

January 30, 2015

Checklist EMP for Arrangement of Premises for Back-up Dispatch Center of the Electric Power System Operator (EPSO) CJSC

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE			
Country	Armenia		
Project title	Electricity Transmission Network Improvement Project Arrangement of premises for back-up dispatch center of the EPSO CJSC		
Scope of site-specific activity	<p>Arrangement of premises for back-up dispatch center will involve rehabilitation of space in the top floor of an existing building and construction of a small new structure adjacent to this building. More specifically, physical works will comprise of the following:</p> <ul style="list-style-type: none"> • Improvement of seismic performance of the existing building; • Rehabilitation of 1000m² existing building roof; • Installation of 135kW solar (photovoltaic) panels on the roof; • Construction of 10/0.4kV 35m² indoor power substation with 2 transformers; • Installation of approx. 2.5km underground 10kV power cable to supply back-up power from Haghtanak substation of HVEN; • Installation of approx. 2.5km underground fiber optic cable to connect dispatch center to Haghtanak substation of HVEN; • Installation of 150kW enclosed diesel generator for back-up power supply; • Installation of heating system, including 150kW gas-fired boiler, gas pipeline to connect boiler to the adjacent gas supply network and internal heat network; • Landscaping-greening of the area; • Installation of air-conditioning system; • Installation of satellite communication system; • Installation of electrical wiring, fire alarm and communication systems; • Rehabilitation and furnishing of the rooms; and • Equipping the dispatch room with screen, servers, UPS, reserve switching device, and IT equipment. <p>New structure with floor area of 35m² for placement of two transformers will be constructed adjacent to the dispatch center building within the fenced area. 150kW back-up diesel generator in a container enclosure will be placed next to the dispatch center building.</p> <p>Natural gas fired boiler with a nominal capacity of 150kW will be installed inside the dispatch center building.</p> <p>For installation of power cable and fiber optic cable, the 1m wide and 0.7m deep cable trench will be dug out and promptly reinstated upon closure.</p>		
Institutional arrangements (WB)	Task Team Leader: Arthur Kochnakyan akochnakyan@worldbank.org	Safeguards Specialist: Darejan Kapanadze dkapanadze@worldbank.org	
Implementation arrangements (RoA)	Implementing entity: High Voltage Electric Networks CJSC General Director Aram Ananyan hvenbec@gmail.com	Works supervisor: (tbd)	Works contractor: (tbd)
SITE DESCRIPTION			
Name of institution	Back-up dispatch center for the Electric Power System Operator CJSC		

