

NOTIFICATION TO AN AFFECTED PARTY OF A PROPOSED ACTIVITY UNDER ARTICLE 3 OF THE CONVENTION

1. INFORMATION ON THE PROPOSED ACTIVITY	
(i) Information on the nature of the proposed activity	
Type of the activity proposed	Construction of the new thermal power plant unit on the location of TPP Kostolac B
Is the proposed activity listed in Appendix I to the Convention?	Yes, under Paragraph 2 "Thermal power stations and other combustion installations with a heat output of 300 megawatts or more...."
Scope of proposed activity (e.g. main activity and any/all peripheral activities requiring assessment)	Construction of the new thermal power unit, including Main Power Generation Island (including systems for fly gas cleaning and discharge) with all associated sub-systems (Balance of Plant) , as well as systems for common fly ash, bottom ash and gypsum suspension final disposal.
Scale of proposed activity (e.g. size, production capacity, etc.)	The power output of the unit is 350 MW electrical (gross)
Description of proposed activity (e.g. technology used)	<p>Boiler plant of Unit B3 includes boiler with related equipment and auxiliary systems and devices to allow normal operation of the boiler from fuel intake to the flue gas discharge, as well as from the feed water inlet to the fresh and reheated steam outlet.</p> <p>The steam boiler is a once-through, tower type, fired by a pulverized lignite with steam reheating. It belongs to a group of boilers with the supercritical parameters. The boiler structure is suspended, having the entire load transferred through the structural steel columns on the boiler foundation.</p> <p>The boiler is equipped with a three-stage live steam superheater, an economizer, membrane walls, two-stage reheater and two rotary air heaters.</p>

Boiler is a one-pass type. Boiler structure is adapted to pulverized coal combustion with applied primary measures for nitrogen oxides emission reduction, by installing the Low-NO_x burners and by introducing the tertiary air in the zone above the pulverized coal burners – OFA combustion. Firing is performed with pulverized coal by means of eight tangentially arranged burners. Two burners are placed on each side of the furnace. For start-up and fire stabilization purposes the fuel oil burners shall be installed.

Boiler plant is equipped with eight fan mills. In each of the mills, where two simultaneous processes are taking place, grinding and drying, the coal is, additionally, intensively dried until the appropriate moisture and grinding fineness is achieved. Pulverized coal is then conveyed into the burners, together with the transporting fluid via air mixture ducts.

Turbine unit consists of condensing steam turbine (supercritical parameters) with eight unregulated steam extractions, condenser and regenerative heating system for condensate and feed water. Regenerative heating system includes four LP regenerative heaters of condensate, feed water tank with deaerator and three regenerative HP feed water heaters, two main condensate pumps (2x100%) and three makeup water pumps with electric motor and hydraulic couplings (3x50%).

Turbine unit shall also include a vacuum maintenance system in condenser, by means of two vacuum pumps (2x100%), and a condensate polishing system enabled during Unit operation.

Steam turbine is three-cylinder type, with once-through HP and MP cylinders, placed in a common outer casing, and a double-flow LP cylinder in a separate casing. Live steam inlet into HP turbine is provided by means of two combined stop and control valves (placed in a common casing). Admission of reheated steam into MP turbine is enabled through the two stop and two control valves (placed in a common casing). The steam from the MP turbine is introduced in the LP turbine through an overflow pipe. LP turbine shaft is directly coupled with the generator rotor. A separate system to supply the turbine with gland steam shall also be provided.

Unit generator will be synchronous generator with 350MW, 50Hz, 22kV, 0.85PF (lagging) and static excitation. Insulation class is F and temperature rise limit is class B. The generator will be totally enclosed, with horizontal shaft, stator wind of water cooling type while the rotor winding and stator core will be of hydrogen cooling type.

The generator is three phase non-salient pole synchronous generator, including stator, rotor, end shield and the bearing, hydrogen cooler, oil seal, sole plate, brush holder, sound-proof house etc.

Flue gases are coal combustion products and present gaseous waste. Due to high content of pollutants comparing to regulation requirements, before discharge to the atmosphere, fly gases should be cleaned by appropriate measures and systems application, including:

- Primary measures for nitrogen oxides emission reduction
- Electrostatic precipitators (dry and wet) for flue gas de-dusting
- Flue gas desulphurization for sulphur dioxide emission reduction.

