

**Joint Opinion of the Energy Regulators on
the “Redipuglia-Vrtojba” Exemption
Application**

Autorità per l'Energia Elettrica e il Gas (Italy)

Javna agencija Republike Slovenije za energijo (Slovenia)

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Contents

Preface

PART 1 The Project, facts and figures

- 1.1 The Project
 - 1.1.1 Main features
 - 1.1.2 Capacity
 - 1.1.3 Timing
- 1.2 Players involved in the project
 - 1.2.1. The shareholders
- 1.3 The financial model
- 1.4 Costs
- 1.5 The requested exemptions

PART 2 The Authorities' analyses

- 1 Criteria assessment
 - 1.1 Eligibility of the request
 - 1.1.1 The importance of the new interconnector
 - 1.1.2 Risks
 - 1.1.3 Costs
 - 1.1.3.1 Covering the costs incurred in network of TSO's
 - 1.2 Competition (and Security of supply)
 - 1.3 Level of risk
 - 1.4 Separation from existing TSOs
 - 1.5 Charges
 - 1.6 The exemption must not be detrimental to competition or the effective functioning of the internal market
- 2 Financial analysis
 - 2.1 Sensitivity analysis
 - 2.2 Hypotheses and results according to the applicants
 - 2.3 Hypotheses and results according to the Authorities

PART 3 The Authorities' Joint Opinion

List of Figures and Tables

PART 1

Table 1: Change/increase of cross border capacity on Slovenia (SI)-Italy (It) border (MW) – “Redipuglia-Vrtojba” interconnector (R-V)

Figure 1: The shareholder structure

Table 2: Applicants’ estimation of capital expenditures

PART 2

Figure 1: Hourly Average usage of NTC in October 2013 on SL-IT border

Figure 2: Pivotality analysis _Current situation

Table 1: Pivotality results-Current situation

Table 2: Market shares of suppliers to all customers in Slovenia

Figure 3: Pivotality analysis-With interconnectors “Redipuglia-Vrtojba” and “Dekani-Zaule”

Table 3: Pivotality results-With interconnectors “Redipuglia-Vrtojba” and “Dekani-Zaule”

Table 4: Sensitivity analysis

Table 5: Share of certain investment costs with respect to total capital expenditures

Table 6: Expected financial results according to the applicants

Table 7: Price differential Italy-Slovenia

Table 8: Scenario analysis: Expected financial results

Relevant documents/Attachments

- 1 Exemption request (26/06/2013)
- 2 Ernst & Young Integration report (August 2012)
- 3 Feasibility study by Terna and Eles on cross-border capacity evaluation for commercial lines on the Slovenia-Italy border (26/07/2011)
- 4 Common Terna and Eles Network study on "Exemption assessment on the Slovenia-Italy border: ML "Dekani-Zaule" and "Vrtojba-Redipuglia" (final report of 10/08/2012)
- 5 Letter of Terna dated 30/10/2013 (subject: NTC calculation related to the exemption requests for proposed merchant lines "Redipuglia-Vrtojba" and "Dekani-Zaule")

Definitions and acronyms

The following definitions and acronyms are used in the present Joint Opinion:

- ACER: The Agency for the Cooperation of Energy Regulators established by Regulation 713/2009 of the European Parliament and of the Council.
- AEEG: The Italian National Authority for Electricity and Gas- Autorità per l'energia elettrica e il gas.
- AGEN-RS: The Slovenian National Authority - Javna agencija Republike Slovenije za energijo.
- Applicants: The project promoters Adrialink S.r.l., HSE d.o.o. and E3 d.o.o
- Directive 2009/72/EC: Directive 2009/72/EC of the European Parliament and the Council concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC.
- DPBP: Discounted Payback Period. It gives the number of years it takes to break even from undertaking the initial expenditure. Future cash flows are considered as discounted to time "zero".
- HHI: Herfindahl–Hirschman Index. It allows to measure the degree of competitiveness of a market. It takes values between 0 (perfect competition) and 10000 (monopoly). Typically, when the HHI is less than 1000, the market analyzed is supposed to be competitive; values between 1000 and 1800 indicate a moderately concentrated market.
- IRR: Internal Rate of Return. The discount rate that makes the net present value of all cash flows from a particular project equal to zero.
- NPV: Net present value, the difference between the present value of cash inflows and the present value of cash outflows.
- New interconnector: The 110 kV AC interconnection line Redipuglia (Italy)- Vrtojba (Slovenia).

- NTC of the new interconnector: The additional Net Transfer Capacity - as determined by the TSOs – on the Italian Slovenian border which is attributable to the starting of commercial operations of the new interconnector.
- PSI: Pivotal Supplier Index. It is aimed at identifying to what extent certain companies are essential to meet the electricity demand. For a certain hour and given operator the PSI is defined as the rate between the production (or capacity) of operator *i* and the residual production (capacities) of competitors.
- Regulation 714/2009: The Regulation n. 714/2009 of the European Parliament and of the Council on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation n. 1228/2003.
- The Authorities: Jointly AEEG and AGEN-RS.
- The Exemption Application: the exemption application for the new interconnector “Dekani-Zaule” submitted by Adria Link s.r.l., Holding Slovenske Elektranne d.o.o. and E3 d.o.o. to AGEN RS on January 8th 2013 and to AEEG on June 26th 2013.
- TSOs: Terna Spa (Italian transmission system operator) and Eles d.o.o. (Slovenian transmission system operator).