whose premises are to be rehabilitated	
Address and site location of institution whose premises are to be rehabilitated	<p>The back-up dispatch center will be housed in a part of the top floor of the existing three-story building belonging to Armenian Scientific Research Institute (ASRI) of the Ministry of Energy and Natural Resources. A 535 m² area of the third floor on the eastern side of the building is allocated for the dispatch center. ASRI is located in the western part of the capital city of Yerevan (address: Admiral Isakov Avenue 50).</p> <p>The building is bordering with the offices of ASRI and a private warehouse to the south. The auxiliary facilities of the ASRI are located north of construction site. There are residential houses to the west and residential houses and buildings and garages to the north-east and east of construction site.</p> <p>The route for underground 10kV power cable and underground fiber optic cable lies along the roadside of public road from ASRI to the north and then to the west to Hightanak substation of High Voltage Electric Networks (HVEN) CJSC. Almost three fourths of this road length is paved with asphalt; the remaining part and roadside are unpaved.</p> <p>The public road around ASRI fencing will be used to access the site from the south and north. All construction machinery and equipment will be parked inside the fencing area. The project implementation will not have any temporary or permanent impacts on neighboring businesses.</p>
Who owns the land? Who uses the land (formal/informal)?	<p>The land for back-up dispatch center and cable routing is public property.</p> <p>The user rights to the land for back-up dispatch center are held by ASRI, owned by the Ministry of Energy and Natural Resources.</p>
Description of physical and natural environment around the site	<p>Yerevan is situated in the north-eastern part of Ararat Valley, to the center-west of the Armenia. The upper part of the city is surrounded with mountains on three sides while it descends to the banks of the Hrazdan River at the south. It borders with Aragatsotn, Kotayk, Ararat and Armavir marzes of RA. The city's elevation ranges between 865 to 1390m above sea level.</p> <p>The climate of Yerevan is a humid continental semi-arid climate, with hot and dry summers and cold and snowy winters. The average temperature in July is 25.8°C, and the absolute maximum temperature is 42°C. The average temperature in January is -3.6°C, and the absolute minimum temperature is -28°C. The average annual temperature is 11.9°C; average annual relative humidity is 61%; average annual precipitation is 291-353mm.</p> <p>Being located in a developed area, there is no wildlife within the area of construction activities.</p>
Locations and distance for material sourcing, especially aggregates, water, stones?	<p>The necessary aggregates, stones and water for the construction activities are available from registered vendors in Yerevan city.</p>
LEGISLATION	
National & local legislation & permits that apply to project activity	<p>The following Armenian legislation defines a legal framework applicable to project activities:</p> <ul style="list-style-type: none"> - Law on Atmospheric Air Protection of RoA (1994) The purpose of Law on Atmospheric Air Protection is to define main principles of the RoA, directed to provision of purity of atmospheric air and improvement of air quality, prevention and mitigation of the chemical, physical, biological and other impacts on air quality and regulation of public relation. <p><i>According to this law, contractor shall undertake demolition and construction activities as well as transportation and temporary storage of wastes the way to minimize dust and other emissions to the air.</i></p> <ul style="list-style-type: none"> - Law on Waste of RoA (2004) The law provides the legal and economic basis for collection, transportation, disposal, treatment, re-use of wastes as well as prevention of negative impacts of waste on natural resources, human life and health. The law defines the roles and responsibilities of the state authorized bodies as well as of waste generator organizations in waste management operations.

	<p><i>According to this law, the waste generated by the demolition, construction and installation activities should be recycled as appropriate, or disposed of in designated locations.</i></p> <ul style="list-style-type: none"> - Law on Environmental Impact Assessment and Expertise of RoA (2014) The law defines type of activities which are subject to environmental impact assessment and ecological expertise. <p><i>According to this law, works associated with construction of back-up dispatch center are not subject to the ecological expertise.</i></p> <ul style="list-style-type: none"> - Law on Urban Development of RoA (1998) <i>According to this law, planned construction works require obtaining of the construction permit.</i>
PUBLIC CONSULTATION	
<p>When / where the public consultation process will take /took place</p>	<p>Site-specific EMP was disclosed on the web-site of High Voltage Electric Networks, which will be the implementing entity for this sub-component of the project. Brief information on the planned works and contact information for addressing questions and grievance was placed at the work site and in its immediate surroundings/municipality.</p>
ATTACHMENTS	
<p>Attachment 1: Site plan / photo Attachment 2: Documented process of public consultation</p>	

PART B: SAFEGUARDS INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING			
	Activity/Issue	Status	Triggered Actions
Will the site activity include/involve any of the following?	A. Building rehabilitation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section A below
	B. New construction	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section A below
	C. Individual wastewater treatment system	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section B below
	D. Historic building(s) and districts	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section C below
	E. Acquisition of land ¹	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section D below
	F. Hazardous or toxic materials ²	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section E below
	G. Impacts on forests and/or protected areas	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section F below
	H. Handling / management of medical waste	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	See Section G below
	I. Traffic and Pedestrian Safety	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	See Section H below

¹ Land acquisitions includes displacement of people, change of livelihood encroachment on private property this is to land that is purchased/transferred and affects people who are living and/or squatters and/or operate a business (kiosks) on land that is being acquired.

² Toxic / hazardous material includes but is not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.