Emission limit values criteria definition have been done in line with EU Directive 2010/75/EU (Directive on Industrial Emissions, Annex V, Part 2) and national By-law on emission limit values into the air from combustion plants (Off. Gazette RS No. 6/2016). The following limit values are adopted as design parameters for air emission control mitigation measures:

- Sulphur dioxide 150 mg/m³
- Nitrogen dioxide 200 mg/m³
- Particulate matter 10 mg/m³
- Carbon monoxide 250 mg/m³.

All values are for reference flue gas conditions, i.e.: dry flue gas, 6 % O₂, 0 °C, 1013 mbar.

The cooling water supply for Unit B3 shall be provided via the flow-through cooling system, using water from the River Danube. The cooling water system provides the required cooling water quantity supply for the turbine and technical cooling systems of the Unit.

The demineralized water treatment system for Unit B3 will be a new one, with the capacity of 50 t/h. The raw water supply is envisaged to be from the River Danube.

According to raw water quality parameters and above required demineralized water quality, reverse osmosis (RO) has been chosen for raw water pre-treatment in demineralized water production plant.

	<p>All waste waters generated during Unit B3 operation shall be collected depending on their origin and kind of pollution and transferred to the common Waste Water Treatment Plant, designed for the needs of all three Units B1, B2 and B3.</p> <p>Fly ash shall be collected under its corresponding extraction points and conveyed to fly ash silos by means of appropriate pneumatic conveying system of positive pressure type.</p> <p>Bottom ash will be collected under the outlet of the Boiler Submerged Scraper Conveyor (SSC) and transported to the Bottom Ash Silos hydraulically as BA slurry. Before entering the silos the BA slurry should be passed through appropriate dewatering system.</p> <p>The solution for ash transport and disposal, in the mixture with FGD gypsum suspension, is dry mechanical system by using one line of troughed belt conveyors for ash transport and spreader in combination with mobile equipment for ash disposal. Before loading to the conveyor system the fly ash from the silos is wetted with water amount of 25-30 %. The micro location of ash yard within mine is defined according to coal production dynamics.</p>
Description of purpose of proposed activity	<p>In accordance with the needs of economic development of Serbia and the expected growth in electricity demand, in 2002 the Electric power industry of Serbia started activities aimed to increase its production capacities and to adapt the power system to meet those needs. Part of the activities, aimed at the rehabilitation of the existing capacities, which implies the replacement of old equipment, upgrading and technological progress to increase the capacity, and the introduction of modern plants to reduce emission of gases and particulate matters. Since the oldest and economically unfavourable plants shall be turned into a cold reserve, or be permanently decommissioned, the said repowering of existing facilities is not sufficient to cover the long-term electricity demands. It is necessary to build new production facilities: thermal power, hydro power and other plants, utilizing the renewable energy sources.</p> <p>For the needs of Serbian Electric Power System, the new unit shall operate for about 7.900 h in the first ten years (2020-2029 period), then about 7.200 h in the next ten years (2030-2039 period). In the last five years of analyzed period the unit shall operate 6.500h. The mean unit operation time will be 7.500 h per year.</p>

<p>Rationale for proposed activity (e.g. socio-economic, physical geographic basis)</p>	<p>Activities aimed at the building of new thermal generating capacities include, among others, completion of construction works for the TPP Kostolac B. Basic concept of construction, envisaged to build four units, installed capacity 350 MW each. During Phase I two power units were built, which were put into operation in 1988 (Unit B1) and in 1992 (Unit B2), respectively. This phase also included construction of common plants and facilities and the infrastructure, providing a possibility for the implementation of phase II, i.e. for the construction of the remaining two units.</p> <p>During the 2009, the conditions have been met for the start of phase II. It was followed by the development of project documentation, which analyses the possibilities for the construction of new Unit of variable power, with due consideration to the coal reserves available for its operation. The two options for building a new Unit were observed:</p> <ul style="list-style-type: none"> • Unit with rated power of 350 MW • Unit with rated power of 600 MW. <p>After reviewing the results of various aspects of the analysed possibilities and a feasibility of building a new unit, it is adopted that the new building shall be with rated generation capacity of 350 MW.</p> <p>Major turning point in intensifying the works on the implementation of the phase II was signing of international agreement on credit arrangement between the Republic of Serbia and the People's Republic of China. It has been anticipated that the funds of this agreement shall be invested in two phases: the first phase includes rehabilitation of existing units of TPP Kostolac B, that is construction of Railway, Flue gas desulphurization plant for units B1 & B2, Port at the River Danube, while the second phase comprises new B3 Power Unit, and Open cast mine (OCM) Drmno capacity increase (from 9 to 12 million tons of coal production). The first part of credit arrangement related to the TPP&OMCs Kostolac, to be implemented with the Chinese partners, started in 2012, while the other activities, including the preparation of documentation considered and subject to the second part of the same, are currently in progress.</p>
<p>Additional information / comments</p>	

