

Power line rated 2x400 kV Bystričany locality – Križovany

FINAL RECORD

(Number: 2562/12- 3.4/ml)

Issued by Ministry of Environment of the Slovak Republic according to
the Act no. 24/2006 Coll. on Environmental Impact Assessment and on Amendments to
Certain Acts

I. BASIC INFORMATION ABOUT THE PROPONENT

1. Name

Slovak Electricity Transmission System, Plc. (SEPS, a.s.)

2. Identification number

35 829 141

3. Seat

Mlynské nivy 59/A, 824 84 Bratislava

II. BASIC INFORMATION ABOUT THE PROPOSED ACTIVITY

1. Name

Power line rated 2x400 kV Bystričany locality – Križovany

2. Purpose

The proposed activity represents the first stage of the planned connection of junction point Bystričany to the 400 kV transmission system (Horná Ždaňa – Bystričany – Križovany).

The purpose of the project is the construction of 2x400 kV power line between Bystričany locality and 400 kV Križovany distribution point of 80 km in length. By the realization of the Preliminary environmental study, new 400 kV connection Križovany – Bystričany will be created, by which further conditions of gradual exchange of outdated 220 kV transmission system in the SR for 400 kV one will be met.

The purpose of the Preliminary environmental study of construction is also the stimulation of possibilities of intrastate electric power transmission, as well as the stimulation of industrial development potential in the Horná Nitra region.

3. User

Slovak Electricity Transmission System, Plc. (SEPS, a.s.)

4. Location

Region: Trnava

District: Trnava

Municipality: Križovany nad Dudváhom, Zavar, Dolné Lovčice

Region: Trnava

District: Hlohovec
Municipality: Siladice, Dolné Zelenice, Dvorníky, Sasinkovo, Kľačany, Dolné Trhovište

Region: Nitra
District: Nitra
Municipality: Rišňovce, Lukáčovce, Nové Sady, Kapince

Region: Nitra
District: Topoľčany
Municipality: Biskupová, Malé Ripňany, Čermany, Horné Obdokovce, Ludanice, Chrabrany, Dvorany nad Nitrou, Nitrianska Streda, Nemčice, Topoľčany, Solčany, Práznovce

Region: Trenčín
District: Partizánske
Municipality: Bošany, Klátova Nová Ves, Nedanovce, Turčianky, Krásno, Brodzany, Partizánske, Malé Uherce, Veľké Uherce, Pažiť

Region: Trenčín
District: Prievidza
Municipality: Oslany, Čereňany, Bystričany

The place of realization of proposed activity is the line of existing corridor of 2x110 kV V8769/8770 power line in the direction from southwest to northeast, which gradually goes through the cadastral areas of municipalities: Križovany nad Dudváhom, Zavar and Dolné Lovčice and subsequently the line of existing corridor of 220 kV V274 line, which gradually goes through the cadastral areas of municipalities: Dolné Lovčice, Siladice, Dolné Zelenice, Dvorníky, Sasinkovo, Kľačany, Rišňovce, Lukáčovce, Nové Sady, Dolné Trhovište, Kapince, Biskupová, Malé Ripňany, Čermany, Horné Obdokovce, Ludanice, Dvorany nad Nitrou, Chrabrany, Nemčice, Nitrianska Streda, Solčany, Topoľčany, Práznovce, Bošany, Klátova Nová Ves, Nedanovce, Turčianky, Krásno, Brodzany, Partizánske, Malé Uherce, Veľké Uherce, Pažiť, Oslany, Čereňany and Bystričany.

5. Date of start and finish of construction and operation

Start of construction	-	2014
Finish of construction	-	2016
Start of operation	-	2017

6. Brief technical and technological description

The proposed 2x400 kV line represents 1st phase of the construction of new 2x400 kV connection Horná Ždaňa – Bystričany – Križovany. The construction is proposed within the first part of the Complex of constructions: “Transformation of 400/110 kV Bystričany”.

New 2x400 kV power line will be constructed mainly in the line instead of the existing power line V274 Bystričany – Križovany. Only in the initial 4.5 km section (from DP Križovany) the line will run in corridor next to the existing 2x110 kV line V8769/8770, while it will join the route of line V274 at the tower no. 19 of this line (by D1 motorway). The 220 kV line V274 will be almost completely dismantled (from the tower No. 19 up to the point of mouth in front of DP Bystričany) prior to construction of the 2x400 kV line, i.e. it will be replaced by new 2x400 kV line in the same routing. The original protective zone of V274 line will be thus extended from current 55m to 78, or 69m.