Preface

On January 8th 2013, the companies Adria Link s.r.l. (Italy), Holding Slovenske Elektrarne d.o.o. (Slovenia) and E3 d.o.o. (Slovenia) submitted to AGEN-RS the Exemption Application for the interconnector “Redipuglia-Vrtojba”, as foreseen by Article 17(1) of Regulation 714/2009. The same Exemption Request has been then submitted to the Italian Ministry of Economic Development and AEEG (reception date: June 26th 2013).

The applicants asked for the exemption of the 100% of NTC from the provisions of Article 16(6) of Regulation 714/2009 and Article 9, 32, and Article 37(6) and (10) of Directive 2009/72/EC for *[omissis]*.

Considering that:

- The project “Redipuglia-Vrtojba” lies across Slovenia and Italy and qualifies itself as an interconnector;
- Article 17(4) of Regulation 714/2009 and the national legislation require that, in the case where the infrastructure in question is located in the territory of more than one country, any decision on the exemptions should be taken jointly by the National Authorities of the countries concerned and they shall inform ACER ;
- As the Italian legislation assigns to the Ministry the responsibility of granting exemptions under a non-binding opinion of AEEG, the Italian Authority is requested to provide an opinion to the Ministry jointly with the Slovenian Authority;
- According to the Slovenian legislation, AGEN-RS is responsible for granting exemption decisions for the Slovenian territory.

The Authorities have jointly decided to review the “Redipuglia-Vrtojba” Exemption Application on the basis of Regulation 714/2009 and Directive 2009/72/EC.

This document is the Joint Opinion of the Authorities, based on the criteria of Article 17(1) of the Regulation 714/2009 and supported by both the financial results of the analyses and further considerations shared by the Authorities.

The document is divided in three Parts.

Part 1 provides a description of the project, according to the Exemption Application submitted by the applicants, coupled with the information communicated to the Authorities in the course of the assessment of this application until the date of the issuance of the present Joint Opinion. The

description includes the list of the exemptions requested as well as a report of the information deemed to be relevant for the opinion.

Part 2 contains the assessment of each respective Authority on the fulfillment of the criteria of Article 17(1) of Regulation 714/2009, supported by data and considerations. Part 3 contains the Joint Opinion of the Authorities on the Exemption Application and the terms and conditions under which the exemption should be granted.

Part 1

The Project, facts and figures

In the following sections, an overview of the Project is provided, based on the information received by the applicants in their Exemption Application and on later explanations, with a special focus on the aspects which are relevant for the exemption opinion.

1.1. The Project

1.1.1 Main features

The project involves the development and operation of a cross-border AC line for import/export of electricity. The new 110 kV interconnector will connect the Italian power system in Redipuglia with the Slovenian power system in Vrtojba.

The project framework is basically made up of three main parts:

- 1) The transmission line itself to be built for about *[omissis]* in Italian territory and for *[omissis]* in Slovenian territory, comprehensive of the related ancillary facilities;
- 2) The connection to the Slovenian grid, at the Vrtojba 110/20 kV substation;
- 3) The connection to the Italian electric grid, at 380/220/132 kV Redipuglia substation.

A phase shifter transformer (PST) shall be situated in the Redipuglia 132 kV substation in order to carry out the transformation from 110 to 132kV.

The facility will be completely built underground and the selected route will be mainly along low-traffic roads.

1.1.2 Capacity

The NTC of an AC interconnector is not an intrinsic property of the line, since it depends on the power system to which it is connected. In order to identify the NTC value to properly assess an exemption, it is necessary to define the future network scenario that would exist once the new interconnector starts its commercial operations.

Hence, the TSOs, have been formally asked to provide a reliable estimate¹ of the expected NTC², in particular, they have been asked to:

- Update the generation and load scenarios taking 2014 as the reference year;
- Define the expected network model for the NTC calculation taking into account the relevant network reinforcements included in the respective Development Plans and planned to be in service by the date of starting of commercial operations of the new interconnector.

More precisely, the main grid enhancements that have been taken into account are:

Italian side:

- 380 kV Udine Ovest-Udine Sud-Redipuglia;
- 220 kV Reinforcement Monfalcone;
- 132 kV AMG Gorizia enhancements of the 132 kV line “AMG Gorizia- S. Giovanni al Natisone”.

Slovenian side:

Cross-border capacity calculations were performed using Slovenian grid model for the year 2014, which included all the planned projects in Slovenian grid for the whole 2014 in accordance with the Transmission Network Development Plan in the Republic of Slovenia (2011-2020). Additionally, the reconstruction of substation Vrtojba, whose purpose is to update its physical structure in accordance with the Slovenian grid code (SONPO), has been also considered.

Thus, it has been detected in the analysis that in different scenarios, certain limitations in the grid exist. Occasional overloads and security violations could occur on the 400/110 kV transformer in substation Divača, south Primorska region between Divača and Koper and north Primorska region between Divača and

¹ In order to have the most accurate as possible NTC value, the Italian Law (Ministerial Decree 21/10/2005) prescribes to execute the calculation considering only the measures and projects already under construction. Instead, due to the legislative gap referred hereinafter in section 1.1.3, the TSOs have calculated the preliminary and provisional NTC considering not only the projects under construction, but also those planned to be operational within 2014.

² “Feasibility study on cross-border capacity evaluation for commercial lines on the Slovenia-Italy border- Network study Review-Final Report” of July 26th 2011.

Gorica. Circumstances are very much dependent also on the operation of Pumping Storage Power Plant Avče.