(ii) Information on the spatial and temporal boundaries of the proposed activity	
Location	The location of the new Unit B3 is within the yard of the existing TPP Kostolac B.
Description of the location (e.g. physical-geographic, socio-economic characteristics)	<p>The existing TPP Kostolac B is located in the city of Pozarevac in the north-eastern part of Kostolac Coalfield, near the village Drmno (Figure 3-1). It is situated on the right bank of the River Danube, 5 km from Kostolac city and about 120 km downstream from Belgrade.</p> <p>TPP Kostolac A is disposed nearby as well as currently operating open cast mine Drmno and already closed open cast mine Cirikovac.</p> <p>There are several settlements in the vicinity of TPP Kostolac B: the town of Pozarevac, 15 km to the south, town of Kostolac, 5 km to the northwest, village Drmno, 2 km to the south-east.</p> <p>In the vicinity of TPP Kostolac B there is an archaeological site Viminacijum and tourist resort Srebrno Jezero (Silver Lake) and Golubac.</p>
Rationale for location of proposed activity (e.g. socio-economic, physical-geographic basis)	<p>As the basic concept of TPP Kostolac B construction implies four units of rated power of 350 MW to be built in two phases, the space for the new unit is reserved and infrastructure and certain common facilities for both phases was built. Thus, there is no need for any further land acquisition or rent for the purpose of the new Unit.</p> <p>Coal supply for the new unit will be provided from the Opencast Mine Drmno (OCM), situated in the vicinity of the plant location, at the distance of some 2 km. The capacity of the mine will be increased to 12 mil. tons per year, enough to supply existing and new unit, as well as other industrial and non-industrial consumers. The balanced coal reserves are about 363 mil. tons of coal, enough for the lifespan needs of the mentioned consumers. The range of the main coal quality parameters are: low heat value 5.200-15.000 kJ/kg, ash content 8-38 % and humidity 22-49 %. Design coal quality is: 8.000 kJ/kg, ash content of 21.5 % and humidity of 40 %. Annual consumption of coal shall be about 2,8 mil. tons.</p>

Time frame for proposed activity (e.g. start and duration of the construction and operation)	Construction of the new Unit B3 is planned to start in the second half of 2016 and Unit start up is scheduled at the beginning of 2021.
Maps and other pictorial documents with the information on the proposed activity	Attached are narrow and wide project layout
Additional information/comments	
(iii) Information on the expected environmental impacts and proposed mitigation measures	
Scope of assessment (e.g. consideration of cumulative impacts, evaluation of alternatives, sustainable development issues, impact of peripheral activities, etc.)	
Expected environmental impacts of the proposed activity (e.g. types, locations, magnitudes)	<p>Environmental Impacts Sources during Plant Construction</p> <p>This section outlines the main sources of environmental impacts generated during Unit B3 construction phase, based on expected pre-construction and construction works, as well as necessary labor requirements (working staff present on the construction area).</p> <p>Location of the Unit will be on the designated area within TPP Kostolac B, next to the existing units B1 and B2 in the south-east direction. On the considered area there are some above ground structures (storage places and other) that will be demolished and removed before the construction of the new Unit. Also, pre-construction works will include top soil removal together with existing vegetation (trees and bushes) followed by terrain levelling.</p> <p>During construction phase, the following activities shall be mentioned as considerable sources of environmental impacts:</p>

- Preliminary construction works – Establishment of temporary facilities, modification/reconstruction of site roads access, drainage, auxiliary services, fencing
- Earthworks – Piling and foundations works (establishment of base slabs, footings, pits and foundations), including area dewatering (in case of shallow groundwater plate)
- Steel works – Construction of all kind of steel structures for buildings and equipment support
- Construction of the water intake/outfall tie-in structures
- Construction materials and equipment transport, delivery and storage
- Buildings and structures construction
- Equipment assembling – Installation of mechanical, electrical and I&C equipment
- Auxiliary activities of the workers and other employees taking part in the plant construction.

