

MOLDELECTRICA STATE ENTERPRISE

Non-Technical Summary

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT OF THE MOLDOVA–ROMANIA POWER SYSTEMS INTERCONNECTION PROJECT

July 2017

MOLDELECTRICA State Enterprise
78 V. Alecsandri str. Municipiul
Chişinău, Republic of Moldova

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1 FOREWORD

This document provides a Non-Technical Summary (NTS) of the Environmental and Social Impact Assessment Report (ESIA) of the Moldova-Romania Power Transmission Project in Moldova. The document describes in a non-technical manner how the project could affect the environment and people, and what actions will be taken to avoid or reduce the effects on the environment or people.

This NTS is part of the larger package of draft documents (the “ESIA package”), including the ESIA report, a Land Acquisition and Compensation Framework (LACF), an Environmental and Social Management and Monitoring Plan (ESMMP), and a Stakeholder Engagement Plan (SEP). Beginning on 28 July 2017, these documents will be available in English and Moldovan/Romanian for review and comment. The NTS and SEP will also be available in Russian. The ESIA and other documents will be available at www.moldelectrica.md, www.worldbank.org, www.eib.org, and www.ebrd.com. Paper copies of the draft documents may also be reviewed at Moldelectrica offices at 78 V. Alecsandri str. Municipiul Chişinău, and at the following locations:

<i>City</i>	<i>Address</i>	<i>Date and time of meeting</i>
Chişinău Municipality	Mun. Chişinău, sectorul Botanica, str. Teilor, 10	23.10.2017, 16.00-19.00
Ialoveni City Hall	or. Ialoveni, str. Alexandru cel Bun, 45	24.10.2017, 15.00-17.00
Hînceşti City Hall	or. Hînceşti, str. Mihalcea Hincu, 132	24.10.2017, 18.00-20.00
Cimişlia City Hall	or. Cimişlia, str. Decebal, 9	25.10.2017, 15.00-17.00
Leova City Hall	or. Leova, str. Unirii, 22	25.10.2017, 18.00-20.00
Comrat City Halls	or. Comrat, str. Tretiakova, 36	26.10.2017, 15.00-17.00
Vulcăneşti City Hall	or. Vulcăneşti, str. Lenina, 75	26.10.2017, 18.00-20.00
Taraclia City Hall	or. Taraclia, str. Lenina, 138	27.10.2017, 15:00-17:00
Cahul City Hall	or. Cahul str. Independenţei, 6	28.10.2017, 18.00-20.00

Written comments on the project and on documents in the draft ESIA package may be submitted through 28 November 2017. They may be sent by post to Ms. Nelly Melnicenco at the Moldelectrica address above or by email to her at melnicenco@moldelectrica.md.

Comments can also be made at public hearings that will be held at the town halls and dates identified above. If the dates or times of any meetings are changed, that will be announced in the local newspapers and radio stations, and notices will be posted in the town halls and at www.moldelectrica.md.

All comments on the draft ESIA will be analysed and considered by Moldelectrica in developing the final ESIA package, and in the final decisions made by Moldelectrica and the international financial institutions identified below. Further information may be obtained from the Moldelectrica at the address above.

2 INTRODUCTION

To achieve the goals of the Energy Community Treaty, Moldelectrica plans to undertake a series of projects to support an integrated energy market that allows electricity trading across borders and integration with the EU market through connections with the European grid. The first priority project is development of a 400kV overhead power transmission line (OHL) to carry electricity between Chişinău and Vulcăneşti and to connect to other Moldovan lines and lines to Romania and Ukraine at two new substations, one at each end of the line. The project will run through the area of Moldova shown in Figure 1.

Planning studies for the project are being financed by the European Bank for Reconstruction and Development (EBRD). Moldelectrica is seeking financing for construction of the project from EBRD and other international financial institutions, including the World Bank (WB), the European Investment Bank (EIB), and possibly others (collectively, “the Lenders”). Under Moldovan law and requirements of the Lenders, the potential impacts of the project on people and the environment must be assessed in an Environmental and Social Impact Assessment (ESIA). This NTS summarises the ESIA that was prepared to meet Moldovan law and Lenders’ requirements.

3 WHAT IS THE PROJECT?

The proposed project will include approximately 158 kilometers of high-voltage overhead power line and a 400kV substation at each end, in Vulcăneşti and Chişinău. The project will include erection of about 511 steel-lattice Y-type towers similar to those shown in Figure 2. The towers will be an average of 309 metres apart and each tower will have four legs that are up to about 15 metres apart. The towers will vary in height according to local conditions, up to about 45 metres. Suspension towers will be used where the line is straight, and angle or tension towers will be used when the line changes direction.

Power lines (“conductors”) will be hung on each side of the towers to carry the electricity. The power lines will be up to about 15 metres apart. The safety zone required by Moldovan law will be the area under the lines and 30 metres to each side, for a total safety zone of 75 meters (30m + 15m + 30m). Within that zone, there can be no occupied buildings but most other activities, such as grazing or agriculture, can continue.