Based on the above mentioned, an increased NTC on Slovenia-Italy border will be possible with the:

- Increase of transformation capacity in substation Divača (only 1 transformer 400/110 kV in substation Divača was taken into consideration for the analysis, however, an additional transformer is planned in substation Divača),
- construction of the 110 kV double circuit lines Divača-(Sežana-Vrtojba)-Gorica and
- construction of the 110 kV double circuit line Divača-Koper,

Additionally, in the direction from Italy to Slovenia, no limitations pertaining to the security of supply of Primorska region exist, thus meaning additional exchange from Italy to Slovenia could be as high as 125 MW.

According to the estimates and assumptions jointly agreed upon by the two TSOs, the additional NTC between Italy and Slovenia should be as in the following table (Table 1):

Table 1: Change/increase of cross border capacity on Slovenia (SI)-Italy (It) border (MW) – “Redipuglia-Vrtojba” interconnector (R-V)- VALUES AGREED BY TERNA AND ELES

	Winter				Summer			
	PEAK		OFF PEAK		PEAK		OFF PEAK	
	SL-It	It-SI	SL-It	It-SI	SL-It	It-SI	SL-It	It-SI
Base case	0	0	0	0	0	0	0	0
with R-V	90	10	90	15	120	10	115	20

Source: Terna, Eles (2011), “Feasibility study on cross-border capacity evaluation for commercial lines on the Slovenia-Italy border- Network study Review-Final Report”

The available optimal operating capacity interchange between Italy and Slovenia will be increased up to 125.8 MVA.

However, the two TSOs have repeatedly communicated that without the grid enhancements described above the NTC would be zero.

1.1.3 Timing

At the time of writing this opinion, construction is already started on the Italian side, while it is expected to commence at a later stage on the Slovenian one.

The discrepancy in the construction phases of the two countries is due to the existing legislative gap between the Italian and Slovenian regulations. The two local authorization procedures are asymmetrical with respect to the exemption and construction/operation authorization process: in Italy, an exemption can only be granted after that the applicant has obtained a construction/operation authorization for the entire length of the new interconnector; in Slovenia, instead, the operator has to obtain the exemption before applying for any other authorization.

In order to overcome this difficulty, the Italian and Slovenian Authorities have adopted a shared solution that would allow the Italian Competent Authority to grant an exemption compliant to the European legislation.

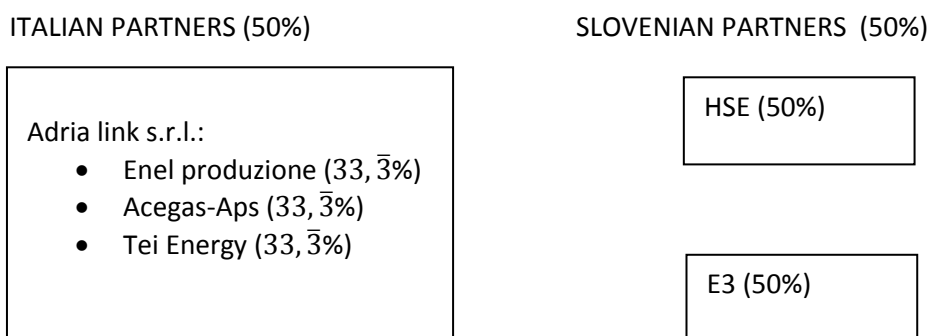
The new interconnector is expected to be operational as of [omissis].

1.2 The shareholders of the project

The “Redipuglia-Vrtojba” merchant line will be built and operated jointly by the Italian company *Adria Link s.r.l.*, the Slovenian companies *Holding Slovenske Elektranne d.o.o.* (HSE d.o.o) and *Energetika, Ekologija, Economija d.o.o.* (E3 d.o.o.). The Italian and Slovenian parties will equally share costs and benefits (50% each).

The following figure highlights the shareholders structure of the applicants.

Figure 1: The shareholder structure



Adria Link is a consortium of three Italian energy players with established track records: Enel Produzione s.p.a. (33,3%), Acegas-Aps Group (33,3%) and Tei s.p.a. (33,3%).

On the Slovenian side, the investors will be *Holding Slovenske Elektrarne d.o.o.* (HSE d.o.o.) and *Energetika, Ekologija, Economija d.o.o.* (E3 d.o.o.), each one accounting for 50%.

1.3 The financial model

The applicants have provided in the Exemption Application a description of the business model and identified several risk factors associated to the project. The main risks are basically caused by the price spread differentials and the evaluation of the investment costs and load factors.

Part 2 provides a detailed explanation of the assumptions adopted by the applicants, as well as the Authorities' view in this regard.

1.4 Costs (*confidential*)***

[omissis]

1.5 The requested exemptions

The applicants requested the following exemptions:

- 1) From Art. 16(6) of Regulation 714/2009 concerning the usage of the revenues resulting from the allocation of the interconnection capacity.
- 2) From Art. 9 of Directive 2009/72/CE regarding the unbundling rules.
- 3) From Art. 32 of Directive 2009/72/CE which concerns the Third Party Access requirements.
- 4) From Art. 37(6) and 37(10) of Directive 2009/72/CE pertaining to tariffs.

The above exemptions are meant for 100% of the new NTC for the AC line and for a period of *[omissis]* from the date of starting of commercial operations of the new interconnector.

Part 2

The Authorities' analyses

In the following paragraphs, an in-depth analysis of the Project is provided, based on the information enclosed to the Exemption Application and with a special focus on the aspects which are relevant for the exemption opinion. In particular, the aim of this section is to investigate specific aspects, variables and parameters affecting the expected profitability of the proposed interconnector "Redipuglia-Vrtojba".