In case that the 400 kV Bystričany distribution point is not constructed by 2016, this line will be connected to the planned 2x400 kV line H. Ždaňa - Bystričany locality before the existing ES Bystričany and it means that the first coatings of both lines will be interconnected, while the second coating of line from Křižovany will be temporarily run at the level of 220 kV and it will interconnect the distribution points 220 kV Křižovany and Bystričany (as up to now).

If the 400 kV Bystričany distribution point is constructed by 2016, the first coatings of both lines will be connected directly into that. Approximately in 2025 (finish of operation of the 220 kV system in region) they will be disconnected and will be interconnected through one tower span. Consequently, the second (external) coatings of both lines will be connected into the original spans of the first coatings.

The positioning of both double 400 kV lines and their end towers before the current ES Bystričany has to be designed universally for both states, i.e. with and without the 400 kV distribution point by 2016. Since one coating of new 2x400 kV line of Bystričany locality – Křižovany will be operated at the level of 220 kV and used for the substitution of the original V274 Bystričany – Křižovany line until circa 2025, it will be necessary to build at the end of 2x400 kV line (on Křižovany side) the end section of double line, but only with one 400 kV coating – up to the 400 kV Křižovany distribution point, to which this 400 kV coating will be connected. In the place of tower no. 19 of V274 line (by D1 motorway by Zavar town) the 220 kV coating of new line will be connected to the retained part of the existing V274 line, connected to the 220 kV Křižovany distribution point. At the opposite end of new line the 220 kV coating will be diverted before ES Bystričany and directly connected to the 220 kV Bystričany distribution point through the retained end section of the existing 220 kV line V274. New 2x400 kV line Bystričany locality – Křižovany of circa 80 km in total length will be constructed on galvanized steel towers in combined configuration of DONAU and SUDOK type, with insulator sets conforming to electric strength tests, radio interference and mechanical parameters according to the valid standards. Insulator sets with the surface corresponding to the relevant air pollution level according to STN 330405 will be used.

The presupposed positioning of consoles/conductors will be circa 14 m on both sides from the axis of DONAU tower, or 9.6 m on both sides from the axis of SUDOK tower. New double line will be equipped with two three-bundles of phase conductors with considered current load of at least 2000 A, for example the type of 2x3x3x AlFe 445/74 mm². One combined earth wire with 24 or 36 optical fibres will be used on the line.

Technical construction of line has to fulfil the valid norms and requirements of the line operation. The level of reliability 1 is required according to STN EN 50341-1 and the projected lifetime of bearing construction (foundations, towers) is 80 years. It is required that the bearing steel construction, foundations and earthing are projected for the whole projected lifetime of line so that no renewal or any substantial reconstruction is needed during the whole projected lifetime of line. Also it is required that the projected lifetime of wires, insulators and fittings is 40 years, that means that their renewal will be done together at the same time 1x in projected lifetime as a whole. The required thickness of galvanized layer is 80 micrometres. Also an additional protective coating is required.

Technical data

nominal voltage:	400 kV
phase voltage:	230.9 kV
maximal operational voltage:	420 kV
frequency of oscillation:	50 Hz
voltage system:	EHV, three-phase, alternating, TT distribution system
current system:	three-phase
number of systems:	2

average distance between individual towers: 250 - 350 m
configuration and height of towers: 2x400 kV DONAU type (basic height 40 m), 2x400 kV
SUDOK type (basic height 48 m)

Main construction elements

towers: configuration of DONAU and SUDOK for 2x400 kV line, truss construction, bolted, galvanized
phase conductors: 2 x 3 x three-bundle of AlFe 445/74 wire in the whole length of route
earthing wires: one combined earthing wire with 24 or 36 optical fibres
insulators: porcelain type 3xLG75/24sv with clevis and tongue connection (the type will be specified after the determination of the grade of area of pollution)
earthing: made of galvanized strip Fe 30 x 4 mm
suspension sets: triple anchor bolt
objects making DS visible: They will serve for the minimizing of collisions of the line with birds. The positioning and the type of objects making distribution system (DS) visible will be relevant only after the start of elaboration of project documentation for the zoning decision and building permit.
Note: Nowadays the plastic-aluminium red-white balls of 600 mm diameter or the so-called flapping objects are used.
foundations: concrete, wall, foot or monolithic, the depth of founding 2-3 m, the soil cover from 8 x 8 m² to 14 x 14 m²
construction yard: The main construction yards will be localized at both end points of corridor – by the Križovany distribution point and ES Bystričany. By gradual construction the construction yards will be moved – further localities of construction yards will be located at the suitable areas in particular sections of the line (their localization will be specified in further phases of project documentation).