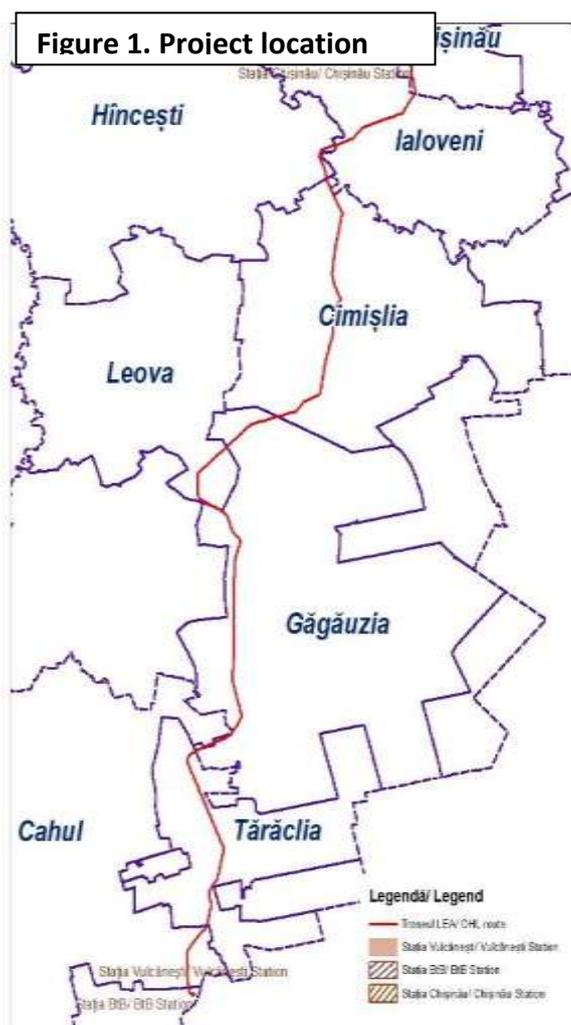
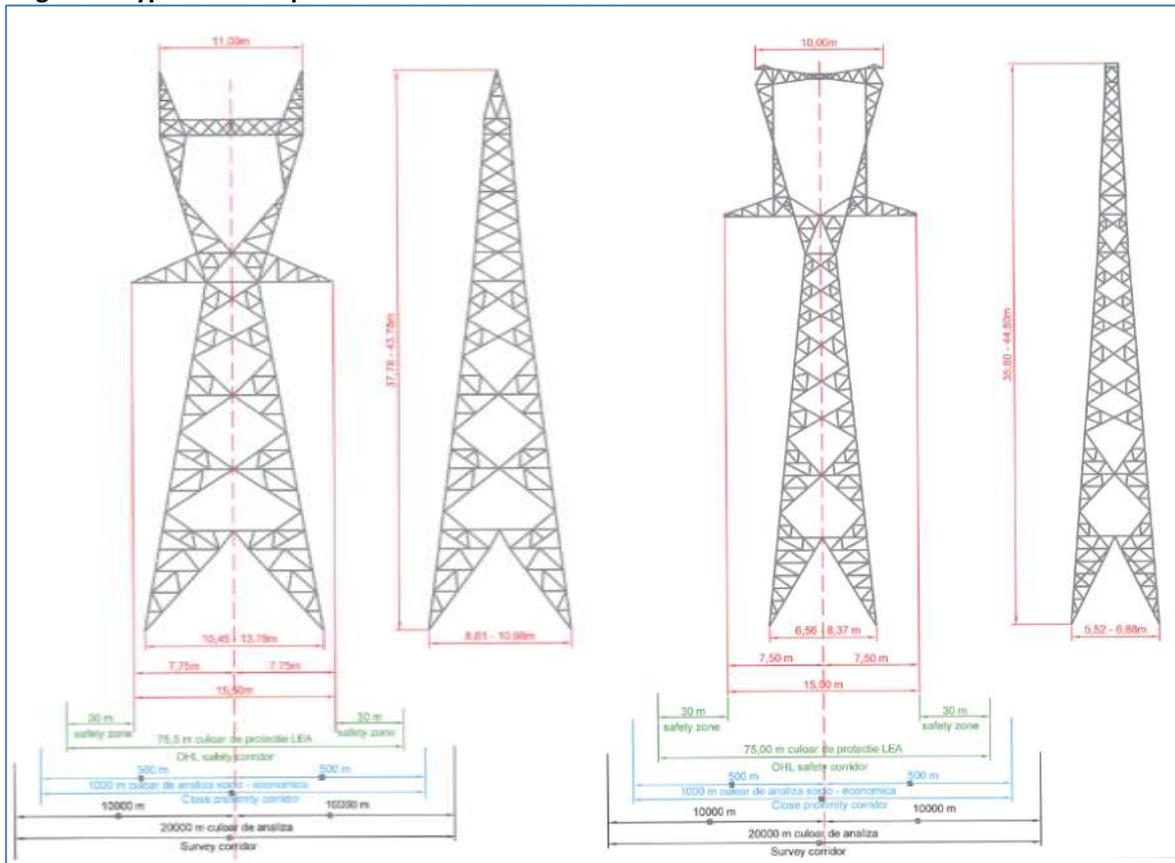