PART C: MITIGATION MEASURES

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
0. General Conditions	Notification and Worker Safety	<ul style="list-style-type: none"> (a) The local construction and environment inspectorates and communities have been notified of upcoming activities (b) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works) (c) All legally required permits have been acquired for construction and/or rehabilitation (d) The Contractor formally agrees that all work will be carried out in a safe and disciplined manner designed to minimize impacts on neighboring residents and environment. (e) Workers' PPE will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots) (f) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.
A. General Rehabilitation and /or Construction Activities	Air Quality	<ul style="list-style-type: none"> (a) During interior demolition debris-chutes shall be used above the first floor (b) Demolition debris shall be kept in controlled area and sprayed with water mist to reduce debris dust (c) During pneumatic drilling/wall destruction dust shall be suppressed by ongoing water spraying and/or installing dust screen enclosures at site (d) The surrounding environment (sidewalks, roads) shall be kept free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site (f) There will be no excessive idling of construction vehicles at sites
	Noise	<ul style="list-style-type: none"> (a) Construction noise will be limited to restricted times agreed to in the permit (b) During operations the engine covers of generators, air compressors and other powered mechanical equipment shall be closed, and equipment placed as far away from residential areas as possible
	Water Quality	<ul style="list-style-type: none"> (a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
	Waste management	<ul style="list-style-type: none"> (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. (e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
B. Individual wastewater treatment system	Water Quality	<ul style="list-style-type: none"> (a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment (c) Monitoring of new wastewater systems (before/after) will be carried out (d) Construction vehicles and machinery will be washed only in designated areas where runoff will not pollute natural surface water bodies.
C. Historic building(s)	Cultural Heritage	<ul style="list-style-type: none"> (a) If the building is a designated historic structure, very close to such a structure, or located in a designated historic district, notification shall be made and approvals/permits be obtained from local authorities and all construction activities planned and carried out in line with local and national legislation. (b) It shall be ensured that provisions are put in place so that artifacts or other possible "chance finds" encountered in excavation or construction are noted and registered, responsible officials contacted, and works activities delayed or modified to account for such finds.

ACTIVITY	PARAMETER	MITIGATION MEASURES CHECKLIST
D. Acquisition of land	Land Acquisition Plan/Framework	(a) If expropriation of land was not expected but is required, or if loss of access to income of legal or illegal users of land was not expected but may occur, that the Bank's Task Team Leader shall be immediately consulted. (b) The approved Land Acquisition Plan/Framework (if required by the project) will be implemented
E. Toxic Materials	Asbestos management	(a) If asbestos is located on the project site, it shall be marked clearly as hazardous material (b) When possible the asbestos will be appropriately contained and sealed to minimize exposure (c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust (d) Asbestos will be handled and disposed by skilled & experienced professionals (e) If asbestos material is stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately. Security measures will be taken against unauthorized removal from the site. (f) The removed asbestos will not be reused
	Toxic / hazardous waste management	(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances shall be placed in an leak-proof container to prevent spillage and leaching (c) The wastes shall be transported by specially licensed carriers and disposed in a licensed facility. (d) Paints with toxic ingredients or solvents or lead-based paints will not be used
F. Affected forests, wetlands and/or protected areas	Protection	(a) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited, all staff will be strictly prohibited from hunting, foraging, logging or other damaging activities. (b) A survey and an inventory shall be made of large trees in the vicinity of the construction activity, large trees shall be marked and cordoned off with fencing, their root system protected, and any damage to the trees avoided (c) Adjacent wetlands and streams shall be protected from construction site run-off with appropriate erosion and sediment control feature to include by not limited to hay bales and silt fences (d) There will be no unlicensed borrow pits, quarries or waste dumps in adjacent areas, especially not in protected areas.
G. Disposal of medical waste	Infrastructure for medical waste management	(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to: <ul style="list-style-type: none"> ▪ Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal; and ▪ Appropriate storage facilities for medical waste are in place; and ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational
H. Traffic and Pedestrian Safety	Direct or indirect hazards to public traffic and pedestrians by construction activities	(a) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to <ul style="list-style-type: none"> ▪ Signposting, warning signs, barriers and traffic diversions: site will be clearly visible and the public warned of all potential hazards ▪ Traffic management system and staff training, especially for site access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes. ▪ Adjustment of working hours to local traffic patterns, e.g. avoiding major transport activities during rush hours or times of livestock movement ▪ Active traffic management by trained and visible staff at the site, if required for safe and convenient passage for the public. ▪ Ensuring safe and continuous access to office facilities, shops and residences during renovation activities, if the buildings stay open for the public.

