

NOTICE TO AFFECTED PARTIES ON THE PROPOSED ACTIVITIES UNDER ARTICLE 3 OF THE CONVENTION

INFORMATION ON THE PROPOSED ACTIVITIES	
(i) Information on the nature of the proposed activities	
Type of activities proposed	Revitalization, modernization, capacity and efficiency level increase of the Hydroelectric Power Plant (HPP) Djerdap 2 generating units.
Are the proposed activities listed in Appendix I of the Convention?	No. The activities include the reconstruction of the existing hydropower facility with the aim of increasing the capacity and efficiency level of the existing generating units (reconstruction of HPP Djerdap 2 generating units).
Scope of proposed activities (e.g. main activities and any/all peripheral activities requiring assessment)	<p>HPP Djerdap 2 has been in operation since 12 April 1985. It was built on the 863rd kilometre of the Danube from its confluence with the Black Sea, on the profile of Kusak (Serbia) - Ostrovu Mare (Romania), 80 km downstream from HPP Djerdap 1.</p> <p>Under the Agreement on major overhaul, modernization and installed capacity increase of the Hydropower and Navigation System (HPNS) Djerdap 2 units, signed between the Serbian and Romanian investors, in September 2005, the parties undertook to prepare the technical documentation and implement the project involving revitalization of hydroelectric units of HPP Djerdap 2. The Romanian investor has already revitalized seven units.</p> <p>Preparation of the Conceptual Solution, Feasibility Study with the Preliminary Design and the tender documentation for revitalization, modernization, capacity and efficiency level increase of the HPP Djerdap 2 units was initiated in accordance with the plan of Elektroprivreda Srbije (EPS), i.e. the HPP Djerdap Branch.</p> <p>The planned works involve the reconstruction, rehabilitation and adaptation of the main electrical and mechanical equipment of HPP Djerdap 2 and aim to increase the power plant capacity, extend its operating life and increase its operational security. The following activities have been planned:</p> <ul style="list-style-type: none"> - reconstruction of turbine incl. capacity increase, - reconstruction of turbine control system, - reconstruction of stator and generator rotor cooling system, - reconstruction of lubrication system, - reconstruction of process water system, - reconstruction of capsule ventilation system, - reconstruction of generator fire protection system, - reconstruction of unit transformer fire protection system, - reconstruction of unit transformer cooling system, - reconstruction of demineralized water treatment plant, - reconstruction of pressurized oil preparation system for fast turbine shut-off valves, - reconstruction of pumping station (emptying and drainage), - reconstruction of low pressure air compressor station, - reconstruction of high pressure air compressor station,

	<ul style="list-style-type: none"> - reconstruction of the central oil system, - reconstruction of hydraulic valve drive, - reconstruction of unit and power plant hydraulic values measurements, - reconstruction of generators incl. capacity increase, - adaptation of generator excitation system, - replacement of generator rail connections, - replacement of 6.3 kV unit switchgear, - replacement of unit transformers, - replacement of 6.3 kV switchyard at the main power plant, - replacement of 0.4 kV unit switchgear, - replacement of direct voltage sources and switchgear, - replacement of UPS sources and switchgear with 231 V, 50 Hz voltage, - reconstruction of unit control system, - reconstruction of unit monitoring system, - replacement of unit protection system and - reconstruction of unit transformer protection system.
<p>Scale of proposed activities (e.g. size, generation capacity, etc.)</p>	<p>Reconstruction of generating units ensures a significant increase in the individual unit capacity. All works covered by this reconstruction include interventions solely inside the existing facilities of the basic and additional power plant of HPP Djerdap 2. No works have been foreseen requiring upgrades of existing facilities. Reconstruction of units and other equipment does not affect the stability of civil structures of the basic and additional power plants.</p>
<p>Description of proposed activities (e.g. technology used)</p>	<p>Rehabilitation of concreted and non-concreted parts, as well as other parts and assemblies of the turbine, auxiliary systems, electrical equipment and systems has been planned.</p> <p>One part of the turbine assemblies is subject to replacement. The hydraulic and electrical/electronic part of the turbine control system is also intended for replacement.</p> <p>The following installed parts and assemblies of the hydraulic turbine have been intended for inspection, rehabilitation and further operation:</p> <ul style="list-style-type: none"> - Turbine stator including external section, internal section, upper and lower transitional tower, two side towers and intermediate section; - Foundation ring, including conical draft tube lining; - Turbine casing, including transitional tower, runner casing and conical section; - Capsule including transitional tower, front part, transitional section, support section and intermediate section; - Lining of the under-unit tower and supports of the generator block concrete slab; - Outer and inner ring of the wicket gates mechanism; - Regulating ring of the wicket gates mechanism (retained only under the first wicket gates reconstruction variant); - Bearing cone. <p>The hydraulic turbine equipment comprises the turbine itself, automatic control system and the automation equipment. Hydraulic turbine equipment intended for replacement is listed below:</p>

