



### CONTRACT FICHE

**Programme:** IPA – Energy Environment Programme Serbia

**Year:** 2011

**CRIS Contract Number:** 2014 / 347-153

**Contract Title:** Construction of Waste Water Treatment Facilities in TPP Nikola Tesla A, Serbia

**Start date:** 13/10/2014

**End date of activities:** 12/07/2016

**Final date for implementation (FDI):** 27/01/2019

**Contracted amount:** 5,994,340.50 €

**Location:** Obrenovac

**Operations sector:** Energy

#### Complementary contracts

					€ million
CARDS 2002		Major overhaul of Unit A3 of Nikola Tesla power plant	Oct 03	April 05	64.5
CARDS 2003		Study of pollution from thermal power stations in Serbia and on pollution mitigation measures and their costs	Sept 03	Sept 04	0.75
CARDS 2003		Major overhaul of Unit A5 of Nikola Tesla power plant	Nov 04	Dec 05	58
CARDS 2004		Environmental clean up measures (based on the study undertaken under the 2003 programme) (Electrostatic precipitators at Kostolac A and ash transport and storage at Nikola Tesla B power plant).	Mar 06	Sept 10	35
IPA 2007	219-517	Emission Reduction from Nikola Tesla Thermal Power Plant in Obrenovac - upgrade of the Electrostatic Precipitator System which reduces the particulate emissions from Units A6 and B2.	Oct 09	Nov 11	€11M
IPA 2008	268-893	Design and Works contract for the Emission Reduction from Nikola Tesla Thermal Power Plant, Unit B1	July 2011	Dec 2013	€8 M
				<b>Total</b>	<b>€177.25</b>



## EUROPEAN UNION

DELEGATION OF THE EUROPEAN COMMISSION TO THE REPUBLIC OF SERBIA

### **Description:**

The project "Construction of Waste Water Treatment Facility at TPP Nikola Tesla A at the Electric Power Industry of Serbia (EPS)" significantly reduces the influence of wastewaters, which have huge health implications for the nearby population, by reducing the concentration of relevant pollutants (fuel oil, mineral oils, suspended solids, heavy metals, Biochemical Oxygen Demand), so that they are in accordance with EU directives and the National and local legislation and regulations at the WWTP outlet, leading to an improvement in water quality around the TPP.

**Contract status:** The works contract was signed 22/07/2014 with the consortium ESOTECH, Slovenia (Leader) & JEDINSTVO, Serbia (Member) following PRAG procurement rules.

Works were implemented following FIDIC (Plant & Design - Build) implementation rules.

The Commencement date was 13/10/2014, and the works have been successfully timely completed.

The Taking Over Certificate was issued 12/07/2016, and Defects Notification Period is ongoing, with no major issues reported.

**Date of update:** 9/9/2016

**Program manager:** Dejan REBRIC



## **ENERGY PROJECT 2008**

### **Emission reduction from Nikola Tesla Thermal Power Plant in the Republic of Serbia As per Project Fiche**

#### **Project purpose:**

To fulfil Directive 2001/80/EC for large combustion plants by modernising specified Thermal Power Plants (TPPs).

#### **Assessment of project impact**

After the reconstruction of the electrostatic precipitator of Unit B2 TPP Nikola Tesla B, dust emission into the atmosphere from flue gases will be reduced by 90% to the level of 30 mg/m<sup>3</sup>, which will have an impact on air quality improvement around the TPP, reduction of soil contamination and reduction of the number of people suffering from respiratory illnesses in this area. The number of sections will be increased within the planned reconstruction, with the achievement of higher reliability of operation of these electrostatic precipitators. In addition to this, analysers for continuous dust emission measurement in flue gases after the ESP will be installed, enabling constant control of ESP operation.

This project will also enable continuous monitoring of emission of harmful substances from flue gases of the power plants of EPS, TPP Nikola Tesla A and B, situated nearby the town of Obrenovac (about 30 000 inhabitants), and 40 km away from Belgrade, TPP Kolubara A, situated nearby the town of Lazarevac (about 30 000 inhabitants) and TPP Morava, situated nearby the town of Svilajnac.

