

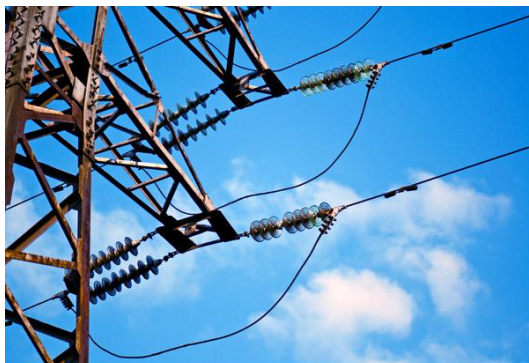


## 400 kV Lithuanian – Poland power interconnection: General Project Introduction and EIA Scoping

**Development of Environmental Impact Assessment Report and Biodiversity Investigations for the following projects**

- **Construction of 400 kV connection from the city of Elk to the State Border**
- **Expansion of the Elk power substation**

**As of September, 2010**



## I. GENERAL PROJECT INTRODUCTION

On 25 June 2010, works began to develop a report assessing the environmental impact, including an inventory of the nature for the investment project entitled "Construction of 400 kV connection Ełk-RP border".

This investment is part of a wider project, i.e. the 400kV overhead double-circuit transmission line Lithuania-Poland. The line is a part of the plan for modernization and expansion of the Polish National Transmission System.

The 400kV overhead double-circuit transmission line Lithuania-Poland will interconnect the Polish town of Ełk with the Lithuanian town of Alytus, where back-to-back station will be built. The line's length will reach approx. 150 km of which approx. 100 km will be on the Polish side, through the voivodships Podlaskie and Warmińsko-Mazurskie. Other, approx 50 km will be on the Lithuanian side, in Alytus and Lazdijai districts, belonging to the Alytus County.



Fig. Scheme of power connection Poland-Lithuania

The power link interconnection, valued approx. EUR 237 million, is planned to be operational by 2015 with power of 600 MW. It is planned to reach transmission of 1000MW by 2020.

### a. Preparation of EIA on the Lithuanian side

For the Lithuanian part of the investment EIA report has already been developed, including cross-border consultations according to the Espoo Convention, and obtaining environmental decisions is in



the process now. Planned date of completion of procedures for assessing the environmental impact (EIA) in Lithuania is October 2010. In parallel the territorial planning procedures for the 400 kV line " Alytus substation - border of the Republic of Poland" as well as for the back-to-back converter station and expansion of Alytus substation are in progress. Since November 2009 the feasibility study and preparation of technical documentation for the above back-to-back converter station in Alytus are being prepared.

The project located on the Lithuanian side and Development Program for National Transmission System in respect of connection between Poland and Lithuania has undergone a Strategic Environmental Assessment<sup>1</sup>.

For Information about the EIA on the Lithuanian side, please refer to:

NTES (Non Technical Executive Summary)

ESIA (Environmental and Social Impact Assessment) report

The documents can be found at [www.litpol-link.lt](http://www.litpol-link.lt) (Lithuanian version) or [www.litpol-link.com](http://www.litpol-link.com) (English version) and [www.ebrd.com](http://www.ebrd.com).

## **b. Preparation of EIA on the Polish side**

The formal grounds for the works conducted under the EIA for the Polish part of the project, i.e. the " Construction of 400 KV power interconnection Elk - border of the Republic of Poland" involve the Agreement no. LPL/1/2010 concluded between PSE Operator S.A. and Consortium of Companies:

Scott Wilson Sp. z o. o. of Warsaw, (Consortium Leader)

Scott Wilson Ltd of Great Britain;

Narodowa Fundacja Ochrony Środowiska [National Environmental Protection Foundation].

The object of the assessed project called "Construction of 400 KV power interconnection Elk – border of the Republic of Poland" involves construction of the 400kV overhead double-circuit transmission line from Elk substation in Nowa Wieś Elcka to the border of the Republic of Poland with Lithuania, of length, depending on the option, 107 - 117 km.

The planned project will ensure:

- increasing the operation security of the National Transmission System (KSP),
- improving power supply to north-eastern and central part of the country, providing greater power security of these regions of Poland and other regions connected by the 400 kV lines with the aforementioned line,
- the stable operation of the 400 kV transmission network in that area by providing backup power in the form of power transmission at the level of 1000 MW,

---

<sup>1</sup> The EIA Forecast Document prepared for the Polish party of the power interconnection is currently undergoing the public consultation



- improving the conditions of power output from the planned nuclear power plant in Visaginas in Lithuania and the developed power substation in Ostrołęka.