- Runner;
- Turbine shaft;
- Wicket gates;
- Wicket gates mechanism servomotors;
- Wicket gates mechanism - partial replacement will be performed. Currently there are two options: the first where the internal vane drive and the existing control ring are retained, while the vanes, servomotors and kinematic parts are replaced and the second where external vane drive is substituted with individual servomotors, with vane and kinematic parts replacement;
- Operating mechanisms and ancillary equipment (including oil-water head, distribution tubes, turbine thrust bearing, shaft seals, water and air tubes, instrument panels, electrical installations inside the capsule, hydraulic crane, platforms and steps, etc.).

Turbines will be fully equipped with spare parts and special mounting accessories and tools.

When it comes to other turbine assemblies and parts, it is planned to inspect the condition of materials and welds, in order to determine their condition and calculate the service life for dynamically loaded elements.

Non-replaceable turbine assemblies works will be performed on concreted and non-concreted parts.

The concreted parts works include the following:

- On the turbine stator, repairs will be performed without dismantling, whereby the internal surfaces will be cleaned, discharge surfaces sandblasted, NDT (non-destructive testing) of welds performed and, if necessary, repaired, thermal insulation will be applied to internal surfaces, and finally corrosion protection coating of the discharge surfaces will be performed;
- The foundation ring with a conical draft tube lining will also be repaired without dismantling and will include sandblasting of the discharge surfaces, NDT of welds and their repair, if necessary, and finally corrosion protection coating of the discharge surfaces will be performed;
- NDT of welds and repairs (if necessary) will be performed on the lower half of the runner casing, whereby the repair of the stainless steel layer is performed by austenitic electrode welding;
- The lower half of the conical turbine casing section will also be repaired without dismantling and will include sandblasting of the discharge surfaces, NDT of welds, if necessary, their repair, and subsequently, corrosion protection coating of the discharge surfaces;
- On the under unit support lining, as well as on other parts, sandblasting of the discharge surfaces, NDT of welds (if necessary) will be performed and subsequently, corrosion protection coating of the discharge surfaces;
- On the concreted slabs of the under unit support, threaded surfaces and openings (holes) will be cleaned, while the concrete connections will also be inspected.

The non-concreted parts works include the following:

- On the transitional section of the turbine casing (upper half of the conical section of the turbine casing), dismantling is planned, followed by sandblasting, NDT of welds and their repair (if necessary), thermal insulation on external surfaces and finally corrosion protection of discharge surfaces. All fasteners will be replaced with new ones;
- The rotor will be rotated on the upper half of the runner casing before dismantling, in order to determine the gaps between the casing and blades, as well as places with damaged stainless steel layer. After dismantling, sandblasting, NDT of welds and repairs (if necessary) will be performed. This is followed by stainless steel layer repair by austenitic

- electrode welding, while thermal insulation will be applied to the external surfaces. All fasteners will be replaced with new ones;
- On the capsule comprising the front part, transition section, support section and intermediate section, as well as on the outer and inner ring of the wicket gates mechanism, dismantling, followed by sandblasting, NDT of welds and, if necessary, their repair will be performed, while on the inner and outer surface, thermal insulation will be applied. The discharge surfaces will be finally protected against corrosion, and all fasteners will be replaced with new ones;
- There are two options for the control ring of the wicket gates: the first option where the internal drive of the blade will be retained (activities are the same as with the above non-concreted parts) and the second option implying external blade drive from individual servomotors, without using the adjustment ring;
- Cleaning, inspection and testing, as well as replacement of seals and piston rings and corrosion protection coating are planned on the hydraulic crane installations;
- Cleaning and corrosion protection is planned on the automatic vacuum interrupter valves.

Certain hydraulic turbine equipment has been anticipated for replacement. Primarily, a completely new runner of the capsule turbine with rotating blades of the same diameter as the existing one has been envisaged. The new runner has been designed to be environmentally friendly, because kinematic mechanism cavity contains air. Gasket sets have been designed to prevent oil penetration into the protected cavity and vice versa, as well as to prevent water penetration into the servomotor in the event of water penetration into the kinematic mechanism cavity.

The runner slide bearings will be replaced, as well as the lever shaft and the shaft. They operate on the principle of contact between the special carbon-glass-epoxy compound and bearing surfaces coated with stainless steel, not requiring lubrication. The unit operating life without replacement and repair of such friction elements is at least 20 years. In order to prevent the penetration of solid particles and water into the blade rotation mechanism zone, removable seals are placed on the cylindrical surface of the blade flange. Runner blade seals will be replaced by emptying the power plant discharge, without dismantling the runner.