Quality emission monitoring would enable improvement of air quality around the TPPs. The number of people suffering from respiratory illnesses, now increasing in this area, would be reduced,. Harmful impact on soil would also be reduced around the facilities through constant control of operational efficiency of installed electrostatic precipitators.

#### **Results and measurable indicators**

##### **Component 1:**

A new Electrostatic Precipitator procured and installed at TPP Nikola Tesla B Unit B1. Measurable indicators will be the degree of compliance with a procurement and installation schedule to be developed with the tender documentation.

##### **Component 2:**

Equipment for continuous air emission measurement of harmful and hazardous substances Procured and installed at TPP Nikola Tesla A and B, TPP Kolubara A and TPP Morava. Measurable indicators will be the degree of compliance with a procurement and installation schedule to be developed with the tender documentation.

The project involves the reconstruction of two electrostatic precipitators (unit B1 of Nikola Tesla Thermal Power Plant). The activities to be performed are:

- Preparation of technical specifications/ tender preparation (with assistance from external expert technical assistance)
- Contracting of tenders



- Implementation of the works contracts, commissioning and testing (with the assistance of Supervising Engineers).
- Continuous monitoring and maintenance of the operation of the ESPs by the beneficiary.

### Contracting Arrangement:

#### Components 1 and 2

There will be two service contracts (1.1 preparation of Technical Specifications for components 1 and 2 and 1.2 works supervision) and the two works contracts (for 1.3 precipitators and 1.4 monitoring system), with EPS as employer and the EC delegation as financing authority.

#### Indicative Budget

ACTIVITIES	IB	EUR	EUR		PM
Activity 1		Planned	Contracted	Contractor	
Contract 1.1	TA for the drafting of technical specifications of equipment	200,000	199,980	08SER01/17/11	<i>Gligo Vukovic</i>
Contract 1.2	Supervising Engineer for 1.3 and 1.4	1,000,000	1,058,627.89	Vattenfall IPA/2010/241-402 (CL) 08SER01/17/21	<i>Dejan Rebric</i>
Contract 1.3	Design&works contract for electrostatic precipiator	6,500,000	7,795,000.00	Hamon IPA/2011/268-893 (EC) 08SER01/17/31	<i>Dejan Rebric</i>
Contract 1.4	Design&works contract for continuous measurement	3,300,000	1,678,441	Siemens 08SER01/17/41	<i>Gligo Vukovic</i>
		11,000,000.00	10,537,841.00		



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#### CONTRACT FICHE:

Design and Works tender for the Environmental Protection at Electric Power of Serbia (EPS) Company - Equipment for continuous air emissions measurement at EPS – TENT

**Programme:** IPA - Programme 2008 Serbia



**Contract Number:** 08SER01/17/41

**CRIS No:** 254-546

**Contract Title:** Equipment for continuous air emissions measurement at EPS – TENT

**Start date:** 18/01/2011

**End date:** 18/05/2012

**Contract amount:** € 1,678,441

**Location:** Obrenovac

**Operations sector:** Energy

**Description:**

The subject of the contract is the design, supply, delivery, installation and testing of the equipment for continuous monitoring of air emissions (CEMS) in three thermal power plants (TPP), Nikola Tesla A, Nikola Tesla B and Kolubara A. The above mentioned system is designed and constructed to guarantee the continual monitoring of air emissions in line with the requirements set by the "Directive 2001/80/EC - Large Combustion Plants Directive". All required outcomes were achieved in accordance with the technical specifications and requirements of the Directive 2001/80/EC - Large Combustion Plants Directive".

The project provided direct benefits to the Beneficiary by continuous monitoring of air emission of harmful and hazardous substances from three thermal power plants. Measuring equipment for continuous emission measurement of concentration level of dust and gases (SO<sub>2</sub>, NO<sub>x</sub>, CO, CO<sub>2</sub>) in flue gases was installed on thermal power plants.

**Contract status:**

The contract was with SIEMENS Aktiengesellschaft Germany in consortium with SIEMENS Serbia. The services have been successfully timely completed. Defects Liability Period completed.