Positioning of route of new 2x400 kV line and basic parameters

Total length: 80 km from that in the corridor next to the 2x110 kV line, V8769/8770:
4.5 km

in the corridor instead of the 220 kV line no.274: 75.5 km

Number of break points (angle, strain towers - "RV"): 13 for bypasses of built-up areas in the cadastral areas Kapince, Biskupová, Bystričany: 19

Total number of towers: 270 from that: strain towers (V + RV): 40 – 45 load-bearing towers (N) 225 - 230

Protective zone

Protective zone (PZ) of power line is the area in the immediate proximity of electro-energetic facility, which is designated for ensuring its reliable and continuous operation and ensuring the protection of life and health of people and property. It is determined by the Act no. 251/2012 Coll. on Energy and on Amendment of Certain Acts, according to which it is defined by vertical planes on both sides of line in the horizontal distance measured perpendicularly on the line from outer conductor.

According to § 43, section 5 it is possible to plant and grow permanent growths with the height exceeding 3 m in the distance exceeding 5 m from the outer conductor of aerial line only if it is ensured that these growths cannot damage conductors of aerial line when falling.

According to § 43, section 6 of the above stated Act, the owner of land is obliged to enable the access and driveway to the operator of outer overhead power line and for that purpose enable the operator of outer overhead power line to keep free line of lands (without

forest) in the width of 4 m on the both sides of outer overhead power line. This distance is defined from the contact of perpendicular, lined from outside of overhead power line to the horizontal plane of anchor of suspension point.

Duties and restrictions in the protective zone (PZ) are created by permission of construction of energetic work and are terminated by cancellation of work.

According to the Act, for 400 kV line the width of PZ should be based on the value of 25 m, which represents the distance of edge of PZ from the outer line on one side of line:

- Proposed 2x400 kV line with towers of DONAU type, which have the positioning of outer consoles (conductors) of 14 m, will have the protective zone of total width of $25 + 14 + 14 + 25 = 78$ m.
- Proposed 2x400 kV line with towers of SUDOK type, which have the positioning of outer consoles (conductors) of 9.6 m, will have the protective zone of total width of $25 + 9.6 + 9.6 + 25 = 69$ m.

Similarly, the width of PZ of 220 kV line is based on the value of 20 m, which represents the distance of edge of PZ from the outer line on one side of line and for 110 kV line on the value of 15 m.

By the construction of new 2x400 kV line in the corridor of existing lines – in the line along the 2x110 kV line V8769/8770 the total width of existing protective zone will be extended by circa 60 m on one side for DONAU towers, or by 50 m for SUDOK towers. In the line instead of the 220 kV line V274 the PZ will be extended by circa 12 m on each side for DONAU towers, or by 7 m for SUDOK towers.

By the construction of new 2x400 kV line, mainly the following situations will emerge from the aspect of change of protective zone:

- By routing of new 2x400 kV line in concurrence with existing 2x110 kV line in 4.5 km long initial section of route by DP Križovany (in the first half of section 1.1) the total width of current protective zone will be extended by circa 60 m from one side for DONAU towers, or by 50 m for SUDOK towers.
- By routing of new 2x400 kV line in the route instead of dismantled 220 kV line V274 (in the bigger part of route) the total width of existing protective zone will be extended by circa 12 m from both sides for DONAU towers, or by 7 m for SUDOK towers.
- By routing of new 2x400 kV line in the separate route (new route – local bypass in the cadastral area Kapince and Biskupová) new protective zone will be created with the total width of 78 m for DONAU towers, or 69 m for SUDOK towers.

Construction work

Construction work will be carried out in the corridor of proposed line. The access of construction machines to the corridor will be realized through selected access communications, which will represent the current existing local communications, field and forest roads.

Within the whole construction circa 75 km long section of 220 kV line V 274 will be dismantled. Specifically it will concern 238 pieces of towers with the total weight of circa 1 300 tons, circa 400 tons of phase conductors, 50 tons of earthing wires, 15 tons of porcelain insulators, 55 tons of fittings and 4 500 m³ of concrete. The foundations of original towers will be broken on agricultural soil in the depth of 1.0 m.