Furthermore, turbine shaft replacement has also been envisaged, including screw connections with the generator shaft and the runner.

As already mentioned, two wicket gates mechanism reconstruction options have been proposed: the first one where the internal drive of the wicket gates is retained and the second one where vanes are driven by individual servomotors. Under the first option, the vane rotation mechanism is located in the inner ring and is driven by two identical servomotors, while in the second case the vane drive is moved outside the unit capsule, outside the wicket gates mechanism comprising 16 individual servomotors for 12 MPa pressure. Materials used for vanes and drive parts under both options are the same.

It is also planned to replace the complete oil-lubricated turbine bearing of the segment type. Structurally, the bearing consists of 12 segments. During installation, repairs and overhauls, the nominal load distribution between the unit bearings will be verified, as well as inside each bearing between the segments.

This is followed by complete replacement of the oil-water head of the new structure by utilizing polymeric materials. One new thing introduced is a position sensor, as feedback with the runner servomotor piston. The oil supply distribution tubes running from the oil head to the runner servomotor will also be fully replaced.

Completely new operating and overhaul shaft seals with drainage pipe system have been foreseen, together with shaft protection along the shaft section from axial bearing to turbine bearing, platforms and steps ensuring access to equipment inside the capsule, capsule lines including oil pipelines, water drainage pipelines and air vent to overhaul seals, instrument

panels, wiring, installation of speed sensors, installation of runaway protection devices. The hydro-mechanical part of the turbine control system will be completely changed with a possible pressure increase. Completely new turbine automation equipment has also been envisaged. Since the existing electrical/electronic part of the turbine control system cannot meet the control and regulation requirements of the new hydro-mechanical part of the turbine control system, it has also been lined up for replacement. Generally, auxiliary systems should be repaired by replacing the worn parts and equipment. Existing pipelines should be replaced with new ones using stainless steel pipes.

Auxiliary systems of the unit intended for repair by replacing the worn parts include:

- Unit cooling water supply system;
- Unit lubrication system;
- Generator cooling system;
- Generator fire extinguishing system;
- Hydraulic valve drive system;
- Capsule ventilation system;
- Capsule drainage system and
- Unit hydraulic valves measuring system.

Power plant auxiliary systems envisaged for repair include:

- High and low pressure air systems,
- Hydraulic valve drive;
- Central oil system;
- Demineralized water treatment plant;
- Cooling system of main transformers;
- Transformer fire shared fire water preparation system for the main and additional power plants;
- Generator fire extinguishing installations;
- Pumping station equipment and
- Hydraulic drive of the fast turbine shut-off valve.

As part of the activities, the reconstruction of existing generators is planned incl. capacity increase, achieved by replacing vital/active parts of the generator (stator winding, stator magnetic core, stator housing and rotor winding), increasing the capacity from 15% to 30 %.

The existing generator cooling method (direct cooling of the stator and rotor winding and rotor poles with demineralized water) will be maintained, as it has proven to be highly efficient in past operation.

As for the mechanical sub-assemblies of the generator, under this variant, the following works are planned:

- Inspection and machining of generator shaft sleeves;
- Sandblasting, inspection and corrosion protection of the rotor hub;
- Sandblasting, inspection and repair of welds and corrosion protection of star rotor;
- Reconstruction of radial generator bearings by replacing bearing segments with Teflon (PTFE-Polytetrafluoroethylene) coatings and by replacing all balancers and sealing elements (covers and labyrinths);
- Reconstruction of combined (axial and counteraxial) bearings by replacing bearing segments with Teflon (PTFE-Polytetrafluoroethylene) coatings and all sealing elements (seals, covers and labyrinths);