Scheduled for implementation the 400 kV double circuit line Ełk - border of the Republic of Poland passes the area of Warmia and Mazury, and Podlasie. The following six options for the line route location are considered:

Option 1 - line route is based on the base route developed in the 1997-2000 introduced into the planning documents of Gminas and Voivodships. The route has been adjusted at the section (7 km) as compared to the base path for the possible exclusion from the Natura 2000 sites along the route and development plans for the town of Suwałki.

Option 2 - the line route is analogous to the route in option 1 with one exception in Bakalarzewo Gmina. The intersection of Upper Rospuda Valley, Natura 2000 area, is to take place elsewhere than in option 1, to the north of the village Bakalarzewo. The intersection of the Natura 2000 over a distance of 1.2 km will be at the common poles with the existing 110 kV line intersecting the area already. Intersection of the area because of the need to circumvent a monument of culture (bunkers from World War II) is shifted slightly to the north of the intersection of 110 kV line with Natura 2000.

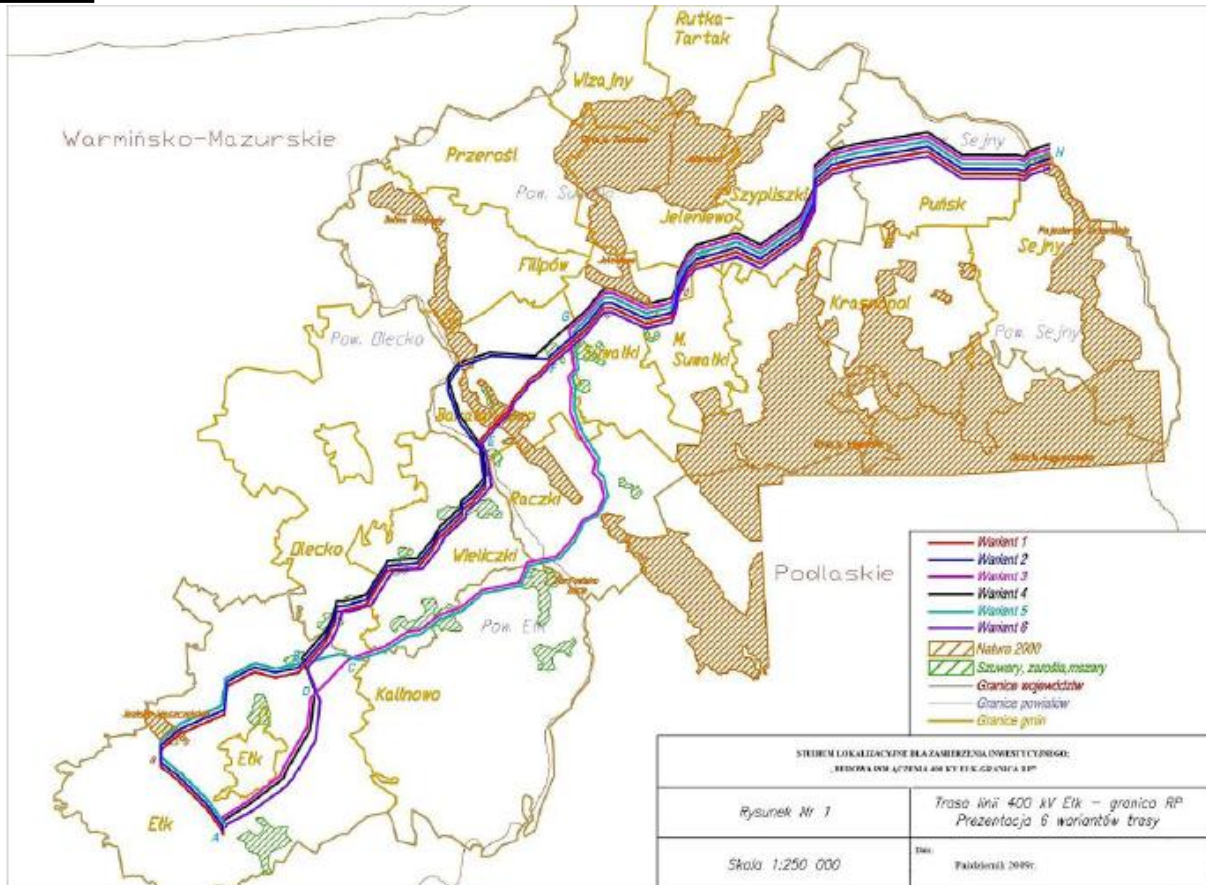
Option 3 - the line route from the Ełk substation runs south of the route by option 1, along the bypass road in the south - east of Ełk by woodland and then through farmland. Prior to the village Raczki it approaches the bypass lane of Augustów. It crosses the Rospuda valley near the bypass lane of Augustów. This route does not cross areas "Natura 2000".