It has been assumed that the new plant will use existing cooling water intake and outfall facilities.

Construction impacts are temporary and will last during the construction phase only. In relation to the spatial effects of the construction impacts, those shall be classified as local. The exception is construction traffic, which may have regional impacts.

Environmental Impacts Sources during Plant Operation

Under normal operation of Unit B3, waste materials are generated during the following processes:

- Combustion of coal in boiler, which produces large volume of wastes including flue gas, non-combustible residues in the form of fly and bottom ash, and waste heat
- Chemical water and condensate polishing treatment
- Coal delivery and storage
- Flue gas desulfurization
- Disposal of fly/bottom ash and gypsum
- Auxiliary processes.

Emission to Air

Under the operation of Unit B3 the emissions of pollutants to the air are generated during the following processes:

- Combustion of coal in boiler, which produces flue gases containing different pollutants,
- Coal and limestone handling (reception, storage and internal transport),
- Solid waste handling (collection, treatment and disposal) such as: fly/bottom ash and gypsum.

Liquid Waste

Since the treatment of wastewaters shall not be performed within the Unit B3 process technology, this section will present the estimated quantities of liquid pollutants to be produced during the operation of Unit B3, which shall be channelled towards a common plant.

Process wastewaters include:

- Oily waste waters (loaded with oil derivatives),
- Sludgy waste waters (with a high content of solids, which can be chemically aggressive), and
- Saline waters (with higher concentration of salt, which can be chemically aggressive).

Oily wastewaters are produced within the fuel oil system, in Main power building (MPB), oil and lubricant storage, workshops and garages, mainly due to the leakage from valves, as a contaminated condensate during transportation of fuel oil and from washing of working surfaces and floors.

Oily wastewaters are not produced on continuous basis, and their quantity varies. Estimated quantity of oily wastewaters is max. 20 m³/h.

Sludgy and salted wastewaters generated within the TPP contain wastewaters from Chemical water treatment plant, boiler house of MPB and from FGD plant.

Wastewaters from FGD plant are generated in the case when performing secondary gypsum dewatering (production of dry gypsum with 10 % moisture), in order to maintain the concentration of chloride and particulates in a recirculated slurry at the required level. Estimated amount of wastewater, about 8 m³/h, shall be channelled towards a treatment plant. Concentration of chloride in the wastewater is about 8000 ppm, and particle content of about 3 %.

Estimated amount of the two mentioned waters is max. 900 m³/h.

In the case of gypsum slurry disposal (50 % of solids), the waters in the amount of 20-23 m³/h are removed together with the slurry, so that further separation of wastewater is not required.

Wastewaters from coal storage and from the coal supply system shall be channelled toward a sump, which is disposed near the storage, from where they will be conducted to further treatment.

Wastewaters from fly/bottom ash and gypsum conveying system, are produced due to the draining and flushing of pipelines, and also include return water from the landfill. These waters shall be recirculated within the fly/bottom ash and gypsum conveying system.

Storm waters are defined as waters, which in the form of precipitation, rain, snow and ice occur on surfaces of the TPP site. These waters belong to the group of neutral wastewaters which may, after collection, be discharged into natural recipient without special treatment. Storm water sewage from the Unit B3 location shall be connected to the old storm water sewage of the B1 and B2 Units area.

Sanitary wastewaters occur in sanitary facilities of the TPP buildings. These waters are loaded with particles and other mineral and organic matters and microorganisms. The average daily volume of sanitary wastewaters is approx. 40 m³/day. The maximum amount of wastewaters relevant for sizing of sewage network is 5 l/sec.