Figure 2: Types of 'Y shaped' towers that will be used



Tension towers

Suspension towers

The existing 330/110/35 kV Chişinău substation will be retrofitted and adapted for the new 400kV connection, while a new back-to-back 400kV substation will be constructed within the boundaries of the existing Vulcăneşti substation. In the past, contamination of soil at the Vulcăneşti substation by polychlorinated biphenyls (PCBs) has been cleaned up – investigation of any remaining soil contamination is being planned at present, and if this location is found to be too contaminated for the new substation, a new nearby location will be selected, as described in the ESIA. The final decision will be made by about the end of 2017. In addition, a single tower on the 400kV Isaccea – Vulcăneşti transmission line will be replaced; it is just outside the Vulcăneşti substation. (Although that line runs to Ukraine, the current project will not cause any adverse effects in that country.).

4 WHEN WILL THE PROJECT BE CONSTRUCTED?

Planning, which includes the feasibility study and the ESIA package, is being completed in 2017. The first phase of implementation will be preparation of the detailed engineering design and the acquisition of land required for the project. This will take up to about 15 months, or until early 2019. The second phase of implementation will be construction of the transmission line and substations. Construction of the transmission line is expected to begin in 2019 and continue for about 27 months, until mid-2021. Construction at the Vulcăneşti substation should begin by the middle of 2019 and continue for about 21 months,

until mid-2021. Construction of the Chişinău substation will begin in mid-2020 and be completed in about seven months. All components should be completed by early to mid-2021.

5 WHY IS THIS DEVELOPMENT NEEDED?

The transmission line is needed to help stabilise and improve the interconnection of power supplies and transmission across Southeast Europe and the Black Sea region. It is also needed in order to integrate the Moldova grid with the European Union (EU) market through connections with the European grid (ENTSO-E, the European Network of Transmission System Operators for Electricity). This extension of the EU internal energy policy to this region is called for in Moldova’s national electricity grid development plan, the country’s “Roadmap for Energy Sector”.

6 WHERE WILL THE PROJECT BE LOCATED?

As was seen on Figure 1, the corridor will extend from a new substation at the southern end of the line in Vulcăneşti for 158 kilometers through the Autonomous Territorial Unit of Găgăuzia and the Cahul, Taraclia, Leova, Cimişlia, Hânceşti and Ialoveni Districts, to another new substation at the northern end of the line in Chişinău Municipality. A total of 18 settlements have at least one building within 1,000 metres of the line, as shown on Table 1.

Table 1. Settlements with Buildings within 1 Kilometer of the Transmission Line

<i>No.</i>	<i>Settlement</i>	<i>District/ Autonomous Area</i>	<i>Distance (m)</i>	<i>Population (2014 except as noted)</i>
1	Iujnoe	Cahul	730	707
2	Burlăceni	Cahul	500	1,688
3	Vinogradovca	Cahul	440	1,548
4	Musaitu	Tărăclia	190	838
5	Borceag	Cahul	650	1,293
6	Congaz	UTAG	890	11,123
7	Congazcicul de Jos	UTAG	350	273 (2004)
8	Congazcicul de Sus	UTAG	340	1,480
9	Borogani	Leova	120	3,708
10	Cenac	Cimişlia	280	1,683
11	Topală	Cimişlia	240	719
12	Dimitrovca	Cimişlia	670	336 (2004)
13	Grădişte	Cimişlia	620	2,109
14	Valea Perjel	Cimişlia	220	670
15	Lipoveni	Cimişlia	570	1,760
16	Hansca	Ialoveni	410	1,092
17	Strănişteni	Chişinău	200	514 (2004)
18	Brăila	Chişinău	390	905 (2004)

The closest will be an occupied building in Borogani that is 120 meters from the line.

7 WHY AND HOW WAS THIS ROUTE CHOSEN?

Several alternative routes were considered, including one route that was mostly parallel to the Ukraine border and two others to the west through central Moldova. Many factors were considered in selecting the preferred route, which was farthest to the west. These factors included technical (length of line, number of towers, soil conditions, etc.), socioeconomic (location of villages, land use, etc.), and cultural (archaeological sites, monuments, etc.). The westernmost route of the OHL corridor was selected because it minimised impacts on land use and disturbance to local populations and also reduced the impact on areas that are protected or otherwise considered to be valuable for biodiversity. As much as possible, the route will run alongside other existing linear features such as roads, other public infrastructure sites, and the borders of agricultural fields. The selection of the route also took into consideration the places where it would cross existing medium voltage transmission lines, and crossing locations were selected to reduce the need for land and other disturbances. Figure 3 shows the location of the line in relation to villages and protected areas.