Option 4 - The route is a combination of option 3 (for the section in Gmina Ełk) and option 2. Line route from the Ełk substation passes in accordance with option 3, along the ring road of Ełk, the woodland area. Then, linking with the route according to option 2 was proposed. The route crosses the Natura 2000 site (Upper Rospuda Valley) for a distance of 1.2 km.

Option 5 - the route is a combination of option 2 (for the Gmina Ełk section), with option 3. The route from the Ełk substation runs according to option 2. Then, the route joins with the route as in option 3. This route crosses the area of "Natura 2000" (Woszczelskie Lake -1.5 km.)

Option 6 - The route is a combination of option 2 (for the Gmina Ełk section) with option 3. From the substation the route runs according to option 2. Then, it joins with the route option 3. This route crosses the area of "Natura 2000" (Woszczelskie Lake -1.5 km). The route crosses the Natura 2000 site (Upper Rospuda Valley - 2.3 km.)

The figure below presents the individual options of the route.



The width of the technological lane will be 70 m that is 35 meters from the axis line each side. It must be assumed that the construction site of the project must fit within these borders, and hence an imminent threat to habitats during the project works. There will be 34-38 strong supports and 174-186 straight-line supports (again depending on option) located on the route of the line. Technical description implies the possibility of the use of different types of supports, but it must be assumed that the construction of each of them will entail irretrievable damage to the land of size min. 20 x 20 m. The distance between the supports can be adjusted, which should allow for the reduction of some conflict locations (especially in relation to valuable small area habitats). Designed operation temperature of phase conductors will be at + 80 C.

## II. EIA Scope

According to the Polish and EU law, the above investment belongs to a group of projects for which preparation of impact report on the environment is mandatory. According to the Act of 3 October 2008, on providing information on the environment and its protection, public participation in environmental protection and the environmental impact assessment (Official Journal No. 199, item 1227) it is a project always likely to have significant effects on environment.

This project is set out in § 2 item 1 point 6: "Power substations and/or overhead power lines with rated voltage of not less than 220 kV, a length not less than 15 km," of the ordinance of the Council of Ministers of 9 November 2004 determining the types of projects that may significantly affect the



environment and detailed conditions qualifying the project to draw up a report on environmental impact (Journal of Laws No. 257, item 2573 as amended).

At the same time it is a project that could potentially have significant impact on Natura 2000 areas, and it is not directly related to the protection of the area or does not result from its protection.

Furthermore, in accordance with Council Directive 85/337/EEC of 27 June 1985 on assessment of the impact of certain public and private projects on the environment (as amended) the project analyzed is referred to in Annex I of the Directive point 20 "Construction of overhead electrical power lines with a voltage of 220 kV and a length of more than 15 km"

According to the currently applicable procedure, the obligation to prepare an environmental impact report and its scope had been imposed on the Investor: by the decision of the Regional Director of Environmental Protection in Białystok (see Attachment No. 1), issued after obtaining the opinions of:, issued after obtaining the opinions of:

– Podlaskie State Voivodeship Sanitary Inspector in Białystok

and due to the fact that the line will pass through Warmińsko-Mazurskie Voivodeship:

– Regional Director of Environment Protection in Olsztyn and

– Warmińsko-Mazurski State Voivodeship Sanitary Inspector.

In addition, due to the fact that the planned project is likely to have a cross-border effect on the environment, the procedure on transboundary environmental impact, which resulted in the Lithuanian side expressing its willingness to consult the place of border crossing by the line in question with the Polish party, was performed. It is therefore necessary to settle an option of planned project crossing across the state border with the Lithuanian party. The need to carry out a transboundary environmental impact assessment was imposed by the decision of the Regional Directorate of Environmental Protection (see Attachment No. 2). After receiving response from the Lithuanian Ministry of Environment, General Directorate for Environmental Protection informed that transboundary consultations were completed (see Attachment No. 3).