Solid Waste

Solid waste, resulting from power plant operation, are fly and bottom ash, and also gypsum, which is produced in a flue gas desulfurization process, and is not delivered to the external consumers, but is, in the form of dense slurry, disposed of on a landfill, together with fly and bottom ash.

According to the waste classification, Regulation on categories, testing and waste classification (Off. Gazette of RS 56/2010), these wastes are classified as the non-hazardous waste, with index numbers:

- 10 01 01 fly ash, bottom ash and boiler dust
- 10 01 05 calcium-based solids in flue gas desulfurization process.

The expected quantities of solid waste produced during Unit B3, to be disposed of on a landfill are:

- 600.000 t/year of fly and bottom ash
- 163.500 t/year of gypsum.

<p>Inputs (e.g. raw material, power sources, etc.)</p>	<p>The main inputs for the Unit B3 operation shall be:</p> <ul style="list-style-type: none"> • Coal (lignite), in the amount of 2,8 mil. tons/year (375 t/h) • Limestone, in the amount of 90.000 tons/year (12 t/h) • Water for cooling purposes, in the amount of 44.680 m³/h • Raw water for the process (make-up and FGD water) in the amount of 500 m³/h • Chemicals for water treatment plant: HCl acid, NaOH, FeCl₃, polyelectrolytes, Na-hypochlorite, Na-bisulphites and some other chemicals in small quantities <p>Unit B3 is not classified as Seveso plant.</p>																										
<p>Outputs (e.g. amounts and types of: emissions into atmosphere, discharges into the water system, solid waste)</p>	<p>Emission of pollutants with flue gases released via wet stack, for Unit operation at rated power and by using the design coal, is shown in Table below.</p> <p style="text-align: center;">Emission of pollutants discharge to air from Unit B3</p> <table border="1" data-bbox="703 879 1960 1158"> <thead> <tr> <th rowspan="2">Pollutant</th> <th rowspan="2">Clean flue gas Concentrations mg/m³ (ref. conditions)</th> <th colspan="2">Emissions</th> </tr> <tr> <th>kg/h</th> <th>t/year*</th> </tr> </thead> <tbody> <tr> <td>Sulphur-dioxide</td> <td>150</td> <td>176</td> <td>1320</td> </tr> <tr> <td>Nitrogen oxide</td> <td>200</td> <td>235</td> <td>1760</td> </tr> <tr> <td>Particulates</td> <td>10</td> <td>3</td> <td>22</td> </tr> <tr> <td>Chloride, Cl⁻</td> <td>5</td> <td>1.5</td> <td>11</td> </tr> <tr> <td>Carbon-dioxide</td> <td></td> <td>320630</td> <td>2404725</td> </tr> </tbody> </table> <p>* For effective Unit operation of 7.500 h/year</p> <p>Clean flue gases shall be discharged into the air through the 180 m high and 6.8 m outlet via stack. Dimensions of stack are defined according to the criteria for ambient air quality, in compliance with Serbian regulations.</p>	Pollutant	Clean flue gas Concentrations mg/m ³ (ref. conditions)	Emissions		kg/h	t/year*	Sulphur-dioxide	150	176	1320	Nitrogen oxide	200	235	1760	Particulates	10	3	22	Chloride, Cl ⁻	5	1.5	11	Carbon-dioxide		320630	2404725
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	<p>After treatment in the common Waste Waters Treatment Plant, to achieve the prescribed quality for discharge into the recipient (according to Serbian regulation), the following wastewaters shall be released into the recipient:</p> <ul style="list-style-type: none"> • Oily wastewaters, after treatment; • Cooling water (no treatment); • Sanitary wastewaters, after treatment; • Storm waters after pre-treatment. <p>No wastewaters shall be discharged into the ground waters during normal operation of the unit.</p> <p>The amounts of solid wastes is described in the previous Section of this Notification. Treatment of these wastes will be described below, in the scope of designed mitigation measures.</p>
<p>Transboundary impacts (e.g. types, locations, magnitudes)</p>	<p>Transboundary impacts are mainly related to emissions of pollutants via high stacks.</p> <p>As described in the next Section, the considered Project proposes emission reduction measures for air pollutants in accordance with new EU Directive 2010/75/EC – Industrial Emission Directive, Section III.</p> <p>As so, a small amount of pollutants are expected to participate in transboundary transport and contribute to air pollution in the regions of surrounding countries. In favour to this, treated flue gases are of lower temperature and exit velocities comparing to hot gases, which also decreases long-range transport.</p>
<p>Proposed mitigation measures (e.g. if known, mitigation measures to prevent, eliminate, minimize, compensate for environmental effects)</p>	<p><i>Gaseous Wastes Treatment</i></p> <p>1. Gaseous wastes treatment includes the following:</p> <p>Flue gases treatment:</p> <ul style="list-style-type: none"> • Reduction of NOx emission using the primary measures in the process of coal combustion in the boiler furnace • Reduction of SO2 emissions by flue gases cleaning in flue gas desulfurization plant. The adopted