The existing substations in Chişinău and Vulcăneşti were chosen as the locations for the new substations because this reduces the amount of land that will be needed and will reduce the impacts of construction compared to a new site. If further studies that are being planned now show the Vulcăneşti location is too contaminated to be used, a nearby location will be selected, as described in the ESIA.

8 HOW WERE THE POTENTIAL IMPACTS ASSESSED?

The ESIA was prepared according to requirements of the 2014 law no. 86 of the Republic of Moldova, “Environmental Impact Assessment”, and the standards of the international financing institutions that are considering providing financing for the project. In general, the ESIA meets the requirements of the European Union’s Environmental Impact Assessment Directive (Directive 2011/92/EU, as amended). The ESIA package was prepared by environmental and social experts under contract to Moldelectrica. The work included:

- Scoping studies to identify potential environmental and social issues and the concerns of stakeholders, including authorities, potentially affected people, and other interested parties. This included document reviews, stakeholder meetings, and a site visit.
- Baseline data collection, including reviews of reports, collection of GIS data, and many site visits to determine socioeconomic and environmental conditions along the OHL route within a 10 kilometer corridor on each side of the route. In addition, more detailed surveys of soil and birds were conducted.

- Evaluation of potential impacts and of their significance, and identification of measures to avoid, reduce, or otherwise control significant impacts (these are called “mitigation measures”). The significance, or importance, of impacts was determined based on their scale (*site level vs local vs regional vs national*), duration (*temporary vs short-term vs long-term vs permanent*), intensity (*negligible vs low vs moderate vs high*), and probability (*not likely vs possible vs very likely*). Each impact was then assessed as being negligible, minor, moderate, or high. The same scale was used for negative and positive impacts.
- Development of a framework that defines how compensation will be paid for land that is acquired temporarily or permanently, and for economic losses due to loss of land or access to land.
- Preparation and disclosure of the ESIA package, including the ESIA, this NTS, an LACF, an ESMMP, a Stakeholder Engagement Plan.

9 WHAT ARE THE POSITIVE IMPACTS OF THE PROJECT?

The project will benefit all of Moldova, as well as Romania and the wider region. The benefits include:

- Increased efficiency of the national power sector, mainly transmission and distribution
- Improved stability and reliability of the local and regional power system
- Strengthen the role of Moldova’s power transmissions corridor in the region by building new inter-corridors that are or can be connected to the European system
- Optimised energy supply in southern Moldova through the increase in opportunities for other power sources, including clean energy sources, to serve the region
- Increased security of energy supply versus current dependence on gas suppliers
- Future compatibility with European electricity networks, thus stimulating the energy market across the region
- Short-term employment for local workers.

10 HOW MUCH LAND WILL BE NEEDED FOR THE PROJECT?

Moldelectrica will need to acquire the land on which the 511 towers will be located and where new permanent access roads will be needed (existing roads and tracks will be used wherever possible). Land will also be needed in four locations along the corridor in order to store construction materials. Any private land required for these storage areas will be bought or leased from the owners. During the short period of time when the power lines are being hung from the towers, a narrow area between the towers will also be used, no more than a very few days at any location. Both substations are expected to be located within the boundaries of existing substations, so no new land will be needed for them (an alternative

location near the existing Vulcănești substation will be used if the existing substation is found to be too contaminated for use).

Land required for the towers will range from about 65 square meters to about 193 square meters, depending on the type of tower and the height; an area somewhat larger than this, up to about 1,500 square meters around each tower, will be affected by construction activities, but only for a few days at each tower. The four temporary laydown/storage areas will each be about 825 square metres and will be used for 12 to 24 months during construction. Altogether, less than 100 hectares of land will need to be permanently acquired for towers and storage. The exact tower locations will be selected during final design and the details of how the land will be acquired will be described in the Land Acquisition and Compensation Plan. Table 2 shows the number of towers in each District and the Autonomous Unit, and the towers in each of the current land uses.

<i>District/AU (jurisdiction)</i>	<i>Number of towers</i>					<i>% of towers</i>
	<i>Other land</i>	<i>Forest</i>	<i>Vineyard</i>	<i>Farmland</i>	<i>Total</i>	
Găgăuzia	6	0	41	99	146	29
Cahul	0	0	14	22	36	7
Tărâclia	6	7	12	62	87	17
Leova	8	0	12	18	38	7
Cimișlia	14	8	12	91	125	24
Hâncești	3	0	5	13	21	4
Ialoveni	12	1	7	21	41	8
Chișinău	4	0	8	5	17	3
Total towers	53	16	111	331	511	-
% towers	10	3	22	65	-	100

As seen on Table 2, most of the towers (331 out of 511, or about 65 percent of the total) will be on farmland and only a few (16, or three percent) on forested land. Because the route was selected to avoid having any occupied houses or other occupied buildings located within the safety zone, no households will have to be moved. Other than the need to prevent tall trees, nearly all other activities can continue to take place within the safety zone, including agriculture, grazing, orchards (with no tall trees), and vineyards.