Since new 2x400 kV line is routed in concurrence with other lines (2x110 kV, 110 kV), its construction – mounting of towers and wires will be carried out during the operation of these lines. There will be relatively greatest danger at unwinding of conductors and their regulation, but also at hanging down of conductors from pulleys and their mounting into insulator chains. The following conditions for the work procedure follow from the above stated:

- when unwinding the wires, the earthing facilities have to be on a winch and on brake

- on each tower the conductor has to be earthed to the tower construction through opposed pulley with earthing facility
- when over-clamping pulley – suspension clamp, the conductor has to be earthed
- when mounting on anchor towers and mounting of jumper leads the workplace has to be earthed
- workers have to be informed about the possibility of creation of dangerous induced voltages
- the procedure of drawing the particular conductors and earthing wires has to be prescribed and safety work requirements for supplier have to be stated in the project documentation.

In the sections of crossing of proposed 2x400 kV line with other lines (mainly 110 kV line) as well as in relation to the transposition work before DP Križovany and DP Bystričany, claims for short-term outage of these lines will arise, in the range of several days.

Towers of new 2x400 kV line will be installed by a specific method of stone processing called “štokovanie”, conductors and earthing wires will be unwound and regulated by brakes.

The total time of realization of construction work is expected to be 2.5 years.

Tree felling

The construction work on new line involve the felling of grown trees located on the forest and agricultural soil in the area of protective zone of proposed line (the extension of existing protective zone by routing in concurrence with the route of existing 2x110 kV line as well as instead of 220 kV line).

The actual realization of quantity of felling will depend on the height of lines of new line above the terrain, terrain conditions by unwinding of wires, as well as the requirements of affected authorities, based on which it can be eliminated or minimized. The particular felling, will it be in impacts?

The operation of new line requires the maintenance of protective zone, which means the regular felling of grown trees in PZ according to the requirements of the Act no.251/2012 and STN EN 50 341-1.

Solution of proposed line from the aspect of civil and fire protection

SEPS, a.s. Bratislava has concluded the framework contracts with the contractors, in which the contractors are contractually bound to repair the broken down lines as soon as possible. In case of breakdown, the line will be turned off the latest in time when backup protection starts working i.e. up to 6 seconds.

From the aspect of fire protection there are no special fire protection precautions proposed, because STN 73 0802 building fire protection is not applied to the line.

Assessed variants

Variant 0

Zero variant represents the preservation of the route of existing corridor of 220 kV V274 line, which crosses gradually the cadastral areas of municipalities: Križovany nad Dudváhom, Zavar, Dolné Lovčice, Siladice, Dolné Zelenice, Dvorníky, Sasinkovo, Kľačany, Rišňovce, Lukáčovce, Nové Sady, Dolné Trhovište, Kapince, Biskupová, Malé Ripňany, Čermany, Horné Obdokovce, Ludanice, Dvorany nad Nitrou, Chrabrany, Nemčice, Nitrianska Streda, Solčany, Topoľčany, Práznovce, Bošany, Klátova Nová Ves, Nedanovce, Turčianky, Krásno, Brodzany, Partizánske, Malé Uherce, Veľké Uherce, Pažiť, Oslany, Čereňany and Bystričany.

Variant 1

The construction of new 2x400 kV line is proposed in the stated existing corridor (when connected into DP Križovany in the corridor along the route of existing 2x110 kV

V8769/8770 line), exceptionally in its local bypasses, in the total length of 80 km. With respect to the routing of proposed line in the landscape and consequently for the reason of more accurate description of route and its characteristics the route was divided into 7 sections:

Section 1.1 Križovany nad Dudváhom - Dvorníky

The route begins by the 400 kV Križovany distribution point in the cadastral area Križovany nad Dudváhom, directed south-eastward, soon north-eastward (near the Dolná Blava watercourse) in the route of existing corridor – next to the 2x110 kV V8769/8770 line, in the length of 4.5 km up to D1 motorway on the border of cadastral areas Dolné Lovčice and Siladice. In this section the route crosses the Dolná Blava watercourse and two melioration drains. From the D1 motorway it continues eastward in the corridor instead of 220 kV V274 line. In this section it goes above Dolný and Horný Dudváh watercourses, crosses the railway no.133 and the road of III. class no.53134. At the end of the section, the route crosses the Váh river and changes to southeast direction at the elevation point of 186.7 (in cadastral area Posádka).