This Part is organized as follows: Paragraph 1 is devoted to the regulators' analysis of how the criteria of Art. 17 of Regulation 714/2009 are satisfied; Paragraph 2 presents the financial analysis of the "Redipuglia-Vrtojba" interconnector.

1 Criteria assessment

This part of the document deals with the assessment carried out by the Authorities on the fulfillment of the criteria of Article 17 of Regulation 714/2009³ provided by the project applicants.

Redipuglia – Vrtojba exemption request:

Requested duration: *[omissis]*

Amount of capacity: 100% of NTC

Exemption requested from the provisions of:

Article 16(6) of Regulation 714/2009 and Articles 9, 32 and Article 37(6) and 37(10) of Directive 2009/72/EC

1.1 Eligibility of the requests

"1. New direct current interconnectors may, upon request, be exempted, for a limited period of time, from the provisions of Article 16(6) of this Regulation and Articles 9, 32 and Article 37(6) and (10) of Directive 2009/72/EC"

³ Regulation (EC) N. 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003 [O.J. L. 211, 14.8.2009, p. 15].

"2. Paragraph 1 shall also apply, in exceptional cases, to alternating current interconnectors provided that the costs and risks of the investment in question are particularly high when compared with the costs and risks normally incurred when connecting two neighboring national transmission systems by an alternating current interconnector."

1.1.1 Importance of the new interconnector

In several occasions the European Commission has called on Member States to increase the interconnection capacity so as to fight the market dominance of certain operators, create competition, increase security of supply and integrate the growing amount of renewable energy sources.

Since a long time, the increase of the transfer capacity between Italy and the neighboring countries has been perceived as a priority. Back in 2001 an analysis carried out for the European Commission⁴ identified the economic value of transmission capacity at the Italian border as remarkably high. According to this study's estimates, the network density appeared lower at this border than inside the adjacent countries, a circumstance calling for new investment measures.

Moreover, the 10-Year Network Development Plan of ENTSO-E suggests that an increase of the transfer capacity through the Alps would be necessary to improve the affordability and security of supply of the electrical system. At the same time the development of a north-south transmission corridor would also help to integrate renewables in the power system. In fact, the massive development of renewable energy sources is the main driver for larger, more volatile power flows, over larger distance across Europe, mostly along the north - south corridor from Scandinavia to Italy, between mainland Europe and the Iberian Peninsula, Ireland and the UK. As a consequence, grid investments appear necessary to avoid that the current congestion worsen and new congestions arise.

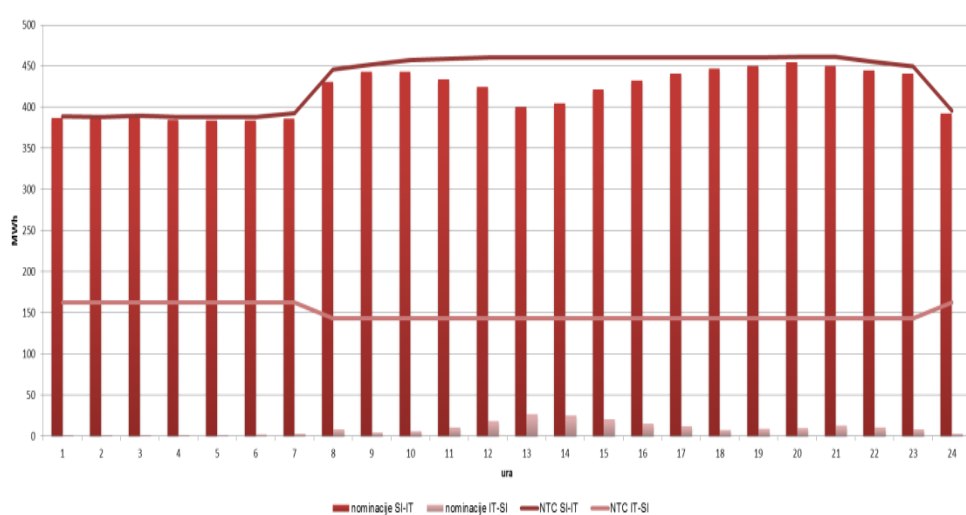
The proposed new interconnector is an alternating current underground cable connecting Italian and Slovenian power systems. The line is still at a planning stage on the Slovenian side, while it has finalized the authorizations procedures on the Italian one.

The project is expected to become a relevant infrastructure, increasing security of supply and competition on both sides of the border. Moreover, the new alternating current line (AC line) would significantly contribute to the NTC on the Slovenian-Italian border although by a limited percentage in absolute value. Precisely, the "Redipuglia-Vrtojba" forecasted NTC represents 21% of the current

⁴ "Analysis of Electricity Network Capacities and Identification of congestion", Institute of Power Systems and Power Economics (IAEW) of Aachen University of Technology (RWTH).

existing capacity at the border (in October 2013 NTC was in peak hours 450 MW and off-peak hours 380 MW).

Figure 1: Hourly Average usage of NTC in October 2013 on SL-IT border



The existing interconnection between Slovenia and Italy is almost permanently congested. On this border there is a market coupling established for day-ahead allocation of cross border capacities and its results show that uncongested interconnection in the direction from Slovenia to Italy, i.e. same price in both countries, rarely occurs. For example, in the period from 1 January to 25 February 2013 prices in Slovenia and Italy had the same value only in 85 of total 1344 hours. Similar results were also in the years 2011 and 2012, i.e. in the period of market coupling between these two countries. It is also the fact that the interconnector between Slovenia and Italy has been most of the time congested since the market opening in 2001. Before the introduction of market coupling between Slovenia and Italy the congestion was managed by using explicit capacity allocation.