Moldelectrica will compensate all land owners and users fairly and transparently for the loss of land, and for the loss of land access and use, in accordance with the Land Acquisition and Compensation Framework. The draft Framework is available for public review and comment – it describes the process Moldelectrica will use to acquire land and to compensate people who lose the use of land either permanently or temporarily. The Framework also describes the process for compensating anyone who suffers economic losses due to construction, such as from damage to crops or property, or from accidents involving livestock. Once land has been surveyed and the cadastral and other work has been done to verify ownership and exact land needs, Moldelectrica will develop a detailed Land Acquisition and Compensation Plan. The detailed Plan is expected to be completed by early 2019. Construction will not begin until this Plan is implemented and all land has been acquired or leased and owners

properly compensated.

11 WILL THE PROJECT CREATE ANY NEW JOBS?

The contractor will hire up to 100 temporary workers for up to 27 months during construction, many of whom are expected to come from the local area, and there will be some potential for locally sourced supply contracts for general construction materials such as concrete and aggregates. Once construction is complete, operation of the substations and maintenance of the line will be performed by current Moldelectrica engineers and staff, although a few new jobs may be created.

12 WHAT WILL BE THE NEGATIVE IMPACTS AND HOW WILL THEY BE AVOIDED OR REDUCED?

As mentioned in section 7 above, Moldovan law and the Lenders require projects to identify the major positive and negative impacts on the environment and people and to develop and implement measures to avoid, reduce, or control those impacts. This can include changes in design, construction methods, and/or operation procedures as well as monitoring to identify negative impacts. It can also include compensation for impacts that cannot be avoided or reduced to acceptable levels.

The potential impacts of the project and the key areas of mitigation are summarized in Table 3. In summary, the primary impacts that could occur will include the following:

- Dust from construction activities and air emissions from engines
- Noise and vibration from construction and traffic, and possibly a humming noise from the operating transmission line
- Exposure of people to electromagnetic fields (EMF)
- Contamination of surface water and/or groundwater
- Erosion and sedimentation (loss of topsoil, water pollution, etc.)
- Risks to workers from hazardous work conditions
- Risks to local people and communities from site hazards and traffic
- Disruption of local communities due to in-migration of workers
- Physical and/or economic displacement of people (resettlement and/or loss of income)
- Damage to protected areas and/or biodiversity, including species and habitats of conservation concern¹. Although no towers will be located within State Natural Protected

¹ Figure 3 shows where the line passes through or near several areas that are proposed for protection and Important Bird Areas. Bird species of particular concern include several that are listed as critically endangered

Areas, the line will come within 0.2km to 8.4 kilometres of several of these areas. A total of 25 towers will be within Emerald sites (that is, sites that are proposed to become protected areas) and Important Bird Areas, including 10 towers in the Tigheci Forest (MD0009 and MD0011), which covers an area of 6,466 hectares.

- Risk of injury or death for migrating and resident birds. The ESIA lists key species of interest found in the Emerald Sites and the IBAs, which include a number of species considered Critically Endangered on the Moldova Red List and also the Saker falcon (*Falco cherrug*), which is Endangered on the IUCN Global Red List. The full list of species is contained in the ESIA, including those considered vulnerable to electrocution or collision with power lines. Further studies will be done to verify the ESIA's conclusion that there will be no adverse impact on the designated areas or the important bird species, and to determine whether further mitigation is required.

Every one of these potential impacts can be avoided, controlled, or otherwise reduced to acceptable levels by the implementation of specific mitigation measures, and in some cases by the preparation and implementation of management plans. The impacts and an overview of mitigation measures are summarized in Table 2. The ESIA and the ESMMP provide more details on these and other less important potential negative impacts and more details on the mitigation measures that will be required to avoid or control impacts.

<i>Topic/Resource</i>	<i>Impact Summary</i>	<i>Mitigation summary</i>
Environmental impacts		
Climate and Air Quality	Limited potential for impact on air, other than dust and emissions from engines: these would be very local and temporary during construction. Some potential for emissions of greenhouse gas	General good-practise mitigation measure to protect air quality, including: <ul style="list-style-type: none"> - Regular wetting of roads and stockpile areas - Speed control on unpaved roads - Minimise bare earth at open excavation areas - Quick revegetation of disturbed areas as soon as construction is complete - Regular maintenance of construction machinery engines - Prohibition on burning wastes or other materials - Use of cover sheets on trucks carrying aggregates and soil - Continual observation of dust levels in dry weather and application of mitigation measures in case of visible dust - Management of SF6-containing equipment in accordance with international standards (<i>note: SF6 is a powerful greenhouse gas</i>)
Surface Water and Groundwater	Potential contamination of water caused by:	Good practice mitigation measures, including: <ul style="list-style-type: none"> - No towers within 10m of permanent surface water (lakes, rivers, streams, wetland).

on the Moldova Red List: the nesting Saker falcon (*Falco cherrug*—also listed as Endangered by IUCN) and the migrating Peregrine falcon (*Falco peregrinus*), Black stork (*Ciconia nigra*), White-tailed sea eagle (*Haliaeetus albicilla*), Osprey (*Pandion haliaetus*), and several other large bird species. As mentioned, the ESIA contains full lists of bird families/species found in the IBAs.