	<ul style="list-style-type: none"> - Inspection; treatment and corrosion protection of slip/contact rings. <p>Due to the problems with graphite dust occurrence throughout past operation, a graphite dust suction system for the contact/sliding rings and brushes assembly will also be installed, together with unit braking system, as well as the temperature, vibration and air gap monitoring systems.</p> <p>By replacing vital/active parts of the generator (stator winding, stator magnetic core, stator housing and rotor winding), as well as by upgrading, revitalising and adapting other mechanical sub-assemblies of the generator, expectations are that a new generator life of 40 years will be achieved.</p> <p>Furthermore, the existing generator excitation system has also been planned for adaptation, primarily by performing certain readjustments as main parameters of the upgraded generators will be changed.</p> <p>Other unit and power plant electrical equipment planned for replacement and reconstruction includes:</p> <ul style="list-style-type: none"> - 6.3 kV rail connections, at the main and additional power plant; - 6.3 kV unit switchgear; - Unit transformers; - 6.3 kV direct current plant at the main power plant; - 0.4 kV unit switchgear; - Direct current sources and switchgears; - Uninterruptible power supply system terminals and switchgears; - Unit control system; - Unit monitoring system; - Unit and unit transformer protection systems; - Electricity metering and calculation systems; - Capsule lighting system; - Capsule telephony system; - Capsule CCTV system; - Capsule fire alarm system.
<p>Description of purpose of the proposed activities</p>	<p>In line with Serbia's economic development goals and the expected electricity demand growth, the Agreement on the major overhaul, modernization and installed capacity increase of HPNS Djerdap 2, signed by the Romanian and Serbian sides, Elektroprivreda Srbije has initiated activities to increase its generation capacities by revitalizing its existing power plants, involving replacement of obsolete equipment, upgrades and technological improvements, which includes HPNS Djerdap 2 capacity increase.</p> <p>The main goals of the HPP Djerdap reconstruction are to increase the capacity of the hydraulic turbine and replace the equipment in order to extend the turbine operating life for the upcoming operation cycle.</p>

Justification of the proposed activities (e.g. socio-economic, physical-geographical basis)	<p>Revitalization, modernization, capacity and efficiency level increase of the Hydroelectric Power Plant (HPP) Djerdap 2 generating units is necessary for the following reasons:</p> <ul style="list-style-type: none"> - Obsolete equipment, making system operation and maintenance costly; - High operating risks, because, in addition to failure caused by parameter instability, delays are possible due to mechanical failure of the drive equipment; - Lack of spare parts on the market (no longer manufactured).
Additional information/comments	-
(ii) Information on the spatial and temporal boundaries of the proposed activities	
Location	<p>HPP Djerdap 2 is the second joint Serbian-Romanian hydroelectric power plant, built along the main course of the Danube, at the chainage km 862 + 800 on the Kusjak profile. Relevant coordinates are as follows: 44°18'8.0"N and 22°33'47.0"E. It belongs to the Bor district, Negotin municipality. It is located 2 km upstream from the beginning of the Romanian Ostrovul Mare, which is about 15 km long and divides the Danube into the main course and the left backwater of Gogos. Along the Gogos backwater, some 11.5 km upstream, the second dam of the Hydropower and Navigation System Djerdap 2 is stationed - the Romanian Gogos dam. HPNS Djerdap 2 is about 80 km away from HPNS Djerdap 1 on the profile near the village of Sip on the Serbian side, i.e. Gura Văii on the Romanian side, 70 km from Kladovo, 67 km from Drobeta-Turnu Severin in Romania, 2 km from Prahovo and 17 km from the Timok River confluence. Route of the main M-25 Kladovo - Negotin road in the Kusjak area is connected to the dam access road over an intersection.</p>
Location description (e.g. physical-geographical, socio-economic characteristics)	<p>HPP Djerdap 2 is mostly located in the settlement of Dusanovac area, while its smaller part belongs to Prahovo and Mihajlovac. According to the 2011 census, the municipality of Negotin had 36,879 inhabitants, with 16,716 residing in the town of Negotin proper. Settlements closest to HPP Djerdap 2 include: Prahovo - 1,197 inhabitants, Dusanovac - 769 and Samarinovac - 437 inhabitants.</p> <p>The population is mainly engaged in farming, while in addition to HPP Djerdap 2, the most important company is the Chemical Products Industry <i>Elixir</i> Prahovo, which employs most people living in this area.</p> <p>According to the 2011 census, as many as 25.84% of the population of the Negotin municipality was temporarily working abroad.</p> <p>In the settlement of Prahovo, in addition to individual housing facilities, there is also the Chemical Products Industry <i>Elixir</i> Prahovo and an international port of Prahovo.</p> <p>There are no protected plant and animal species in the immediate vicinity of HPP Djerdap 2. Protected areas located in the municipality of Negotin are 11 to 20 km away from the location in question.</p> <p>According to the Decision determining cultural property of exceptional and great importance (OG SRS No. 47/87), there are no protected cultural properties in this area.</p> <p>Soil contamination near HPP Djerdap 2 originates from the Chemical Products Industry <i>Elixir</i> Prahovo, through dust emissions, dispersal of pyrite combustion from the Prahovo landfill and the phosphogypsum landfill seepage waters. Soil quality assessment for the Negotin area showed that nickel limit values were exceeded in most samples. Copper concentrations were elevated in three samples and cadmium in one.</p>

