitoring and reporting.** The government shall cause EPSO and HVEN to do the following:

- (i) submit semiannual safeguards monitoring reports to ADB within one month after each half of the calendar year and disclose relevant information from such reports to affected persons promptly upon submission;
- (ii) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the project that were not considered in the IEE and the EMP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and
- (iii) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP promptly after becoming aware of the breach.

71. **Gender and social dimensions monitoring.** The government shall ensure and shall cause EPSO and HVEN to ensure that (i) equal wages for male and female workers should be paid, and (ii) appropriate sanitary facilities at substations for female workers should be installed.

72. **Labor standards.** The government shall ensure and shall cause EPSO and HVEN to ensure that all Works contractors (i) comply with all applicable national labor laws and international labor and safety standards and requirements, including but not limited to those on (a) abolition of child labor; (b) elimination of discrimination in respect of employment and occupation; (c) elimination of all forms of forced or compulsory labor; and (d) freedom of association and effective recognition of the right to collective bargaining; (ii) use their best efforts to employ local people, including disadvantaged people living in the vicinity of the project; and (iii) disseminate information at worksites on the risks of sexually transmitted infections, including HIV/AIDS, for those employed during construction. Works contracts must include specific clauses on these undertakings, and compliance will be strictly monitored during implementation.

73. **Counterpart staffing.** EPSO and HVEN shall ensure availability of qualified and

experienced staff to undertake the effective implementation and operation of the project.

### C. Evaluation

74. **Inception Mission.** ADB will field an inception mission after loan signing to (i) establish a working relationship between ADB and the executing agencies and implementing agencies; and (ii) to ensure that the Borrower and executing agencies and implementing agencies understand ADB's procedures.

75. **Review Missions.** ADB will field review missions at least once a year to review overall implementation of the project and update project implementation schedule based on mission findings.

76. **Midterm Review Mission.** ADB will field a midterm review mission after two years of loan signing to assess whether attainment of the project's immediate objective (purpose in terms of the design and monitoring framework) is still likely.

77. **Project Completion Review Mission.** ADB will field a project completion review mission upon physical completion of the project to commence preparation of ADB's project completion report. EPSO and HVEN, in coordination with MENR, will submit a project completion report to ADB within six months of physical completion of the project.<sup>15</sup>

### D. Reporting

78. EPSO and HVEN will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for next 12 months; and (iii) a project completion report within six months of physical completion of the project. To ensure that projects continue to be both viable and sustainable, project accounts and EPSO's and HVEN's audited financial statements, together with the associated auditor's report, should be adequately reviewed.

79. EPSO and HVEN are responsible for submission of reports to ADB. Each agency shall prepare their section of the report in a timely manner.

### E. Stakeholder Communication Strategy

80. Project information will be strategically disseminated through media at main milestones including loan signing, contract awards, and project completion. EPSO and HVEN will develop a stakeholder communication plan including (i) designation of a focal point for regular contact with project-affected people and other stakeholders; (ii) identification of mechanisms for feedback during design and implementation; (iii) details of types of information to be disclosed, mechanisms for public notice including language and timing, and responsibility for implementing and monitoring disclosure and dissemination. Grievance redress mechanism will be established at the PIUs, by phone and email, and through public consultation events.

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<sup>15</sup> Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

## IX. ANTICORRUPTION POLICY

81. The Borrower, through MOF, MENR, EPSO, and HVEN, shall comply with ADB's Anticorruption Policy (1998, as amended to date),<sup>16</sup> and operate fully with any investigation by ADB and extend all necessary assistance, including providing access to all relevant books and records for the satisfactory completion of such investigation. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project. MENR, EPSO, and HVEN shall ensure that anticorruption provisions acceptable to ADB are included in all bidding documents and contracts, including provisions specifying the right of ADB to audit and examine the records and accounts of EPSO, HVEN and all project contractors, suppliers, consultants and other service providers as they relate to the project. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.<sup>17</sup>

82. To support these efforts, relevant provisions are included in the loan agreement/regulations and the bidding documents for the project. Procurement will follow ADB's Procurement Guidelines, consultant selection will adopt ADB's Guidelines on the Use of Consultants, and disbursement will be made in accordance with ADB's disbursement policies, guidelines, practices, and procedures.

## X. ACCOUNTABILITY MECHANISM

83. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.<sup>18</sup>

## XI. RECORD OF PAM CHANGES<sup>19</sup>

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<sup>16</sup> Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

<sup>17</sup> ADB's Integrity Office website is available at: <http://www.adb.org/integrity/unit.asp>

<sup>18</sup> For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

<sup>19</sup> MENR, HVEN and EPSO shall ensure that changes to the PAM during project implementation shall be consistent with the financing and project agreements.