technology of desulfurization implies wet limestone–gypsum process, with limestone as the absorbent and gypsum as the end by-product. In order to achieve the required, very low SO₂ concentration of 150 mg/m³ in clean gas, as well as high SO₂ removal efficiency, a dual loop absorber system has been adopted as optimal choice. Designed value of desulfurization efficiency is min. 98 %.

- Reduction in hydrogen chloride emissions from the flue gas is achieved by the reaction with limestone in desulfurization process, with an efficiency of about 90 %, resulting in considerably lower chloride concentrations in the flue gas with respect to the limit value of 30 mg/m³.
- Reduction in particulates emission from flue gases, shall, in the first stage, be performed in electrostatic precipitator (to the outlet concentration of 30 mg/m³, and then in FGD plant (scrubbing of flue gas by recirculating suspension in the absorber) and then in a wet ESP, which removes the fine particles and aerosols to the outlet concentration of 10 mg/m³. Total designed value of flue gas de-dusting process efficiency is ≥99,986 %.

Treatment of gaseous waste products in the collection and indoor fly/bottom ash conveying system

- De-dusting of conveying air used in fly ash pneumatic transport system, from ESP hoppers to the silos, is provided by installing fully automated bag filters with impulse blowing with compressed air. Filtration efficiency shall provide outlet concentration of purified air to be below 20 mg/m³.
- De-dusting of mixing unit, where the preparation of „dense“ slurry is taking place, shall be done by washing (spraying) in scrubber. The maximum concentration of particles in the outlet air stream is 20 mg/m³.

Treatment of gaseous wastes in coal and limestone supply system:

- Cleaning of air polluted by coal particles within the coal supply system is envisaged as follows:
 - The bunker bay provides for the ventilation of space where the air, before being discharged into the environment, passes through the bag filter; the efficiency of filter is so as to ensure outlet concentration of particulates in the air of 20 mg/m³.
 - At the transfer points, during coal transportation, dust removal is performed by using the water mist, which drops down the coal particles and prevents both the dispersion and the emission in the environment.
- During limestone reception, transport and handling dust pollution of the surrounding work space may occur, due to the presence of small fractions in the mass of received material. In order to suppress dust dispersion, the following systems are envisaged:
 - De-dusting system for unloading terminal and transport system from unloading points to

the storage. A wet process, with the formation of water mist under high pressure. For efficient de-dusting of these points a very good seal has to be provided therewith.

- Limestone silos de-dusting system, which envisaged dry process with bag filters to be placed on the silos. The efficiency of a bag filter is so as to ensure the outlet concentration of particulates in the air of max. 20 mg/m³.

Liquid Waste Treatment

Wastewaters, produced during the Unit B3 operation, shall be collected by the origin of contamination (oily, sludge and saline, storm and sanitary waters) and channelled via the special pipeline to the appropriate treatment facility.

Some of the treated waste waters shall be re-used in the power plant, primarily for ash wetting.

Solid Waste Treatment

The project envisages common fly/bottom ash and gypsum disposal by means of belt conveyers, on the landfills, at the excavated area of Drmno mine.

Bearing in mind that the fly/bottom ash, produced by the combustion of Kostolac coal, and the gypsum suspension, generated during FGD process, are classified as non-hazardous waste, in order to improve the properties of disposed material, it has been considered that these wastes, in the form of mixture slurry, should be disposed in a common landfill. Mixing of fly/bottom ash and gypsum suspension should be done in a mixer before conveying line leading to the landfill.