The existing transmission infrastructure on the border between Slovenia and Italy comprises one 400 kV line and one 220 kV line. The total thermal limit of them is 2.236 MW. Determination of NTC (in 2013 in daytime hours it mostly amounts to 630 MW) on the Slovenian-Italian interconnector is based on the Pentilateral Agreement between 5 TSOs on the northern Italian borders. According to this agreement, the total NTC of northern Italian interconnector is determined on the basis of Methodology for the Joint Assessment of the Net Transfer Capacity at the Northern Italian Interconnection. After this so called splitting factors are

determined to define distribution of the total NTC to the new interconnectors with France, Switzerland, Austria and Slovenia.

The Slovenian TSO ELES plans to build a new interconnector between Slovenia and Italy. It will be either 2x400 kV overhead line between Okroglo (SI) and Udine (IT) or 400 kV DC underground cable between Beričevo (SI) and Salgareda (IT). These two projects are also included in ELES's Development strategy of the Slovenian electric power system – Development plan of the Slovenian transmission system for the period 2013-2022 and in the ENTSO-E Ten-Year Network Development Plan 2012. Both projects are also part of PCI project list⁵ as "Long-term infrastructure vision for Europe and beyond".

1.1.2 Risks

The uncertainties of the investment originate mainly from two kinds of factors that are technological and economical in nature.

From a technological perspective, uncertainties are due to the fact that the new interconnector's transfer capacity may be constrained much below its rated capacity. Moreover, the NTC represents a major risk especially in the case of 110kV lines, which are more frequently subject to reliability and bottleneck problems.

The NTC definition for an AC interconnector is in fact only partly related to the nominal capacity of the line as it mainly depends on the power systems to which it is connected. This consideration makes the capacity attributable to an AC line only a variable parameter not totally controlled by the project's applicants. Being the line in question built at 110 kV, it could be even more influenced by the surrounding networks of higher voltage level; therefore, for the project applicants, the NTC capacity definition represents a major element of technical risk.

The economic factors of risk concern the volume of revenues, which will depend on the actual prices in the two countries/zones involved.

The proper estimation of the future price differentials is a matter of great debate. Several variables at a time should be taken into account, namely, the costs of the current and future generation plants; the possible peak loads; the future network development, etc. Such a wide variety of factors makes it really difficult to achieve a reliable and consistent forecast of the price dynamics, especially on long time horizons as those considered in the business plans.

⁵ http://ec.europa.eu/energy/infrastructure/pci/doc/2013_pci_projects_country.pdf

1.1.3 Costs

The technical solutions selected by the project's applicants imply that the costs of the investments are particularly high.

First of all, the realization of the line involves the installation of a Phase Shifter Transformer (PST) in Redipuglia, so as to carry out the voltage transformation from 110 kV to 132 kV and to stabilize the load flow along the new line (PSTs are already in operation on both existing interconnectors 400kV (Divača substation) and 220 kV (Padriciano substation)).

Secondly, the line will be completely developed underground.

Underground lines generally entail higher costs than overhead lines, having different physical, environmental and construction needs.⁶ The components of underground transmission lines are often not that easily interchangeable and subject to more testing and trial-up activities in order to ensure their correct installation.

In addition, underground works are generally very site-specific. The selected line route is subject to a number of interferences with local infrastructures (gas and electricity distribution network, telecommunication, etc.) which could represent a major threat to the proposed work scheduling. The design of the infrastructures to be built (e.g. the concrete vaults to be used for permanent access, maintenance and repair of the cable) must be heavily customized to terrain conditions, such as the presence of underground fresh water or the characteristics of underground bedrock. In this respect, it should be highlighted that the planned construction area is geologically quite peculiar, due to the karst phenomenon, which might require an *ad hoc* customization of trenches and related facilities.

In order to contain and reduce the environmental impact of the line, the project includes the construction in the proximity of inhabited homes of shielding solutions to reduce the electromagnetic fields.

All above mentioned topics affect the construction and operation expenditures (maintenance and repairs) and, accordingly, the overall risk associated to the investment.

⁶ It is important to point out that all the existing transmission A.C. interconnections between Italy and foreign countries are overhead lines. For this kind of infrastructures the average cost is from 4 to 14 times less expensive than underground cable of the same voltage and same distance ("*Underground Electric Transmission Lines*" – Electric Report 11 – Public Service Commission of Wisconsin – May 2011).

1.1.3.1 Covering the costs incurred in network of TSO's

Due to the main flows deriving from the expected operation (mainly in export direction from Slovenia to Italy), the new interconnector is compared to an additional load connected to the Slovenian transmission network.

The new interconnector will therefore be obliged to pay to the Slovenian TSO ELES the incurred costs (costs related to the withdrawal from the public network) related to the provisions of the Regulation 714/2009 indicating the need to maintain the efficient functioning of the regulated systems to which the new interconnector is linked.

On the Italian side, according to the same considerations, the new interconnector is compared to a generator connected to the Italian transmission network and therefore is not subject to the payment of any transmission tariff, as the G-charge in the Italian system is set to zero.

The applicants will therefore be obliged to pay to the Slovenian TSO ELES the incurred costs (costs related to the consumption from the public network) related to the provisions of the Regulation 714/2009 indicating the need to maintain the efficient functioning of the regulated systems to which the new interconnector is linked.