	<p>The Danube River quality is monitored on a total of nine stations, of which the closest are Brza Palanka (21 km upstream) and Radujevac (10 km downstream). On both measuring stations, monthly monitoring of general parameters, oxygen regime, nutrients, salinity, metals, microbiological parameters and priority hazardous substances is performed. The Danube River quality analysis results for the period from 2016 to 2018 show that deviations from 1st and 2nd categories were recorded in the case of nutrients (nitrogen and phosphorus compounds), total iron and microbiological parameters. The presence of dissolved nickel and fluoranthene in concentrations corresponding to categories 3 and 4 was also identified.</p> <p>The Negotin municipality area is not covered by the state automatic air quality monitoring network. Air testing is performed twice a year, during summer and winter. Test results show that the measured values were within the limits or slightly above when it comes to particulate matter air concentrations.</p> <p>The lower Danube basin, including the analysed area, is characterized by a pronounced continental climate. Therefore, the average annual temperature in Negotin is 12.4°C, with July (24.1°C) and August (23.6°C) being the warmest, and January (0.4°C) and December (1.3°C) the coldest months. The highest precipitation levels are in December (65.3 mm), June (61.7 mm) and May (60.7 mm), while the average annual precipitation is 633.7 mm. Djerdap has frequent winds with an average speed of over 1.5 m/s, with the west-northwest wind being the most common one.</p> <p>Apart from a road, the bank of the Danube close to HPP Djerdap 2 is undeveloped, covered by grass and low vegetation.</p>
<p>Justification of the proposed activities location (e.g. socio-economic, physical-geographical basis)</p>	<p>Activities include the reconstruction of the existing hydropower plant. Therefore, they will be performed on the existing location where HPP Djerdap 2 has been located for more than three decades. In view of this, no alternatives are possible in terms of site selection for the proposed activities.</p>
<p>Time frame for the proposed activities (e.g. start and duration of construction and operation)</p>	<p>The start of works is conditioned by the preparation of the necessary design documentation and receiving a building permit from competent authorities. Under the current design documentation level (Preliminary Design), the time frame for the planned HPP Djerdap 2 reconstruction and revitalization activities is not known.</p>

(iii) Information on the expected environmental impacts and proposed mitigation measures

<p>Evaluation scope (e.g. consideration of cumulative impacts, evaluation of alternatives, sustainable development issues, impact of peripheral activities, etc.)</p>	<p>By summarizing data on quality of individual environmental factors, it may be concluded that quality of fundamental environmental factors at micro location HPP Djerdap 2 is disturbed to a certain extent, due to operation of HPP Djerdap 2, and primarily due to operation of Elixir Prahovo, the industry for chemical products, located about 3.5 km downstream from the location in question. However, when some environmental factors on the site are compared and linked, it may be concluded that there is no significant interaction between the presented environmental elements where, as a consequence of cumulative and/or synergy factors, increased environmental pollution could be a result of implementation of the project in question. The planned activities should result in more safe and secure operation of HPP Djerdap 2 and consequently in less possibility for emergency situations which might result in jeopardizing environment, and primarily, quality of the Danube River.</p>
<p>Expected environmental impacts caused by the proposed activities (e.g. types, locations, size)</p>	<p>Given the planned scope of works, it is considered that adaptation and continued exploitation may not significantly bring changes into a relatively steady microclimate regimen of the area. It is not expected to have any temperature changes within the complex area, and therefore the local impacts are negligible and will not have any negative effects.</p> <p>Possible negative environmental impacts during implementation of the project develop as a consequence of rehabilitation works on the objects and these are temporary in their nature, limited spatially onto the immediate vicinity of the project. These impacts develop as a consequence of presence of people, construction machinery, application of various technologies and organization for execution of works. Negative effects develop as a result of works on embedding certain quantities of construction materials, disassembly of the existing electrical and mechanical equipment and installation of new equipment, and these reflect on: air pollution, pollution of surface and ground water, soil pollution, increased noise and vibrations, ecosystems, etc.</p> <p>Size and complexity of effects from the proposed project on the environment may be viewed through possible effects on basic environmental media, being the following: air, soil, water, noise level, biodiversity, landscape and people's health.</p> <p><u>Possible effects and impacts on air quality</u></p> <p>Air pollution may develop during construction due to the following reasons:</p> <ul style="list-style-type: none"> - Dust possibly contaminated with some polluting agents from the air, produced during transportation of material and equipment, loading and unloading of raw materials; - Emissions of polluting agents from traffic and construction machines; including emission of diesel motor particles, NOx, volatile organic compounds, carbon-monoxide and many other hazardous polluting agents. <p><u>Possible effects and impacts on soil quality</u></p> <p>During construction, the following may occur:</p> <ul style="list-style-type: none"> - Scattering of construction and waste substances; - Improper use of waste dumps; - Soil pollution by accidental spill of fuel, lubricants and chemicals. <p>During the process of creating temporary stocks, as well as during their exploitation, erosion processes may be intensified unless appropriate erosion protection actions are taken. Soil may be jeopardized by uncontrolled disposal of excavated, construction material and solid municipal waste, as well as with sanitary waste water from facilities for accommodation of a contractor, which may have negative effect on soil hygiene and layout of the environment.</p> <p>During execution of works on rehabilitation, modernization, improving output and efficiency of HPP Djerdap 2 units, due to using machines and producing certain quantities of excess materials, there might be increased occupancy of the area at locations of</p>

accompanying facilities and installation for the site, and at disposals and temporary stocks of material, which is treated as a temporary impact.