Section 1.1. leads through flat terrain of Danubian Lowland (unit of Danubian Highlands, subunits Trnava Highlands and Dolný Váh bottom land), almost entirely in agricultural landscape (crosses forest vegetation only near Váh watercourse, partially near Zavar forest).

Section 1.2 Dvorníky - Rišňovce

From the elevation point of 186.7 in cadastral area Posádka the route continues in slightly southeast direction through vast vineyards in the Veľký háj locality, crosses the road II/507, other vineyards in the Doliny locality as well as the Slatinka watercourse and enters the cadastral area Sasinkovo. The line bypasses Kutmál settlement through southern side, changes the direction to northeast and bypasses the built-up area of municipality Sasinkovo. Eastward from Sasinkovo near the elevation point of 218.4 the line enters the cadastral area Kľačany, which the line leaves after 1 km in the point, where it crosses the state road II/513 and railway no.141. In this point the line route leaves the Trnava region.

The whole section 1.2. is defined by geomorphologic subunit of Nitra Highlands – part Zálužie Highlands, to which the already undulating terrain of agricultural landscape in highlands with the highest elevation point of 227.5 MASL corresponds.

Section 1.3 Rišňovce - Ludanice

From crossing the road II/513 the line route continues in the same northeast direction in the Nitra region - in the Nitra district, bypasses the built-up area of municipality Rišňovce from northern side and by the elevation point of 227.5 changes its direction to north – northeast and crosses the area of municipality Lukáčovce and bypasses its built-up area from western side. Alike, it bypasses Lukáčovce ponds, near which it crosses also the Blatina watercourse and the third class road. The line route goes on through the northern part of cadastral area Nové Sady, where it goes above the Ceroviny settlement and further above the forest growth in Lakšan locality. By the elevation point of 162.2 the line crosses Trhovište brook and by few metres it reaches the eastern tip of cadastral area Dolné Trhovište (in Trnava region, Hlohovec district). Half a kilometre northward from this border place the line changes the direction to east-northeast. Based on the standpoint to the Preliminary Environmental Study of municipality Biskupová and consequently based on the Scoping of Assessment of MoE of the SR, further line routing was changed compared to the Preliminary Environmental Study, due to that the original routing of new 2x400 kV line in the existing corridor of 220 kV line conflicted with the built-up area of the municipality. In cooperation with the municipality the new routing of 2x400 kV line was proposed so, that the conflict section would be bypassed, without impact on the built-up areas of municipalities Kapince and Biskupová – from the point of direction change (in cadastral area Dolné Trhovište) the alternative route leads in more northern direction, by which it avoids the double crossing of

Trhovište brook as well as the built-up area of municipality Kapince, which is so bypassed from the western side. Subsequently after circa 1.5 km in the Medzi potokmi locality the route changes the direction to east and crosses the Radošinka watercourse, railway no.142 and the road no.III/51316 southward from Biskupová, by which the built-up area of municipality is bypassed again. After approximately 2 km the route changes the direction again to northeast and connects to the original corridor V724.

The original routing of new 2x400 kV line in the route of 220 kV line remains as the last alternative in case of arising of property-legal obstacles in the authorisation procedure of construction. This routing of line goes through built-up areas of municipalities Kapince and Biskupová (see Annex 2 - part 6/10).

On the elevation above Biskupová, by the elevation point of 226.7 the route goes through the line already in the original corridor V274 into the cadastral area Čermany, while the protective zone reaches the cadastral area Malé Ripňany on few metres. Then the route bypasses the local part Chrenovec, municipality Čermany, crosses the third class roads no. 51322 and no. 51323 and crosses Perkovský brook. Then it bypasses the built-up area of municipality Horné Obdokovce from the southern side, continues through free landscape in the cadastral area Mýtna Nová Ves and then in the cadastral areas of municipalities Dvorany nad Nitrou and Ludanice, and bypasses their built-up areas from the northern side. In the cadastral area Ludanice the route goes partially above the vineyards northwards from the municipality and soon it crosses the railway no. 140 and the road I/64, where the section 1.3. ends.

The third - the longest section is defined by the geomorphologic subunit of Nitra Highlands - part Bojná Highlands, with undulating highland relief of landscape and intensive agricultural use.