The decision of the Regional Directorate of Environmental Protection established the scope of the EIA report to comply with Article 66 of the Law of 3 October 2008 on providing information on the environment and its protection, public participation in environmental protection and environmental impact assessment (Official Journal No. 119, item 1227, as amended) with particular emphasis on the impact on habitats and natural plant and animal species that are protected under Natura 2000, which may be affected by the proposed investment.

Moreover, according to the order, the EIA report should contain a detailed analysis of projected levels and ranges of the electromagnetic field and the range of the acoustic impacts emitted by the line, and it also should determine the levels on land intended for housing development and in places accessible to the public.

EIA report will be prepared according to the decision of the Regional Director of Environmental Protection in Białystok, and thus according to the procedures and principles laid down in Polish law,



especially in the Act of 3 October 2008, on providing information on the environment and its protection, public participation in environmental protection and the environmental impact assessment, guidelines of the General Directorate for Environmental Protection and the Ministry of Regional Development on the above law, and procedures of environmental impact assessments.

In addition, due to the fact that this project is intended to be co-financed by EU funds, the environmental impact assessment of the investment will be made in accordance with the requirements of EU law (in particular Directive 85/337/EEC and Directive 92/43/EEC) and the guidelines in this regard.

The consideration will be also given to all conditions of the research and analyses set out in the preparatory phase by the Investor, and included in the Localization Study - the document entitled: "Optimizing Investment".

In the preparatory work a Localization study for the investment project "Construction of 400 KV power interconnection Ełk - border of the Republic of Poland" was prepared. It included a part called "Optimization of investment", the purpose of which was to pre-determine and compare the impact of the proposed activity on the individual elements of the natural environment and the human safety and health. Carried out as part of this paper, the preliminary assessment of the impact of the proposed overhead power line on the environment provides the starting material to develop a full scale environmental impact assessment, and sets out requirements for the scope of the EIA report.

Under the aforementioned Localization study an analysis of issues related to investment in terms of socio-economic issues was developed. The paper included estimation of the cost of compensation for settlement of land easements for the planned investments under Option 2, in distribution by communes. In addition, the summarized data were compared, regarding land meant for being purchased. Information on residential houses and conflicts that are within and outside the line width along with photographic documentation was provided.

**a. A preliminary assessment identified key elements for further analysis of the development:**

2. Analysis of the technical conditions for construction and operation of a power line, as indicated in the Localization Study, allowed the identification of the project and preliminary diagnosis of forms of interaction that may arise in power interconnection with the execution of the investment. These impacts may be as follows:

a) at the stage of construction:

- occupation of land for the column foundations ( $30 \text{ m} \times 30 \text{ m} = 900 \text{ m}^2 \times 334$  posts = about  $300,600 \text{ m}^2$ );
- the use of existing roads and building new ones;
- increased traffic on access roads of the following vehicles - excavators, specialist equipment for erecting supporting structures and tension wires;
- the noise emitted by heavy construction equipment, excavators;



- the possibility of water, soil pollution from the use of heavy equipment, excavators, etc.;
- emission of dust into environment as a result of the movement of heavy equipment;
- deforestation in forest areas (cutting, removal and transport of felled trees);
- the possibility of confinement of animals in pits for the poles;

b) at operation stage:

- electric field emission;
- magnetic field emission;
- the acoustic emission (noise);
- radio and electric interference.

It is assumed that the 400 kV line Elk - Polish border should be so designed and constructed as to meet the requirements of applicable regulations and standards regarding the environmental impact of the line in this regard.

The planned line due to its large size will affect the landscape.

3. Under the preparatory work the detailed information on close-ups of the line to human settlements have been identified. Also information about the overlap between the proposed line and the provisions of local spatial development plans were defined.
4. Due to the fact that the proposed line will serve only to transmit electricity, it will not provide any production processes and therefore does not require the use of any substances, raw materials, water, materials and fuels. During its operation the line will not produce any industrial waste; it requires no additional power sources. It will not emit any pollutants into the air, such as dust. This investment will not affect climate, water, air, land, mineral deposits, tangible goods.
5. Based on the above analyses the groups of organisms that must be examined in detail for the impact of the planned investment were selected. Because of the occupation of the airspace, the effects of the electric field will mostly affect the birds and possibly bats, so it was decided to identify e.g.:

- the degree of use of airspace by birds in nesting area, seeking food around the nesting area, migratory birds in spring and autumn flights;
- the degree of airspace use by bats using this space primarily for hunting and finding hiding places for winter and breeding;

Conducting additional studies will determine:

- the degree of land occupation by the nesting birds building nests in the vicinity of the proposed power line, which may be affected by noise and elimination of breeding area and established nests;





- the degree of land use by amphibians, reptiles and small mammals that may be trapped in the pits during migration;
- the degree of seizure of land by amphibians, reptiles, mammals, insects whose habitat may be destroyed as a result of seizure of land for the construction of the line;
- the degree of land cover by natural habitats of plants to be destroyed as a result of land occupation for construction ;

6. Based on the developed for the purposes of research, orthophotomaps, the route of all options for sensitive areas in the natural environment was analyzed, and so e.g. wetlands, mid-field shelterbelts, forests, streams, riverbanks and lakes. For the identified vulnerable areas, a detailed inventory for the presence of valuable species of flora and fauna and natural habitats should be carried out.

7. Triangulation of data from different sources (SDF, published and unpublished data for the analyzed sites), and screening carried out by ornithologists, chiropterologists and botanists allowed for making a characterization of the natural environment along the line route and for indication of what elements of the environment located in this area will be exposed to the impact of the project, and thereby identification of those elements which should be subject to detailed stocktaking. This inventory is designed to cover:

- plant species protected under the provisions of national law and listed in Annex II to the Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, and identified as endangered in Poland;
- natural habitats in Annex I of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora;
- birds and their habitats protected under Polish law and the Annex I of Council Directive 79/409 / EEC of 2 April 1979 on the conservation of wild birds and those on the Red List of Endangered and Threatened Species;
- insects, amphibians, reptiles, mammals (including bats) protected under the provisions of national law and listed in Annex II of Council 1992 / 43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora;

Due to conflict with the Natura 2000 areas, the report of environmental impact should primarily list items for which the protection areas were established, include an assessment of the affected species and habitats protected under the Natura 2000 network, and analyze the potential impact on the consistency and integrity of these areas.

#### **b. Scope of upcoming EIA preparation and biodiversity investigations**

As part of the assessment the identification will be conducted and characterization of the impact associated with the construction and operation of the project subject, the best option will be proposed for implementation because of environmental and natural values of the project site.

The initial designation of the proposed option as best possible in view of the environment is to take place in late 2010. After option selecting, further work will be conducted for the specification of the



environmental impact of the preferred option and other two alternative options. In appropriate cases, the methods and ways to reduce potential adverse impacts associated with construction and operation of the investment will be indicated.

In line with the assumptions, the environmental impact assessment of the investment will be made for the adopted characterizing the boundary values of the options investigated. For assessment of option proposed for implementation the least beneficial to the environment detailed assumptions and input data will be adopted.

These data were determined on the basis of the analysis contained in the materials prepared in the document: " LOCALIZATION STUDY FOR INVESTMENT PROJECT "Construction of 400 KV POWER INTERCONNECTION EŁK – POLISH STAE BORDER"

When choosing the best option for implementation, the team of experts of EIA study will apply the best solution regarding reduction of environmental impacts and respect for natural resources. The best available solutions and their economic conditionality will be taken into account, i.e. the effectiveness of solutions (the ratio of costs to the level of achievement). In the option selection process, priority will be given to the options whose implementation will not involve significant impacts on the subject to protection and the areas under the Natura 2000 network.

Due to the specifics of land that will be crossed by power lines, special care is necessary for the environment. The route of the line will be designed to protect natural areas and cultural heritage against violation.

To determine the impact of the project on the environment the common methods applied in the procedures of environmental impact assessment will be used.

A project technologically related to the construction of "Ełk-border of the Republic of Poland" line is an investment aimed at expansion of Ełk substation. 400/220/110 kV Ełk substation will serve as a 400 kV transmission network node in the north - eastern Poland and as the power point of 110 kV distribution network. For this project the EIA report will be developed in compliance with the same rules as set out to assess the environmental impact of a proposed power line.

The anticipated time required to prepare EIA Report is 13 months. Assumed result of the work is obtaining the proper decision on the environmental implementation conditions for the project approval by the Investor.