1.2 Competition and (security of supply)

(a) The investment must enhance competition in electricity supply;

In general, an exemption is not granted to a new piece of infrastructure that is likely to have a significant amount of its capacity allocated to dominant players in one of the markets affected or which would not safeguard non-discriminatory access to all market participants who express their interest in reserving capacity in the infrastructure.

In practice, the proper market functioning depends on a wide variety of factors, basically linked to the market concentration in the involved countries.

The electricity market in the North of Italy is the most competitive amongst the electricity markets of the country. The Herfindahl–Hirschman Index (HHI)⁷

⁷ The HHI allows to measure the degree of competitiveness of a market. It takes values between 0 (perfect competition) and 10000 (monopoly). Typically, when the HHI is less than 1000, the market analyzed is supposed to be competitive; values between 1000 and 1800 indicate a moderately concentrated market.

experienced a progressive decrease over time, passing from a value of 1474 in 2005 to the current level of 1323 (-10%).

However, according to part of the literature (Küpper et al, 2008⁸; London Economics, 2007⁹), traditional measures of market concentration, such as the HHI, may be affected by the taken assumptions and provide misleading results. Given these drawbacks, the HHI is not necessarily considered a good indicator of market power. Several alternative instruments have been developed and adopted, capable, among other things, of taking into account both the supply and demand side. In this field, the Pivotal Supplier Index (PSI) is aimed at identifying to what extent certain companies are essential to meet the electricity demand.¹⁰ The pivotality for a certain hour and given operator is then defined as:

$$P = \frac{\textit{Production of operator } i}{\textit{residual production of competitors}}$$

Where the residual capacity of competitors is the sum of:

- 1) The residual production of the other operators in the relevant market;
- 2) The additional residual production of the competitors of the neighboring markets and that could be imported in the relevant market.

The same pivotality index can be computed considering the installed capacity. In this case the pivotality is computed as:

$$P_c = \frac{\textit{Capacity of operator } i}{\textit{residual capacity of competitors}}$$

In order to assess the effect the new interconnection “Redipuglia-Vrtojba” is going to have in terms of competition, it is essential to consider how the new infrastructure (and available capacity) would affect the dominant player of the relevant market.

Enel, one of the project’s shareholders, is Italy’s largest power company, with a wholesale market share of 25,4%¹¹. Even if its quota is experiencing a progressive

⁸ Küpper, G. et al. (2009). Does more international transmission capacity increase competition in the Belgian electricity market? *Electricity Journal* 22(1) 21–36.

⁹ London Economics (2007). Structure and performance of six European wholesale electricity markets in 2003, 2004 and 2005.

¹⁰ At the same time the pivotality of a certain operator also indicates its ability to set the price with respect to the market competitors. It takes value 1 when the operator is pivotal, 0 otherwise.

¹¹ Data as of end of 2012.

contraction¹², a pivotality analysis has been carried out in order to assess its current market power with respect to the wholesale supply of electricity in the North of Italy and whether such power would be affected by the new interconnector (the so called scenario analysis).

[omissis]

The Authorities believe that granting an exemption to the line “Redipuglia-Vrtojba”, under the specific terms and conditions imposed through the present decision enhances competition, for the following reasons:

- The new capacity would be available to all the market participants since the starting of commercial operations of the merchant line, increasing in such a way the competitiveness of the market on both sides.
Moreover, the transmission capacity will be allocated together with the available capacity between Italy and Slovenia and be subject to the same rules. Long term transmission rights will be allocated by explicit auctions held by CASC auction operator and daily capacity will be allocated through the market coupling.
- The realization of a new cross-border infrastructure would increase the diversification of electricity sources that is one of the most effective strategy for ensuring both affordable prices in the long run and security of supply under emergency conditions.
- Small increases of transmission capacities are expected to yield large social payoffs in terms of reduced expected prices¹³, especially if the initial capacity is small and the relevant geographical market can be interregional¹⁴. Prices are expected to decrease in the long run especially on the Italian side, where energy prices have been generally well above the European average.

Concerning the security of supply, in principle, any new electricity infrastructure between different countries should enhance security. This outcome becomes particularly relevant when it comes to foreign suppliers relying on more diversified generation sources than the national ones.

Finally, it has to be stressed that due to the increase of import demand, especially from Italy, the existing lines have experienced problems of capacity overload in

¹² Its market share was 26,2 in 2011.

¹³ Küpper, G. et al. (2009). Does more international transmission capacity increase competition in the Belgian electricity market? *Electricity Journal* 22(1) 21–36.

¹⁴ That is, when the two markets are coupled.

the past, as a consequence the construction of new infrastructures would remedy this problem.

1.3 Level of risk

- (b) the level of risk attached to the investment is such that the investment would not take place unless an exemption is granted;*

According to the estimates and scenario analyses that have been carried out in the following (paragraph 2), the remuneration based on the regulated tariff would not allow the investors to recover their investment costs. The granting of an exemption for a reasonable number of years seems to be the only possible way to implement the project.

1.4 Separation from existing System Operators

- (c) the interconnector must be owned by a natural or legal person which is separate at least in terms of its legal form from the system operators in whose systems that interconnector will be built;*

The new interconnector will be built, owned and managed by the applicants, on the basis of a Technical Operation contract entered together with the TSOs as better detailed in Part 3 of the present document.

1.5 Charges

- (d) charges are levied on users of that interconnector;*

The proposed project does not take into account the setting of a proper charge/fee for the usage of the cross-country line. In fact, unlike the normal transmission and distribution lines, in the case of cross border electricity interconnectors an actual charge does not exist. The transmission rights are allocated to the operators carrying out import/export activities through explicit capacity auctions and market coupling.