Section 1.4 Ludanice - Práznovce

Behind the crossing of road and railway the line route goes through the Chrabrany channel and then still north-eastward goes on through cadastral area Chrabrany, while the built-up area is bypassed from the southern part, where it crosses the Chrabrany channel once again and the Bojnianka watercourse. It continues in unchanged direction in a short section also through the south-eastern edge of cadastral area Nemčice and northern part of cadastral area Nitrianska Streda. At the cadastral border of Nitrianska Streda and Topoľčany the route crosses the Nitra river and then also the Dršňa watercourse and the third class road already in cadastral area Solčany. The line crosses the Dršňa watercourse once again and that is in the following cadastral area Práznovce, where after crossing another third class road, the section 1.4 of line route ends. The line also leaves the Nitra region.

The whole section 1.4. is defined by the subunit of Nitra bottom land, part Stredná Nitra bottom land. The flat terrain with intensive agricultural use prevails. In the second half of this section the line route reaches the north-western edge of Protected Bird Area (CHVÚ) Tríbeč.

Section 1.5 Práznovce - Brodzany

The route from Práznovce continues in the eastern direction already in the Trenčín region through cadastral area Baštín, where it crosses the state road II/593 and the edge of built-up area of this local part of municipality Bošany. It goes on through the cadastral area Bošany, where it crosses Vyčomy watercourse twice. After the second crossing of this watercourse the line route enters the cadastral area Klátova Nová Ves, crosses the third class road no.06449 and bypasses the built-up area of the municipality from north, where it changes the direction to northeast again. From the point of direction change the route leads approximately 700 metres through the cadastral area Nedanovce and the following kilometre it already goes through the area of municipality Turčianky, the built-up area of which is bypassed from north. Subsequently it goes through the cadastral area of Krásno under Tríbeč

mountain up to the border with CHKO Ponitrie, where it enters the forest growth. In the moment of meeting the mountain (already in cadastral area Brodzany) the section 1.5 ends and the route continues as another section in changed conditions.

The section 1.5 goes through the north-western edge of CHKO Ponitrie and Tríbeč mountain, but it does not reach it immediately. It is the last section of line within the unit of Danubian Highlands, which is defined in terms of geomorphology by subunit of Nitra Highlands, Tríbeč foothill part. The character of relief is changed locally here from flat one to hilly one.

Section 1.6 Brodzany - Oslany

From cadastral area Brodzany the line route leads through the area with different natural and socioeconomic conditions, which is primarily defined by the transition from Danubian Lowland to the Carpathians area. This is the most significantly represented by the section 1.6, which enters the forest growth of Tríbeč mountain - part Skýcov Highlands in cadastral area Brodzany, where it goes through the elevation point of 324.3 in Vršky locality, from where it descends to deforested valley of Brodzany brook, which is crossed together with the south-eastern edge of built-up area of municipality. Eastwards from the municipality the route starts ascending again to the hills of Tríbeč in the Rázdiel locality and leads through the forest growths. In the forest, the route also goes through approximately 800 metre section in the cadastral area of Partizánske town and goes on through the forest into the cadastral area Malé Uherce. Here in the southern edge of municipality it crosses the cottage settlement Štále in Beliansky valley in a great overhang. The route enters the forest growth in Šípok locality in shorter, circa 600 m long section. After leaving the forest it goes only through the open landscape of Horná Nitra Basin. The flat part of this section follows and that is in the cadastral area Veľké Uherce, where the line crosses the road II/511 and Drahožica watercourse and also in cadastral area Pažiť, where the line route crosses the road I/64 and Pažiť brook and a smaller unnamed left side tributary of Nitra. The section 1.6 ends in cadastral area Oslany, where the line enters the Prievidza district.

By this section the line route enters the totally different area in terms of geomorphology - leaves the Danubian Lowland and the unit of Danubian Highlands and enters the Carpathians, particularly the unit of Tríbeč, the subunit of Rázdiel and parts Koločnianska Highlands a Koločnianska Depression. The end of section is flat again, within the routing through Horná Nitra Basin.

Section 1.7 Oslany - Bystričany

The last section of route goes directly through the Nitra bottom land deforested terrain between the railway no.140 and the road I/64 up to the area before the existing electric station Bystričany.