According to the experience in EU countries, as well as in line with the recommendations in the reference EU document on BAT technologies for large combustion plants (LCP BREF), separate landfilling of the considered wastes is possible. However, it has been found that mixing FGD gypsum slurry with ash shows better landfill properties than each component alone. These properties are mechanical strength, permeability and leachability.

The landfill site is located on excavated parts of the mine, which is in fact degraded land (Mining law of RS, Off. Gazette of RS no. 44/95 i 34/06). An integral part of the documentation, required for approval of mining activities, is the project of reclamation of degraded land. Filling the depression by fly/bottom ash and gypsum, under the strictly defined conditions, represents a kind of technical reclamation of the said area.

Treatment of solid wastes, generated during the operation of Unit B3 (fly/bottom ash and gypsum) with respect to the protection of air, water and land, is integral part of the technology of its collection, transport and disposal. Design of this system is in line with the Regulation on waste disposal in landfills, Off. Gazette of RS no. 92/10, which includes the following precautions:

- **Insulation of bottom and sides of the landfill:** Insulation of bottom and sides (embankment) of landfill shall be made in two layers. The first protection layer is designed of composite geotextile with bentonite powder, connected by sewing. The condition is that the membrane replaces the 1 m thick natural clay layer with the permeability coefficient of 10^{-9} m/s. The second 2 mm thick layer of protection is designed of smooth, high density polyethylene (HDPE) membrane. This provides full protection of groundwater from the harmful effects of the leachate from the landfill.
- **Protection of ambient air:** To ensure protection from possible dispersion of ash in extreme weather conditions (on a very windy and dry weather), the existing spraying system shall be used. Spraying process shall use the drainage water from the landfill.
- **Recirculation of water:** drainage water from the landfill together with storm water overflow is, through the sump and drainage system, collected in the collecting tank, and uses to prepare „dense“ slurry, i.e. it is returned into the process. So there is not discharge of wastewater from the landfill, and the system is completely closed.
- **Reclamation of landfill:** after completion of exploitation, each operating cassette shall be closed by forming the top cover layer (impermeable $\geq 0,5$ m thick mineral layer and $\geq 0,5$ m thick reclamation layer), according to the requirements of Appendix 4 of the Regulation on waste disposal in landfills (Off. Gazette of RS no. 92/10).
After landfill closure, as described above, it shall be necessary to make green area in accordance with the landfill reclamation project.

Waste Heat Treatment

Waste heat is removed “in once-through“ cooling system, whereby the cooling water is taken from the River Danube through the old Mlava’s riverbed that is connected with pumping station via the cooling water supply channel. After cooling process, the cooling water is returned in the River Danube via the cooling water channel. Return cooling water is by its composition unchanged with respect to the raw water, but its temperature is raised to max. 10°C with respect to the inlet water. Expected flow of the return cooling water is $12,4 \text{ m}^3/\text{s}$.

Noise Control

For noise control, several measures will be adopted as follows:

- For the main equipment, noise-decreasing requirements will be presented to manufactures
- As to the instruments with high noise level, necessary isolating covers or installation in the closed rooms will be adopted
- All the steam safety valves which are likely to be operated often will be provided with silencers to reduce the noise level during steam release
- Trees and/or adequate green belt will be planted as the sonic barrier in the plant area, especially at the plant boundary.

Carbon dioxide emission control

Carbon dioxide emissions reductions are one of the main instruments to combat climate changes. Serbia ratified United Nations Framework Convention on Climate Change (including Annexes) in 2001, as well as Kyoto Protocol to the United Nations Framework Convention on Climate Change in 2008.

The current status of CC technologies development does not offer enough data to consider CC Plant installation. According to available information it should be emphasized that CC process is highly energy consuming and may rise electricity price up to 50 %. However, there are no operation experience of any CC Plant in the real scale on the existing power plants that may give more precise figures related to CAPEX and OPEX data.

The presented Basic design does not envisage carbon capture system for CO₂ emissions reduction, but the arrangement of Unit B3 equipment allows future accommodation of the same. The so called "CCS ready" concept of TPP has also been analysed as well as the related requirements implied therein.

In line with this concept, the feasibility study did not include costs of CC system installation, neither its operation costs.