Table 3. Summary of Environmental and Social Impacts and Key Mitigation Measures		
<i>Topic/Resource</i>	<i>Impact Summary</i>	<i>Mitigation summary</i>
	<ul style="list-style-type: none"> - Sanitary sewage from workers - Spills of fuel and chemicals - Disturbance of riverbanks and stream - Erosion from construction sites - 	<ul style="list-style-type: none"> - No towers located in wetlands - Avoid wet weather work where possible - No discharges of washwater, sewage, etc. - Fueling only over designated paved surfaces - No fueling within 25m of surface water or wetland - Spill equipment, bunding, leak control and clean up materials where fuel and chemicals are stored and used - Prohibit equipment from working in or crossing streams and other water courses - No washing trucks and equipment in natural water <p>Implement Land-clearing, Erosion Control, and Site Restoration Plan and Wastewater Management Plan (see below)</p>
Wastewater Management	<p>Contamination of water by:</p> <ul style="list-style-type: none"> - Sanitary sewage - Washwater - Concrete washings 	<ul style="list-style-type: none"> - Portable toilets with a proper service contract will be used at worksites - Proper sanitary facilities at substations - Collect wash water and concrete water, settle/neutralise to meet Moldovan standards before removal, discharge, or use under permit - Seek permit for use of treated wastewater for dust control - Requirements will be included in a Wastewater Management Plan
Land disturbance and erosion	<p>Potential for erosion in wet weather</p>	<p>Prepare Plan for Land-clearing, Erosion Control, and Site Restoration, to include:</p> <ul style="list-style-type: none"> - Mark boundaries of work areas and keep work within boundaries - Vehicles and equipment to stay on approved roads and tracks -- prohibit off-road movement of vehicles and equipment - Remove topsoil and store in designated areas - Minimise need for cut and fill on steep slopes - Prevent downslope erosion of spoil with gabions, vegetation, etc. - Prevent upslope landslides with gabions, vegetation, etc. - Implement good-practice erosion control measures such as silt fences, settling ponds, flow-reduction barriers, etc. (see EHS General Guidelines) - Inspect work areas after rainfall or snowmelt and repair/improve erosion controls as needed - Begin land restoration immediately after each tower is erected (that is, do not wait for all towers to be erected before starting), to include: grade

Table 3. Summary of Environmental and Social Impacts and Key Mitigation Measures		
<i>Topic/Resource</i>	<i>Impact Summary</i>	<i>Mitigation summary</i>
		land surface to desired contour, remove spoil or grade into natural contours, replace topsoil, plant seeds or plants, and monitor until self-sustaining ground cover of at least 75% is established. See also surface water above
Biodiversity	Impacts on vegetation	Develop Vegetation Management Plan to minimize and control tree-cutting during construction and vegetation maintenance in the safety zone during operation
	Impacts on habitats of conservation concern and birds	<p>Prior to construction:</p> <ul style="list-style-type: none"> - Develop and implement programme to conduct tower- and corridor-specific bird surveys prior to and during construction in areas of biodiversity concern, at times of vulnerability (e.g., breeding season for nesting birds, migration season(s) for migrants) to confirm previous findings and/or identify need for changes or additions to mitigation measures. - Programme to be approved by Lenders and authorities. - If results do not confirm previous conclusions, but instead show that priority biodiversity features or critical habitat will be affected, prepare Biodiversity Action Plan that includes site-specific measures (such as moving tower locations, relocating specimens, seasonal restrictions on activities at specific locations, enhancements or additions to habitat, etc.) to achieve no net loss/net gain of priority features or habitat (also see EU Habitats and Birds Directives). Plan to be approved by Lenders and authorities. - Implement mitigation measures for birds below See EBRD PR 6 for “priority biodiversity features or critical habitat”
	Impacts on birds: collision, electrocution, and other impacts on birds	<p>Design stage:</p> <ul style="list-style-type: none"> - Provide expert review of tower designs to ensure “bird-friendly” features (such as hanging conductors, air gaps) minimize risk of electrocution <p>Construction:</p> <ul style="list-style-type: none"> - Place bird-avoidance devices – flappers and reflectors – on the line between specific towers identified in ESIA and ESMMP where birds may be at risk of collision. - Develop and implement programme to survey for dead and injured birds after construction and implement additional mitigation measures as needed. If birds considered to be “priority