- (e) since the partial market opening referred to in Article 19 of Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, no part of the capital or operating costs of the interconnector has been recovered from any component of charges made for the use of transmission or distribution systems linked by the interconnector;*

This condition is satisfied.

1.6 The exemption must not be detrimental to competition or the effective functioning of the internal market

(f) the exemption must not be to the detriment of competition or the effective functioning of the internal market in electricity, or the efficient functioning of the regulated system to which the interconnector is linked.

The assessment on whether new transmission lines are going to be detrimental to the competition is a matter of great concern. Firms could use the transmission lines to exert some market power arbitraging on regional price differences. For the same reason generators may also have the incentive to congest the lines so as to exercise market power. However, the realization of the AC line analyzed seems not to be detrimental to the proper market functioning at least for the following reasons:

- The new capacity would be available to all the market participants since the beginning of operation of the new AC interconnector, granting from the beginning of the line operation beneficial effects to the two interconnected areas. Moreover, given that transmission rights will be allocated through explicit auctions, possible bidding strategies of the applicants would be transparent. In this regard, activities of monitoring and control will be easily implementable by the Authorities so as to prevent strategic behaviours of the projects' applicants and safeguard the proper market functioning.
- As supported by the pivotality analysis carried out in paragraph 1.2, the new interconnector is expected to increase competition on the relevant market in Italy.

2 Financial analysis (confidential)***

[omissis]

Part 3

Authorities' Joint Opinion

Having regard to the assessment of the exemption requests of the 110 kV AC interconnector "Redipuglia-Vrtojba", as presented in the previous parts of this document, the Authorities' opinion is detailed in the following paragraphs:

1 Net Transfer Capacity (NTC) of the new interconnector:

- 1.1 For the purpose of their assessment the Authorities have taken into account the value of the new interconnector NTC which has been estimated by the two TSOs on the basis of an hypothetical grid scenario existing on the expected date of the entry into operation of the new interconnector (2014) as resulting from their approved investment plans of 2011. According to the calculations, the merchant line increases the cross border capacity value on the Slovenia-Italy border (import: direction Slovenia→Italy) by 90 MW in winter periods (both during peak and off-peak hours) and between 120 (peak) and 115 MW (off-peak) in summer periods, and (export: direction Italy→Slovenia) between 10 MW (peak) and 15 MW (off-peak) in winter periods and between 10 MW (peak) and 20 MW (off-peak) in summer periods.
- 1.2 According to the TSOs calculations, the above NTC values are only achievable if the following grid elements become operative:
 - For the Italian system (Terna):
 - Line Udine Ovest –Redipuglia,
 - 220 kV Reinforcement Monfalcone,
 - 132 kV AMG Gorizia enhancements of the 132 kV line "AMG Gorizia- S. Giovanni al Natisone".
 - For the Slovenian system (Eles):
 - Increase of transformation capacity in substation Divača,
 - Construction of the 110 kV double circuit lines Divača-(Sežana-Vrtojba)-Gorica,
 - Construction of the 110 kV double circuit line Divača-Koper.

■
Until the starting of operation of the above mentioned grid elements the new interconnector shall be considered as adding 0 MW to the NTC of the Italian-Slovenian border as this is the best estimate of the additional NTC without the above mentioned grid reinforcements. As soon as the grid reinforcements mentioned in paragraph 1.2 are completed, the NTC exemption shall be granted in accordance to the same values set in paragraph 1.1 for a period of 5 years. Afterwards the NTC will be newly calculated every year by the TSOs.

- 1.3 The applicants can jointly submit to the Authorities a request for a revision of the NTC of the new interconnector before the commercial operations start. Following this request the TSOs shall perform a new NTC calculation based on the grid scenario existing at the time of the request and including also all the network reinforcements under construction at the time of the request. The Authorities will use these new NTC values to jointly revise, if necessary, the current opinion.

2 Exemption request from the provisions of Article 16(6) of the Regulation

In order to enable the applicants to realize the proposed investment by offsetting the level of risk associated to the project, the Authorities are of the opinion that an exemption from the provisions of Article 16(6) of the Regulation should be granted to Adrialink S.r.l., HSE d.o.o. and E3 d.o.o (hereinafter: the applicants) for a period of 16 years, starting from the beginning of the commercial operations of the new interconnector, under the following conditions.

Conditions on the capacity allocation:

- 2.1 The NTC of the new interconnector will be added to the existing NTC on the Italian-Slovenian border and allocated by the TSOs through the same general joint allocation procedures (of yearly, monthly, daily and intraday capacity products) normally used to allocate capacity at the said border.
- 2.2 The applicants are entitled to receive by the TSOs the revenues resulting from the allocation procedures of the NTC of the new interconnector (i.e. a corresponding share of the revenues

originating from the allocation of the total NTC of the new interconnector on the Italian-Slovenian border).

Conditions linked to the results of the capacity allocation procedure – as per art. 17(4) of the Regulation:

- 2.3 Starting from the 7th year of operation of the line (and afterwards every three years), the two Authorities will carry out a joint financial analysis on the actual revenues transferred to the applicants by the TSOs. The analysis will be aimed at calculating the NPV and DPBP taking into account the actual revenues against the expected costs contained in the business plan submitted by the applicants for the purpose of the present exemption request. Based on the outcome of this assessment, the duration of the exemption may be reduced by a new joint decision of the two Authorities to be notified to the European Commission. For the purpose of the joint financial analysis, the applicants are obliged to deliver to the Authorities all the necessary data, contracts and other documents related to investments and the operation of the interconnector.
- 2.4 The exemption can be granted if the new interconnector is in operation within two years after all the TSOs grid elements are completed.
- 2.5 The exemption can be granted only if the new interconnector is put in operation no later than 5 years after granting the decision.