Within the cadastral area Oslany the route crosses Oslany brook and the built-up area in the northern edge of municipality leading to the Oslany railway station. Next the route goes on in cadastral area Čereňany outside the built-up area of municipality, where it crosses Čereňany brook and also Žiarny brook. Then the line goes to the cadastral area Bystričany, where it crosses the built-up area near the Chalmová local part and Bystrica watercourse, behind which it angles to east, leaves the corridor of 220 kV line and approaches the south-western edge of existing DP Bystričany, where the route ends in the area of considered extension of electric station Bystričany. In the section where new line crosses the built-up area near Chalmová local part, the line route is proposed also in the local modification, that is perpendicularly to used lands, by which the area of PZ becomes smaller on these lands (such solution was required in the standpoint of municipality Bystričany, this solution is also proposed regarding the scoping of assessment). This alternative means the diversion of route only tens of metres from the original corridor, so the general routing remains the same (see Annex 2 - part 1/10).

The section 1.7. leads through unit defined in terms of geomorphology Horná Nitra Basin- subunit Oslany Basin.

III. DESCRIPTION OF ASSESSMENT PROCESS

1. Elaboration of Environmental Impact Statement

Preliminary environmental study “Power line rated 2x400 kV Bystričany – Križovany” of the proponent SEPS, a.s. Bratislava, was elaborated in December 2011 by the company ENVIRO-TATRY s.r.o., Bratislava according to the annex no. 9 of the Act and submitted to the competent authority in written and electronic version. There was 1 variant of realization assessed except for the zero variant in the Preliminary Environmental Study. The proponent had required the abandoning of variant yet before the elaboration of Preliminary Environmental Study, which Ministry of Environment of the Slovak Republic (MoE of the SR) in Bratislava approved by the letter dated 09/14/2012 no. 4728/2011-3.4/ak. Consequently the Preliminary Environmental Study was distributed to other subjects of assessment on 12/12/2011.

The Scoping of Assessment was issued on 02/20/2012 under the number 7672/11-3.4/ml. The Scoping of Assessment determined for the further assessment the detailed assessment of the zero variant (situation, which would arise if the proposed activity was not realized) and the realization variant stated in the submitted Preliminary Environmental Study with the modification of power line in cadastral areas Bystričany, Klátova Nová Ves and Biskupová, possibly its other real variant, in which the comments submitted to the Preliminary Environmental Study would be taken into account. Also 19 specific requirements were stated in the Scoping of Assessment. No objections were raised against the scoping of assessment.

In another step of assessment process the proponent ensured the elaboration of Environmental Impact Statement by the company ENVIRO-TATRY, s.r.o., Bratislava.

2. Distribution and making the Environmental Impact Statement public

The proponent submitted the Environmental Impact Statement to MoE of the SR on 07/23/2012. After checking of requisites, the competent authority distributed the Environmental Impact Statement on 07/25/2012 for maintaining the standpoints to all competent authorities and affected municipalities and to the Agricultural Cooperative - Poľnohospodárske družstvo Tribeč in Solčany.

The Environmental Impact Statement was also published on the web site of MoE of the SR www.enviroportal.sk. The affected municipalities made the Environmental Impact Statement public to citizens in usual way for 30 day period.

3. Public consultations of the Environmental Impact Statement

Public consultations of the Environmental Impact Statement were held in three dates:

On 09/03/2012 at 3:00 p.m. in Rišňovce

for the affected municipalities: Križovany nad Dudváhom, Zavar, Dolné Lovčice, Siladice, Dolné Zelenice, Dvorníky, Sasinkovo, Kľačany, Dolné Trhovište, Rišňovce, Lukáčovce, Nové Sady, Kapince. Number of attending persons: 14.

Public consultations were opened by the representative of the municipality Rišňovce Ing. Peter Hrabárik by welcoming the attending persons and he let the presenter of public consultations and the elaborator of the Environmental Impact Statement at the same time, RNDr. Martin Mocik, speak. He informed the attending persons about the purpose of public consultations, the further procedure within the Environmental Impact Assessment process, as well as about the proposed activity, where he focused on the significant impacts on the

environment and the measures for their elimination or minimization.

The representative of the municipality Sasinkovo, mayor, Mr. Jaroslav Jamrich, was interested in the procedure of work of dismantling of old 220 kV and subsequently new 2x400 kV line and in the way of property settlement for the building permit. The representatives of municipalities Siladice and Horné Zelenice, mayors Mrs. Jana Chynoradská and Mgr. Dagmar Jakubcová, were interested in the routing of new line through the cadastral areas of their municipalities. All questions were answered by RNDr. Martin Mocik (who also finished the public consultations) or by Ing. Roman Mikuš, as the representative of a designer of construction.