Possible effects and impacts on water quality

During construction, it is possible to have:

- Accidental pollution of surface water;
- Impact on ground water because of soil pollution by infiltrating due accidental leakage of fuel and lubricants, etc., improper disposal of construction and other waste developed during the planned reconstruction.

Possible effects and impacts of noise and vibrations

Noise in an unfavorable accompanying feature of execution of works and combined with air pollution presents a considerable disturbance at the location of construction activities. Construction and transportation machines employed for implementation of the project for rehabilitation, modernization, improving output and efficiency of HPP Djerdap 2 units, is a source of noise reaching from 70 dB(A) to 90 dB(A), depending on the machine type, motor load level, quality of the road finishing layer, technical correctness and a handling method, velocity and age of a vehicle. In terms of space, noise has the greatest negative effects at the very site of execution of works and in its immediate vicinity and it is temporary in its nature. Considering that a noise level drops with distance from the noise source location and that soil absorbs sound waves, it may be said that at distance of 100 m from the site where works are executed and noise is produced, it may be expected to have noise level decrease and its fitting into the existing frames of the surrounding area.

During a construction phase, it is possible to have the following negative impacts:

- Construction equipment and works will produce noise which may have impact on employees, population and animals living or moving near working points;
- Vibrations produced during construction may cause disturbances or discomfort in employees.

Possible effects and impacts on biodiversity and environmental preservation

During a construction phase, the expected impacts refer to:

- Removing the existing vegetation;
- Possibility that waste and construction material reaches the sediment;
- Disturbance of water ecosystems during execution of works.

Possible effects and impacts on the landscape quality – visual identity of the area

An impact on physical structures and landscape quality is temporary, during execution of works.

Possible effects and impacts on people's health

During construction, people's health may be impacted by dust which may develop at work locations as a result of transportation of materials and waste.

During execution of earth works: excavation, filling and stocking of materials at temporary and permanent stocks, certain amounts of earth, i.e., suspended materials may reach ground and surface water and soil. Due to improper operation of construction machines and carelessness of a machine operator, soil, surface and ground water may be pollution with hazardous and waste substances (machine oil, fuel, etc.) from construction machines and vehicles, and this results in temporary and permanent changes.

It may be concluded that a possibility of significant impact is low and that it may occur only in case of great accidents which may result in leakage of considerable quantities of oil. On the other hand, a possibility of small impacts is great, but consequences are negligible. These impacts refer to occurrence of minor quantities of dust substances due to operation of machines and