Conditions on the new interconnector operation:

- 2.6 In Italy the new interconnector shall be operated under the responsibility of the TSO. However, the TSO may rely on the applicants for the daily operation and maintenance activity of the new interconnector. To this purpose, a specific Technical Operation contract shall be entered between the applicants and the TSO.

With specific reference to Italy, in order to enable the TSO to effectively operate and maintain the new interconnector under the same conditions as if it were the owner, the aforementioned Technical Operation contract will be drafted in accordance with the provisions of article 36(9) of Legislative Decree n. 93 of June 1st, 2011 as applied by the Italian Authority .

In Slovenia the interconnector shall be operated under the responsibility of the applicants. To this purpose a specific Technical operation contract shall be signed between the applicants and the TSO.

- 2.7 The commercial arrangements governing the transfer of the revenues by each TSO to the applicants shall be defined in a commercial contract to be signed by the applicants and the TSOs.
- 2.8 A copy of the signed Technical Operation and commercial contracts shall be sent to the two Authorities for their approval.
- 2.9 The applicants are obliged to pay the costs for the network usage to ELES according to the binding legislation in Slovenia.

Conditions on the ownership of the new interconnector :

2.10 With specific reference to Italy, pursuant to article 3 of the Ministry Decree of October 21st, 2005, the applicants shall provide a statement on their commitment to ask the Ministry for the Economic Development to include the new interconnector in the perimeter of the National transmission system.

In accordance with article 36(10) of the Legislative Decree n. 93 of June 1st, 2011, which calls on the Italian Authority to establish appropriate measures aimed at favoring the unification of the national grid, following the expiry date of the exemption the ownership of the section of the new interconnector built on the Italian soil will be transferred to Terna S.p.A. The value of the asset shall not exceed the residual book value and be determined on the basis of efficient costs. Terna's regulatory asset base (RAB) will be amended accordingly.

2.11 After the exemption period expires, the ownership of the section of the new interconnector built on the Slovenian soil will be offered to ELES on the basis of pre-emption rights based on the estimated market value, which may not exceed the residual book value.

3 Exemption request from the provisions of Article 9 of the Directive (unbundling)

3.1 Italian side

As regard the request of the exemption from article 9 of the Directive, it has to be remarked, first, that pursuant to the Italian legislation there is only one allowed transmission system operator in the national territory, namely, Terna S.p.A. which is, in turn, subject to the unbundling and certification rules set by the Directive. Second, the applicants will not

operate the new interconnector since this activity will be entrusted to Terna S.p.A. together with the task to provide the network access as if it were the owner (as specified in paragraph 2.6). As a consequence, under these circumstances, it will not be necessary to grant to the applicants an exemption from the unbundling rules which only apply to TSOs in order to promote, inter alia, a fair access to the network.

In light of the foregoing, the Authorities conclude that the exemption from the provisions of Article 9 of the Directive is not necessary. The relative request is therefore denied.

3.2 Slovenian side

With reference to the existing regulatory framework in Slovenia, AGEN-RS is of the opinion that the exemption from the provision of Article 9 of the Directive shall be granted to the applicants. The Slovenian transmission system operator ELES has the exclusive right to perform public service the transmission system operator in the Republic of Slovenia. Without the exemption the applicants- as owners of the interconnector- cannot operate it.

4 Exemption request from the provisions of Article 32 of the Directive (Third Party Access)

The Authorities are of the opinion that the exemption from the provisions of Article 16(6) of the Regulation consisting in the transfer to the applicants of the revenues originating from the allocation of the NTC of the new interconnector is adequate to cover the risks associated to the proposed investment. This would be the case, in particular, as the aforementioned revenues would provide the applicants with a financial guarantee against the risk underlying the said investment which would be largely comparable to that resulting from the exclusive use of the whole new interconnector NTC.

Moreover, the evidence provided by the applicants in support of their exemption request from the third party access regime, in order to exclusively use all the additional NTC does not appear sufficient to satisfy such request. In this respect, it is worth mentioning that any exemption from the general principle of third party access must be granted under exceptional circumstances where the risk profile of a proposed project is so high as to require a temporary derogation from the general rules of the internal energy market. As a consequence, in the opinion of the Authorities, to the extent there are equivalent measures which would attain the same outcome of an exemption from the rules on third party access but with

a lower impact on competition and the effective functioning of the electricity internal market, as in the present case, these measures are to be preferred. In light of the foregoing, the Authorities conclude that the exclusive use of the whole NTC of the new interconnector as requested by the applicants is not necessary to reduce the risk associated to the investment concerned, therefore, the exemption request from the provisions of Article 32 of the Directive is denied.

5 Exemption request from the provisions of Article 37 (6 and 10) of the Directive (Tariffs)

Given that the exemption from the provisions of Article 32 of the Directive shall not be granted, the exemption request from article 37 (6 and 10) is no longer meaningful. Thus, since the applicants will not be in charge of the new interconnector NTC's allocation, the request of an exemption from rules on tariffication is no longer sustainable.

In light of the foregoing the Authorities conclude that the exemption from the provisions of Article 37 (6 and 10) of the Directive is not necessary. The relative requests are therefore denied.