Table 3. Summary of Environmental and Social Impacts and Key Mitigation Measures		
<i>Topic/Resource</i>	<i>Impact Summary</i>	<i>Mitigation summary</i>
		<p>biodiversity features” are killed, prepare Biodiversity Action Plan as described above.</p> <p>General mitigation measures:</p> <ul style="list-style-type: none"> - Prohibit hunting and collection of any plants, animals or bird eggs (etc.) - No storage areas or long-term land use in areas of biodiversity concern - Compensate for tree losses by re-planting at least two trees for each one cut
Community health and safety		
Noise and Vibration	<p>Two potential sources:</p> <ul style="list-style-type: none"> - Short-term sounds and vibration from machinery and traffic during construction - Corona discharge, which can cause a “humming” sound from power lines 	<ul style="list-style-type: none"> - “Humming” sound fades quickly with distance, and should not be audible beyond about 20 metres - No occupied buildings will be located within 120m of the line, reducing impact of construction noise and vibration - OHL construction will be short-term (a few days at a time) at individual tower sites, reducing impact level - General good practice mitigation measures, including mufflers on engines, silencers on pneumatic tools, working only during daylight hours where possible, etc. - Notice to authorities and residents before any work within 200m of buildings - Night and weekend work only after consultation with local authorities and nearby residents - On-demand monitoring in case of request/complaint, with mitigation as needed to meet noise standards (Moldovan standards and/or World Bank Group General EHS Guidelines)
Electromagnetic Fields/Radiation (EMF/EMR)	<p>Energised power lines and electrical equipment at substations are surrounded by electromagnetic fields and emit non-ionizing radiation</p>	<ul style="list-style-type: none"> - Only short-term exposure to EMF will occur because safety zone for OHL will prevent long-term exposure within 30m of an energised line and within 50-100m of substation equipment - Published information shows this level of EMF has no significant effect - Monitor EMF if requested by residents within 500m of the line, apply mitigation if EMF levels exceed Moldova standards or levels in World Bank Group EHS Guidelines for Transmission Lines
Community risks	<p>Risks to the public from:</p> <ul style="list-style-type: none"> - Access to construction sites - Project-related 	<ul style="list-style-type: none"> - In consultation with road/traffic authorities, prepare Traffic Management Plan, to include driver training, speed limits, site-specific traffic controls (flagmen, signs, lights, etc.). To be approved by Lenders

Table 3. Summary of Environmental and Social Impacts and Key Mitigation Measures		
<i>Topic/Resource</i>	<i>Impact Summary</i>	<i>Mitigation summary</i>
	traffic	<ul style="list-style-type: none"> - Prevent public access to construction sites and substations during and after work hours - Post warning signs in communities and at work sites, and on all towers - Consult with community leaders prior to beginning work near populated areas or public roads - In consultation with local authorities (*police, firefighters, etc.), prepare Emergency Response Plan. To be approved by Lenders prior to construction.
Worker influx	Community disruption due to in-migration of workers	<ul style="list-style-type: none"> - Prior to construction, develop worker Code of Conduct for local and nonlocal workers. To include rules for interactions with communities, training for workers, penalties for violations. To be approved by Lenders prior to construction. - During construction, consult with community leaders regularly to identify any issues
Physical displacement (resettlement)	None: no occupied buildings within safety zone	n/a
Economic displacement	Loss of income due to: <ul style="list-style-type: none"> - Loss of land ownership or access to land - Damage to crops - Accidental injury or death of livestock 	<ul style="list-style-type: none"> - LACF provides structure for acquisition of land and for compensation for loss of land and income - Land Acquisition and Compensation Plan to be prepared based on ownership surveys and other cadastral work, and land use. To include a final entitlement matrix. - Plan to be approved by Lenders and competent authority - Plan to be implemented and all land acquired and compensated prior to start of construction - Prompt compensation for all losses at replacement cost or replacement of lost property/livestock
<i>Cultural heritage</i>		
Archaeological sites and monuments, graves, etc.	Tower excavations could damage artifacts or sites	Develop and train supervisors and workers on Chance Find Procedure. To be approved by competent authority and Lenders.
<i>Occupational health and safety</i>		
Workers	Injuries or death to workers	Prior to construction, preparation of OHS plan, to include: <ul style="list-style-type: none"> - Identification of hazards from all tasks - Work planning and design to avoid or reduce risks - Workplace measures to reduce risks - Proper safety equipment (fall protection,

Table 3. Summary of Environmental and Social Impacts and Key Mitigation Measures		
<i>Topic/Resource</i>	<i>Impact Summary</i>	<i>Mitigation summary</i>
		<ul style="list-style-type: none"> - Personal protective equipment (only after other methods cannot reduce risks) - Worker training on job risks and control measures - Special training for high-risk work: working at heights, near water, around heavy equipment, etc. - Enforcement of PPE use
	Exposure to hazardous conditions	<ul style="list-style-type: none"> - Characterize PCB and dioxin contamination in soil and groundwater at Vulcănești substation site - If further cleanup is needed to reduce risks to workers, determine whether cleanup is economically and technically feasible - Based on study, make decision on location of new substation