	<p>equipment and due to movement of transporting means, and to occurrence of polluting gas matters due to operation of internal combustion engines. In addition to this, there may be temporary occupancy of the area during delivery of materials and parts of equipment. For these impacts, it may be said to be temporary and that do not leave long-term consequences.</p> <p>All aforementioned impacts are short-term and temporary. The only significant impact would be caused by oil or fuel leakage due to some great accident, but a possibility for this case is low.</p> <p>Impacts from the project are possible during a phase of work execution, while positive impacts are expected after rehabilitation in terms of less noise production by rehabilitated turbines, more safe and reliable operation with less chance for development of accidental situations.</p>
Inputs (e.g. raw material, power sources, etc.)	<p>For works on rehabilitation, modernization, improving output and efficiency of HPP Djerdap 2 units, natural resources to be used include gravel, sand, cement (produced by firing limestone and clay) and water. Power supply sources include electricity for operation of equipment and oil products for machine operation.</p> <p>The quantities of materials and power supply sources to be used will be defined in design documents, but in any case these will be obtained from the existing sources, e.g., it will not be necessary to open new mines, unused so far, for the matter works. The quantities of required materials and power supply sources are not significant and will not affect their availability on the market.</p>
Outputs (e.g. quantities and types: air emissions, aquatic discharges, solid waste)	<p>As previously mentioned, during execution of the planned works, it is possible to have slight increase of suspended matters in the air, as well as gases produced by fuel combustion within internal combustion engines of machines and transport means to be used on the site.</p> <p>Emissions into water may occur only in case of accidents, i.e., due to oil and lubricant leakage into water, while other emissions into water are not expected during the planned implementation of activities.</p> <p>During a construction phase, there may be slight noise level increase due to operation of construction machines, but this increase will not be significant.</p>
Transboundary impacts (e.g. types, locations, magnitudes)	<p>Although this project will be implemented at the Serbian and Romanian border, it is not expected to have any transboundary impact of the planned works. The works will be executed fully from the Serbian side of the border, and their intensity and possible emissions do not have that proportion to significantly jeopardize basic parameters of the environment (air quality, surface water and soil, and noise level) in the neighboring Romania.</p> <p>Only in case of some great accidents, there may be oil leakage into the Danube which might result in a transboundary impact on the surface water quality.</p> <p>Any other inconvenience is local and may not have any considerable impact on the other side of the border, and this may be seen from the evaluation of possible impacts elaborated in the next paragraph.</p>
Proposed mitigation actions (e.g. if known, mitigation actions preventing, eliminating, reducing, compensating environmental impacts)	<p>For primary environmental protection during execution of works, it is necessary to implement the following general environmental protection measures:</p> <ul style="list-style-type: none"> - To consistently implement the designed scope and type of works, according to investment technical documents, i.e., as per technical measures, regulations, norms and standards referring to such facilities and works; - To follow requirements prescribed by authorized institutions; - To establish an adequate organization for execution of works, for achieving a control over activities which may result in disturbing the environment - Execution of pre-works, securing site for execution of works and coastal area of the site and execution of other works for securing the immediate vicinity, life and people's health and for safe traffic flow before commencement of works;

	<ul style="list-style-type: none"> - Placing a fence and proper marking of a work execution site; - Cleaning a terrain for accommodation of the site within the Danube river bank area from obstacles, cutting woods, removal of tree stumps, removal of shrubs and other plants and their disposal at a designated dump before commencement of work on rehabilitation of HPP Djerdap 2; - Stocking the removed humus for later use in horticultural landscaping; - Preventing significant change of the surrounding terrain morphology during adaptation works; - Securing the facility, construction site on the Danube bank and in the surrounding area in case of work termination for any reason. <p>The following actions are foreseen for preservation of air, soil, water, and noise reduction:</p> <ul style="list-style-type: none"> - Controlling proper operation of engines and construction machines, aiming to eliminate exhaust emissions, oil leakage and leakage of other fluids and noise reduction; - Maintaining and regular watering of access and construction site roads, for reducing dust; - Storing oil products and gas within leak-proof double tanks with a volume of the outer tank corresponding to stored volume of the oil and gas; - Reloading and storing oil products: fuels, oils and lubricants, as well as servicing construction machines and vehicles only on concrete waterproof surfaces; - Concreting a surface of the dump base for waste steel material for preventing oil leakage from the disposed mechanical and electrical equipment into underground; - Providing sufficient number of special, mobile containers in accordance with a number of permanent and temporary employees for collecting solid utility waste from the site of rehabilitation works and taking them to a municipal landfill as agreed with an authorized utility service; - Controlled waste disposal (collecting solid waste into containers, application of recommendations by the Danube Commission for reducing pollution, maintaining proper operation of vessels for preventing oil and fuel leakage); - Controlled use of special materials for repairing concrete structures, the most environmentally friendly coating agents and quality crushed stones for executing riprap protection according to technical requirements for execution; - Using appropriate machines for removing river deposits in order to reduce spreading of harmful river deposits through the water; - Removing waste from paint and corrosion developed during cleaning and sandblasting processes; - Replacing oil in accordance with the existing rules at the hydropower and navigation system Djerdap 1 with maximum protection measures against leakage outside; - Prohibiting construction activities during night; - Prohibiting unnecessary removal of vegetation and wood cutting in the vicinity of work execution site, i.e., site on the Danube bank, which is not in accordance with final horticultural landscaping; - Implementing repair of the site and site area on the Danube bank after works are completed.
Additional information/comments	-