**Program manager:** VUKOVIC Gligo



**CONTRACT FICHE:**

**Emission reduction from Nikola Tesla Thermal Power Plant, Unit B1, Design & Works**

**Programme:** IPA - Programme 2008 Serbia

**Contract Number:** 08SER01/17/31,

**CRIS No:** 268-893

**Contract Title:** Design and Works tender for the Emission Reduction from Nikola Tesla Thermal Power Plant, Unit B1

**Start date:** 9/08/2011

**End date:** 08/03/2014

**Contract amount:** 7,795,000.00 €

**Location:** Obrenovac

**Operations sector:** Energy

**Description:**

Project purpose: To reduce the emissions from thermal power stations in Serbia, in order to comply with the legal obligations under Serbian Legislation and EU Directives.

The project involves reconstruction of the electrostatic precipitator (unit B1 of Nikola Tesla Thermal Power Plant). The activities to be performed are:

- Implementation of the works contracts, commissioning and testing (with the assistance of Supervising Engineer).

**Contract status:** The works contract was signed 18/07/2011 with consortium HAMON, Germany & ZK-TERMOCHEM (Czech Republic) (Contractor) following PRAG procurement rules and PRAG (Design & Build) implementation rules.

The works have been successfully timely completed. Defects Liability Period completed.

**Date of updating:** 1/6/2013

**Program manager:** REBRIC Dejan



**CONTRACT FICHE:**

**Emission reduction from Nikola Tesla Thermal Power Plant, Unit B1, Design & Works**

**Programme:** IPA - Programme 2008 Serbia

**Contract Number:** 08SER01/17/11

**CRIS No:** 216-621

**Contract Title:** Preparation of Technical Specifications and Tender Dossier for Components 1 & 2

**Start date:** 20/09/2009

**End date:** 19/01/2010

**Contract amount:** 199,999 €

**Location:** Belgrade

**Operations sector:** Energy

**Description:**

The objective of the investment project "Environmental Protection at the Electric Power Industry of Serbia (EPS)" was to make a major contribution towards meeting the Environmental Acquis as required under the Energy Community Treaty as well as construction of continuous measurement of air emission of harmful and hazardous substances in TPPs Nikola Tesla A and B and Kolubara. The specific objective of this framework contract was to provide technical assistance to the EC Delegation to the Republic of Serbia, to achieve:

- prepared functional/ performance specifications for Unit B1,
- prepared functional/performance specifications for the measuring equipment for continuous monitoring of air emission of harmful and hazardous substances in TPP Nikola Tesla A and B, TPP Kolubara and TPP Morava and
- preparation of the technical inputs for Volumes 1, 2, 3, 4 and 5 of the tender dossier as per the PRAG procedure for works contract.

**Contract status:**

The contract was signed with **COWI Belgium SPRL**. The Commencement date of the contract is 20 October 2009 (date of kick-off meeting). The services have been successfully timely completed.

**Program manager:** VUKOVIC Gligo





**CONTRACT FICHE:**

**Supervising Engineer for Emission reduction from Nikola Tesla Thermal Power Plant in the Republic of Serbia**

**Programme:** IPA - Programme 2008 Serbia

**Contract Number:** 08SER01/17/21,

**CRIS No:** 241-402

**Contract Title:** Supervising Engineer for Emission reduction from Nikola Tesla Thermal Power Plant in the Republic of Serbia

**Start date:** 1/07/2010

**End date:** 31/07/2014

**Contract amount:** 1,058,627.89 €

**Location:** Obrenovac

**Operations sector:** Energy

**Description:**

Project purpose: To reduce the emissions from thermal power stations in Serbia, in order to comply with the legal obligations under Serbian Legislation and EU Directives.

The project involves reconstruction of the electrostatic precipitator (unit B1 of Nikola Tesla Thermal Power Plant). The activities to be performed are:

- Supervision of implementation of the works contracts (reconstruction of the electrostatic precipitator and Continuous monitoring), commissioning and testing.

**Contract status:** The supervision contract was signed 27/05/2010 with VATTENFALL EUROPE POWERCONSULT GMBH, Germany. The Commencement date was 01/7/2010.

The services have been successfully timely completed. Defects Liability Period completed.

**Date of updating:** 1/6/2013

**Program manager:** REBRIC Dejan