	On the other hand, in order to introduce the aspect of future obligations of Electric Power of Serbia regarding CO ₂ emissions control, it has been decided to analyse the influence of „carbon taxes“ payment on the project feasibility. According to data presented above, CO ₂ allowance price is assumed to be in the range 5-25 EUR/ton.
Additional information/comments	
(iv) Proponent/Developer	
Name, address, telephone and fax numbers	Republic of Serbia Public Enterprise Electric Power Industry of Serbia +381 11-20-24-600 Carice Milice 2 11000 Belgrade
(v) EIA documentation	
Is the EIA documentation (e.g. EIA report or EIS) included in the documentation?	EIA for the considered Project is in the process of approval with the Authorities
If no/partial, description of additional documentation to be forwarded and (approximate) date(s) when documentation will be available	

Additional information/comments	
2. POINTS OF CONTACT	
(i) Points of contact for the potentially affected Party or Parties	
<p>Authority responsible for coordinating activities relating to the EIA (refer to decision I/3, appendix)</p> <p>- Name, address, telephone and fax numbers</p>	<p>1. Zeljko Lazović – Manager of the Kostolac B3 Unit Construction Project Public Enterprise Electric Power Industry of Serbia, Balkanska 13-15, 11000 Belgrade 011/3952-407</p> <p>2. Milka Domazet – in charge for environmental protection for the Project Public Enterprise Electric Power Industry of Serbia, Balkanska 13-15, 11000 Belgrade 011/3952-319</p> <p>3. Dejan Vuksanovic - in charge for permitting issues for the Project Public Enterprise Electric Power Industry of Serbia, Balkanska 13-15, 11000 Belgrade 011/3952-341</p>




List of affected Parties to which notification is being sent	Romania
(ii)	
Authority responsible for coordinating activities relating to the EIA (refer to decision I/3, appendix) - Name, address, telephone and fax numbers	
Decision-making authority if different than authority responsible for coordinating activities relating to the EIA - Name, address, telephone and fax numbers	Republic of Serbia Ministry of Agriculture and Environment of the Republic of Serbia, Environmental Impact Assessment Department Omladinskih brigada 1 11070 New Belgrade
3. INFORMATION ON EIA PROCESS IN THE COUNTRY WHERE THE PROPOSED ACTIVITY IS LOCATED	
(i) Information on the EIA process that will be applied to the proposed activity	
Time schedule	<ul style="list-style-type: none"> - Application procedure for determining the scope and contents of the Environmental Impact Assessment (EIA) Study of the Kostolac B3 Unit Construction Project in progress, by the ministry in charge for environmental issues, according to the Environmental Impact Assessment Law (Official Gazette RS, No. 135/04, 36/09) - Once the scope and contents have been defined, an open public procurement procedure will be conducted for the EIA Study developer. - This is followed by the study preparation by the selected developer - Finally, approval process for the study needs to be conducted, involving stakeholder

	<p>engagement, when all interested organisations, authorities and the public may review and provide their opinion to the study</p> <ul style="list-style-type: none"> - According to plans, the EIA Study will be finalised by May – June 2016. The precise timeframe may not be defined at this time.
Opportunities for the affected Party or Parties to be involved in the EIA process	
Opportunities for the affected Party or Parties to review and comment on the notification and the EIA documentation	
Nature and timing of possible decision	
Process for approval of the proposed activity	
Additional information/comments	
4. INFORMATION ON THE PUBLIC PARTICIPATION PROCESS IN THE COUNTRY OF ORIGIN	
Public participation procedures	<p>Under the Environmental Impact Assessment Law (Official Gazette RS, No. 135/04, 36/09), all stakeholders (authorities, organisations and the public) may review and provide their opinion during the entire environmental impact assessment procedure, from the time of application for determining the scope and contents of the EIA Study until its approval by the ministry in charge for environmental protection. All stakeholders may review the application and the EIA study, according to the Law, for 20 days from the date of publication of the application and the EIA Study.</p>

Expected start and duration of public consultation	The expected period for public review of the application and the EIA Study is April 2016, while the public consultations for the Kostolac B3 Unit Construction Project EIA Study will be held during June/July 2016. Precise dates may not be provided at this time.
Additional information/comments	
5. DEADLINE FOR RESPONSE	
Date	30 day after receiving the notification by the affected party.