PART D: MONITORING PLAN

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
CONSTRUCTION PHASE						
1. Provision of construction materials	Purchase of construction materials from the registered providers	In the provider's office or warehouse	Verification of labels of the materials and/or certificates if any	During conclusion of supply contracts	Ensure reliability of construction materials and their safety for human health	EPSO
2. Transportation of construction materials and waste Movement of construction machinery	<ul style="list-style-type: none"> - Technical condition of vehicles and machinery; - Confinement and protection of truck loads with lining; - Respect of the established hours and routes of transportation. 	<ul style="list-style-type: none"> - Dispatch center site; - Cable ditch route; - Routes of transportation of construction materials and wastes. 	Inspection of roads adjacent to the dispatch center and cable ditch in the direction of the movement route	Selective inspections during work hours	<ul style="list-style-type: none"> - Limit pollution of soil and air from emissions; - Limit nuisance to local communities from noise and vibration; - Minimize traffic disruption. 	EPSO Traffic Police
3. Dust	Air condition on-site	<ul style="list-style-type: none"> - Dispatch center site; - Cable ditch route; - Access roads. 	Visual inspection	Recurrent	Reduce risks for the staff and neighboring communities	EPSO
4. Noise	<ul style="list-style-type: none"> - Observance of working hours; - Technical condition of vehicles and machinery; - Noise levels (in case of complaints). 	<ul style="list-style-type: none"> - Dispatch center site; - Cable ditch route. 	<ul style="list-style-type: none"> - Visual inspection; - Instrumental measurement of noise levels (in case of complaints). 	<ul style="list-style-type: none"> - Recurrent; - Within 2 weeks following a complaint. 	Reduce nuisance for staff and neighboring communities	EPSO
5. Maintenance of construction equipment	<ul style="list-style-type: none"> - Washing of cars and construction equipment outside the construction site or on maximum distance from natural streams; - Refueling or lubrication of construction equipment at the predetermined filling stations/service centers. 	<ul style="list-style-type: none"> - Dispatch center site; - Cable ditch route. 	Inspection of activities	Selective inspections during work hours	<ul style="list-style-type: none"> - Avoid pollution of water and soil with oil products due to operation of equipment; - Timely localize fire and decrease possible damage. 	EPSO

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
6. Earth works	<ul style="list-style-type: none"> - Topsoil removal and temporary stockpiling for re-cultivation of the land; - Temporary storage of excavated soil at determined places; - Backfilling of the excavated ground as needed and disposal of the excess mass to the places, approved in writing; - Immediate termination of activities in case of unexpected archaeological findings and providing of full information to the Agency for the Protection of Monuments and Historical Sites. 	<ul style="list-style-type: none"> - Dispatch center site; - Cable ditch route. 	Inspection of activities	During earth works	<ul style="list-style-type: none"> - Limit loss of vegetations due to ground piling and minimization of pollution of surface water reservoirs with particles; - Limit pollution with contaminated soil of surface and ground waters; - Avoid loss of cultural heritage. 	<p>EPSO</p> <p>Agency for the Protection of Monuments and Historical Sites of RA</p>
7. Generation of non-hazardous construction waste	<ul style="list-style-type: none"> - Temporary storage of construction waste in especially allocated areas within the fenced area of dispatch center and along cable ditch; - Timely disposal of wastes to the formally designated locations. 	<ul style="list-style-type: none"> - Dispatch center site; - Cable ditch route; - Waste disposal site. 	Inspection of activities	Periodically during construction and upon its completion	<ul style="list-style-type: none"> - Prevent pollution of soil, surface water and ground water; - Avoid accidents at the construction site due to scattered fragments of construction materials and debris; - Retain esthetic appearance of the construction site and its surroundings. 	<p>EPSO</p> <p>Yerevan Municipality</p>
8. Production of domestic waste	<ul style="list-style-type: none"> - Placement of waste collection containers at the construction site - Agreement with Yerevan Municipality on regular disposal of domestic waste 	Dispatch center site	Visual observation	Total period of construction works	Prevent pollution of soil and water with domestic waste	<p>EPSO</p> <p>Yerevan Municipality</p>
9. Construction site re-cultivation and landscaping	<ul style="list-style-type: none"> - Dismantlement of construction base (if any) and temporary access roads to the site (if any) and harmonization of the areas with the landscape; 	<ul style="list-style-type: none"> - Dispatch center site; - Cable ditch route; - Access roads. 	Inspection of activities	Final period of construction	Reduce loss of aesthetical value of the landscape due to rehabilitation of the construction site	EPSO