(iv) Study developer	
Name, address, phone and fax	Republic of Serbia Javno preduzeće Elektroprivreda Srbije – Public Enterprise Electric Power Industry of Serbia +381 11-20-24-600 Balkanska 13 11000 Beograd
(v) Documents related to Environmental Impact Assessment (EIA)	
Are EIA documents (e.g. EIA report or EIS) included in the documents?	EIA will be prepared after preparation of Basic Design and will be accessible for public.
If not/partially is, please describe additional documents to be submitted and (approximate) date(s) when these documents will be available	Preparation of Basic Design is ongoing and following this, an Application for defining scope and contents of an Environmental Impact Assessment will be submitted. After obtaining a Decision on scope and contents of the Assessment, the EIA will be prepared and submitted to the authorities, and then presented to the Municipality of Negotin and made available publically both in the Municipality of Negotin and on the web site of the Ministry of Environmental Protection of the Republic of Serbia.
Additional information/comments	-
2. CONTACTS	
(i) Contacts for potentially Affected Party or Parties	
Authority in charge for EIA coordination activities (please see the decision I/3, appendix) - Name, address, phone and fax	1. Milka Domazet – in charge for the project environmental issues, Javno preduzeće Elektroprivreda Srbije, Balkanska 13, 11000 Beograd; +381 11 39 52 319; 2. Ministry of Environment of the Republic of Serbia, Environmental Impact Assessment Department, Omladinskih brigada 1, 11070 Novi Beograd; +381 11 31 31 356
List of Affected Parties receiving the notification	Ministry of Environment of the Republic of Romania Focal Point for the Espoo Convention: Mr. Aureliu Dumitrescu Blvd. Libertatii nr 12, sect. 5, Bucharest, Romania Tel 021 316 61 54 Fax 021 316 04 21 e-mail: aureliu.dumitrescu@mmediu.ro

Authority in charge for EIA coordination activities (please see decision I/3, appendix) - Name, address, phone and fax	-
Decision making authority, if different from the one in charge of EIA coordination activities - Name, address, phone and fax	Republic of Serbia Ministry of Environment of the Republic of Serbia, Department for Environmental Impact Assessment Omladinskih brigada 1, 11070 Novi Beograd Tel: +381 11 31 31 356
3. INFORMATION ON THE EIA PROCESS OF THE COUNTRY WHERE THE PROPOSED ACTIVITY IS TO BE EXECUTED	
Schedule	<ul style="list-style-type: none"> - A procedure for submitting an application for defining scope and contents of an Environmental Impact Assessment (EIA), in accordance with the Law on Environmental Impact Assessment (OG RS, No. 135/04, 36/09) - After the scope and contents are defined, an open public procurement procedure for obtaining a service provider for preparing EIA will be executed. - This is followed by an Assessment preparation by the selected service provider for preparation - Finally, a process for obtaining approval for the Assessment, including engagement of interested parties should be executed, when all interested organizations, authorities and public may review and provide their opinion on the Assessment - It is not possible to define an accurate timeframe at this moment.
Possibility for the Affected Party or Parties to be involved in EIA	Every affected party has a chance to be included into EIA process in accordance with the Law on Environmental Impact Assessment (OG RS, No. 135/04 and 36/09).
Possibility for the Affected Party or Parties to review and provide their comments to the notification and EIA documents	According to the Law on Environmental Impact Assessment, interested authorities and organizations and interested public may submit their opinions within: <ul style="list-style-type: none"> - 15 days for the Application for defining a scope and contents; and - 20 day for the Environmental Impact Assessment as of the date of its reception and publishing on the web site of the Ministry in charge.
Nature and timeframe of a possible decision	An authority in charge informs other authorities, organizations and interested public concerned with defining scope and contents of the Environmental Impact Assessment, within ten days as of the date of receiving the complete application. The interested public may submit its opinion within fifteen days as of the date of receiving information related to the previous paragraph. An authority in charge makes decision on the application taking into account specific features of the project and site, as well as opinions of authorities, organizations and public concerned and submit opinions of the affected parties under the ESPOO procedure.

Process of obtaining approval/no objection to the proposed activity	Approval of the Environmental Impact Assessment, i.e. EIA approval Decision, is a condition to receive the works permit.
Additional information/comments	-
4. INFORMATION ON THE PUBLIC PARTICIPATION PROCESS IN THE STATE OF ORIGIN	
Public consultation procedures	According to the Law on Environmental Impact Assessment (OG RS, No. 135/04, 36/09), every interested party (authorities, organizations and public) may review and provide its opinion during the complete procedure of environmental impact assessment, from the time when the application for defining a scope and contents of EIA is submitted to the time of obtaining approval by the Ministry in charge for environmental protection.
Expected commencement and duration of public consultations	It is not possible to foresee the exact dates. After the application for defining a scope and contents of EIA is submitted, public insight will be possible 15 days after the application is published on the web site of the Ministry of Environmental Protection. A Decision on the application, i.e., Decision on the scope and contents of the Environmental Impact Assessment is made within 10 days. The public is notified within 3 days as of the date of decision, after which it becomes final. All stakeholders may review the application and EIA and provide their comments, in accordance with the Law on Environmental Impact Assessment, 20 days as of the application issuing and EIA date.
Additional information/comments	
5. DUE DATE OF REPLY	
Date	Twenty days after the affected party has been informed.