### **III. Engagement of Stakeholders**

In order to engage the potential stakeholders already at the very initial stage of the project, Project Development Company LitPol Link organized separate meetings with various Non Governmental Organizations (PTOP, OTOP – Birdlife Poland, etc.), environmental specialists (i.e. Polytechnics of Białystok, Suwalki Landscape Park, etc.), state and local authorities. In order to strengthen this



collaboration even more, LitPol Link together with Lithuanian and Polish transmission system operators organized two Project Discussion Conferences in Jaczno (Poland) and Alytus (Lithuania), where a above mentioned stakeholders were invited, presented and discussed different aspects of possible environmental impact by the planned transmission line.

In order to get into closer contact with local authorities, a special site visits were organized in order to gather existing territorial planning documents in gminas. This visit allowed LitPol Link to introduce the project to voivodship and communes' authorities and gather a very useful information about local medias, ongoing other infrastructure projects (i.e. wind farms), willingness of the authorities to support the project, etc.

In addition, the works on the Localization Study of the project includes an initial consultation on the construction of 400 kV line Ełk-Polish border. As part of this consultation information about the proposed activity (incl. Project Information Card with detailed 1:50000 maps of all 6 line alternatives) and the questionnaire were sent to the following representatives of social organizations and institutions:

- Greenpeace Polska
- Polskie Towarzystwo Ochrony Ptaków [Polish Bird Protection Association]
- Ogólnopolskie Towarzystwo Ochrony Ptaków [National Bird Protection Association]
- WWF Polska
- Warmińsko-Mazurskie Biuro Planowania Przestrzennego [Warmińsko-Mazurskie Bureau of Spatial Planning]
- Politechnika Białostocka, Katedra Ochrony i Kształtowania Środowiska [Technical University of Białystok, Chair of Environment Protection and Shaping]
- Pracownia na rzecz wszystkich istot [Laboratory for All Creatures]
- Podlaskie Biuro Planowania Przestrzennego [Podlaskie Bureau of Spatial Planning]
- Suwalski Park Krajobrazowy [Suwalki Scenic Park]
- Instytut Biologii, Uniwersytet w Białymstoku [Institute of Biology, University in Białystok].

Representatives of these organizations presented their views and comments on the proposed project, its potential impacts, and proposed options to mitigate the impact on the environment, as well as potential conflicts and social protests. These comments were taken into account when finalizing the Localization study and selecting a proffered overhead line track option.

In addition, a series of consultative meetings with representatives of the offices of communes through which the planned project will pass, were conducted.

The conclusions of the preliminary consultation will be considered and in the adequate cases included in the EIA report.



As a part of scope of works of EIA preparer Scott Wilson a coordination meeting was organised on the August 19, 2010. It's goal was to present the project in general with special attention towards a methodics of biodiversity investigations and presentation of first results from literature analysis and site works.

As a participants in the meeting, the following stakeholders were invited:

Regional Directions for Environmental Protection in Białystok and Olsztyn,

Regional State Forest Direction in Białystok with it's branches in Elk, Olecko, Suwałki, Szczebra and Pomorze,

Suwałki Landscape Park

Science institutions: Centre of Mammal investigations in Białowieża, University of Białystok and Technical University of Białystok

Non Governmental Organisations: Greenpeace Polska, Polish Bird Protection Association [PTOP], National Bird Protection Association [OTOP, Birdlife Polska], WWF Polska, Nature Protection League, Polish Birds, Committee for Eagle Protection, National Bat Protection Association, Polish Foundation of Green Lungs, Laboratory for All Creatures.

All participants in the meeting were provided with information about planned investment and principles of methodics of biodiversity investigations.

All participants had an occasion to express their opinion regarding the proposed method of biodiversity investigations as well as analyses planned within EIA. All remarks and comments presented during the meeting were discussed and shall be taken into account during the work of team of experts.

#### **IV. Contacts to Organisers of the Investment**

**Project coordinator:** LitPol Link Sp. z o.o.  
Wojciecha Górskiego 9, 00-033  
00-033 Warszawa  
tel. +48 22 323-34-61  
Responsible: Karolis Sankovski

**Preparer of EIA** URS/Scott Wilson Sp. z o.o.  
Rejtana 17, 02-516 Warszawa  
tel. +48 22 427 37 00 wew. 119  
Responsible: Elżbieta Kozłowska

**Investor** Polskie Sieci Elektroenergetyczne Operator S.A.  
ul. Warszawska 165  
05-520 Konstancin-Jeziorna  
tel. +48 22 242 25 88  
Responsible: Marek Ignaszewski