Activity	What (Is the parameter to be monitored?)	Where (Is the parameter to be monitored?)	How (Is the parameter to be monitored?)	When (Define the frequency / or continuous?)	Why (Is the parameter being monitored?)	Who (Is responsible for monitoring?)
	- Final cleaning of the construction site and permanent access roads and landscaping-greening of the area.					
10. Workers' health and safety	- Construction workers wearing uniforms and PPE; - Strict compliance with the rules of construction equipment operation and usage of PPE.	- Dispatch center site; - Cable ditch route.	Inspection of activities	Total period of construction works	Reduce probability of traumas and accidents to constructors	EPSO
OPERATION PHASE						
1. Operation and maintenance of the boiler and heating system	Regular servicing of the boiler and entire heating system being undertaken	Premises of the back-up dispatch center	Dispatch center inspection	Total period of operation of the heating system	Maintenance of heating system in safe and operable condition	EPSO
2. Emergency preparedness	Presence of fire extinguishing equipment, back-up arrangements for sustaining electric power supply and heating in case of emergency cut-offs	Back-up dispatch center	Periodic check-ups	Total period of operation of the building	- Reduce risks for the staff and neighboring communities; - Avoid disruption of back-up dispatch center's operation.	Ministry of Energy and Natural Resources Ministry of Emergency Situations

Attachment 1.

Site plan / photo



Proposed routing of cables (red line)



Public road proposed for cable routing



Attachment 2.

DOCUMENTED PROCESS / MINUTES OF PUBLIC CONSULTATION

Checklist EMP for New Administrative Building of High Voltage Electric Networks (HVEN) CJSC and Checklist EMP for Arrangement of Premises for Back-up Dispatch Center of the Electric Power System Operator (EPSO) CJSC

Introduction

The Checklist EMP for New Administrative Building of HVEN CJSC and Checklist EMP for Arrangement of Premises for Back-up Dispatch Center of the EPSO CJSC - both in English and Armenian languages - were published to solicit public feedback. The timeframe of December 25, 2014 to January 16, 2015 was allowed for ascertaining concerns and obtaining comments/responses from concerned persons via regular mail (full address of HVEN was provided), email and corporate telephone number, which was available from 9 AM to 6 PM on business days.

Materials and Methods

The English and Armenian versions of the Checklist EMPs were posted on the web site of High Voltage Electric Networks CJSC (http://hven.am/event-s_34_2.html).

Brief information on planned works, web site address of disclosed Checklist EMP documents, and HVEN's contact information (including full address, email, telephone number, and contact person's name) were placed at each work site entrance/fencing to allow people to express any questions or concerns regarding the documents.

The link to electronic copies of the Checklist EMPs and HVEN's contact information were also submitted to the following non-governmental organizations:

- Yerevan Aarhus Center – Ms. S. Ayvazyan, Ms. A. Araqelyan, Heads of the Center;
- Acopian Center for the Environment, American University of Armenia – Mr. A. Amirkhanian, Director;
- “Association of Energy Service delivery Enterprises of Armenia” Union of Legal Entities for the Development of Energy Sector of Armenia – Mr. M. Martirosyan, President;
- Transparency International Armenia – Ms. S. Ayvazyan, President; and
- “Energy Saving Alliance” Armenian Branch – Ms. A. Pasoyan, Director.

Conclusion

Over the public consultation period no concerns, questions, or comments have been received on the Checklist EMPs from any individual or a legal entity. Therefore, these documents are considered final in their present iteration.

PHOTO DOCUMENTATION

Notifications placed at proposed Dispatch Center work site entrance