13 HOW WILL THE ACTUAL IMPACTS BE IDENTIFIED AND MANAGED EFFECTIVELY?

Moldelectrica has developed an Environmental and Social Management and Monitoring Plan (ESMMP) for the project. The construction contractor will be required to implement all the mitigation measures that are required in the ESIA and ESMMP, as summarized above. A consulting engineer will supervise the contractor’s compliance with the ESMMP and may require corrective actions or even withhold payment until the contractor achieves compliance. Both the contractor and the consulting engineer, and a Project Implementation Unit to be set up in Moldelectrica, will employ environmental, social, safety, and communication experts.

The ESMMP will be maintained as a “living” document throughout construction and operation of the project. Even before construction, the ESMMP will be reviewed again after the final design is complete to verify the mitigation measures and management plans can be implemented effectively, and to improve the measures if needed – in no case will the ESMMP be modified to allow additional or more serious negative impacts without the approval of Moldova authorities and the Lenders.

Moldelectrica will be responsible for making sure that contractors fully implement the requirements of the ESIA, the ESMMP, the LACF, and the ESAP, and will ensure that both internal and independent audits are undertaken to verify these requirements are fully implemented. Moldelectrica will submit reports that summarise environmental and social performance to the Lenders at least once a year, and will also conduct monitoring visits during construction. In addition, the Lenders will require third-party independent monitoring of environmental and social performance twice a year during construction and at least once during the first year of operation.

14 HOW CAN I LEARN MORE ABOUT THE PROJECT?

Moldelectrica has prepared a Stakeholder Engagement Plan (SEP) that identifies key stakeholders and describes how they will be provided with information on the project and given the opportunity to express their opinions, and even to submit complaints. The SEP will be kept up to date if activities change or if new activities begin that require stakeholder engagement. It will also be reviewed periodically during project implementation and updated as necessary. The SEP includes the following:

- A list of key stakeholders, including government agencies, other organizations, private citizens, and other interested parties
- A summary of past stakeholder engagement activities
- A summary of Moldovan legal requirements and Lender requirements for information disclosure and public consultation
- The proposed stakeholder engagement programme, including methods of engagement
- A grievance mechanism to allow stakeholders to submit comments and complaints. A form that can be used to submit comments and complaints is presented in the last section of this NTS.

Contact information for the project is given below. As noted in the foreword, the entire ESIA package is available for public review at the websites and the locations identified in the Foreword, and there will be public meetings in the autumn of 2017.

Moldelectrica
Attn: Ms. Nelly Melnicenco
78 V. Alecsandri str. Municipiul Chişinău
Telephone: +373 22 253396
email: melnicenco@moldelectrica.md

15 HOW CAN I SUBMIT COMMENTS AND COMPLAINTS ABOUT THE PROJECT?

Comments may be submitted until 28 November 2017 to the address shown in the Foreword and in section 14 above. Moldelectrica will consider each comment before it develops the final ESIA and Lenders will review the final ESIA package before they decide to provide financing.

As described above, the Stakeholder Engagement Plan includes and describes a grievance mechanism which will allow stakeholders to submit comments or complaints about the ESIA package and/or the project to Moldelectrica at the address in the Foreword and section 14 above. The SEP also has a sample form that can be used for comments and complaints—this form is shown on the next page. Either this form can be used, or stakeholders can write a letter or send an email.

Example Form for Submitting Comments and Complaints

Reference No: *(to be completed by Moldelectrica)*

Received by: _____

Solved by: _____

Date of initial response: _____

Full Name:

My first name: _____

(to be completed by the person lodging the complaint)

My last name: _____

Note:

you can remain anonymous if you prefer or request not to disclose your identity to the third parties without your consent

Company / position in the company: _____

I wish to raise my grievance anonymously

I request not to disclose my identity without my consent

Contact Information:

By Post: Please provide mailing address:

(to be completed by the person lodging the complaint)

Please mark how you wish to be contacted (mail, telephone, e-mail).

By Telephone: _____

By E-mail: _____

Preferred Language for Communication:

Moldovan/Romanian

(to be completed by the person lodging the complaint)

Russian

Would you like to receive information on the Project development?

Yes

No

(to be completed by the person lodging the complaint)

Description of Grievance:

What happened? Where and How did it happen? What are the results / consequence / impact of this issue?

(to be completed by the person lodging the complaint)

Date of Grievance: *(to be completed by the person lodging the complaint)*

One time grievance (date _____ DD.MM.YYYY)

Happened more than once (how many times? _____)

On-going (currently experiencing problem) _____

What would you like to see happening in order to solve this issue?