On 09/04/2012 at 2:00 p.m. in Topoľčany

for the affected municipalities: Biskupová, Malé Ripňany, Čermany, Horné Obdokovce, Ludanice, Chrabrany, Dvorany nad Nitrou, Nitrianska Streda, Nemčice, Topoľčany, Solčany, Práznovce, number of attending persons: 11

Public consultations were opened by the representative of the municipality Topoľčany Mrs. Zdenka Švajdleníková by welcoming the attending persons and she let the presenter of public consultations and the elaborator of the Environmental Impact Statement at the same time, RNDr. Martin Mocik, speak. He informed the attending persons about the purpose of public consultations, the further procedure within the Environmental Impact Assessment process. Then he focused on the significant impacts on the environment and the measures for their elimination or minimization.

The representative of the municipality Topoľčany Mr. Ladislav Bakič was interested in the conflict of the construction with another prepared line construction - expressway R8, which is in the phase of issued final record of MoE of the SR, with selected variant. The representative of the municipality Biskupová mayor Mr. Stanislav Knížat asked about the current state from the aspect of alternative routing of new line on the area of municipalities Kapince and Biskupová. The representative of District Environmental Office Topoľčany Ing. Alena Zacharová was interested in the impacts on and the measures of proposed construction for the CHVÚ Tribeč.

All questions were answered by RNDr. Martin Mocik (who also finished the public consultations) or by Ing. Roman Mikuš, as the representative of a designer of construction. It is necessary to consider the following fact as the most important one: "The elaborator of environmental documentations together with the proponent have introduced the additionally proposed environmental measure within the discussion, which resides in the change of routing of new 2x400 kV line outside the original corridor of 220 kV line between the break points R12 and R14 (map no.3/10 1:10 000 in the Environmental Impact Statement) so that the route of new 2x400 kV line will be straightened up between these points, leading entirely through agricultural soil (point R12 will be moved to the cadastral area Bošany). From the municipalities for which these public consultations were organized, only municipality Práznovce is affected partially by this measure."

On 09/04/2012 at 5:00 p.m. in Partizánske

for the affected municipalities: Bošany, Klátova Nová Ves, Nedanovce, Turčianky, Krásno, Brodzany, Partizánske, Malé Uherce, Veľké Uherce, Pažiť, Oslany, Čereňany, Bystričany, number of attending persons: 7

Public consultations were opened by the representative of the municipal office Mrs. Andrea Bencelová and she let the presenter of public consultations and the elaborator of the Environmental Impact Statement at the same time, RNDr. Martin Mocik, speak. He informed the attending persons about the purpose of public consultations, the further procedure within the Environmental Impact Assessment process, and then he focused on introducing of the proposed activity, the significant impacts on the environment and the measures for their

elimination or minimization.

The representative of the municipality Brodzany - mayor Mr. Anton Zima was interested in the way of construction and the use of municipal communications for the line construction and the way of property settlement within the building permit. All questions were answered by RNDr. Martin Mocik (who also finished the public consultations).

RNDr. Martin Mocik together with the proponent have introduced within the discussion the additionally proposed environmental measure, which resides in the change of routing of new 2x400 kV line outside the original corridor of 220 kV line between the break points R12 and R14 (map no.3/10 1:10 000 in the Environmental Impact Statement), so that the route of new 2x400 kV line will be straightened up between these points, leading entirely through agricultural soil (point R12 will be moved to the cadastral area Bošany - Horné Pásienky locality). The aim is to eliminate the impacts following from inappropriate routing of the original route of 220 kV line, specifically:

- the conflict of PZ with the dwelling house in the cadastral area Bošany – Baštín
- 2 x crossing of bio corridor of Vyčoma brook
- the concurrence of line route with the III. class road Klátova Nová Ves - Bošany
- the approach of line route to the built-up area of municipality Klátova Nová Ves
- the approach of line route to the built-up area of municipality Turčianky.

From the municipalities, for which these public consultations were organized, these are affected by this measure: Bošany, Klátova Nová Ves, Turčianky, Nedanovce and Krásno.

4. Standpoints, comments and expert reviews submitted to the Environmental Impact Statement

According to the § 35 of the Act, the below stated written standpoints were delivered to MoE of the SR until the date of elaboration of the review and the proposal of final record:

Ministry of Agriculture and Rural Development of the Slovak Republic, Forestry and Wood Processing Division, Department of Forestry Strategies and State Administration of Forestry and Hunting (*letter no. 3022/2012-710 Rec. no. 23002/12 date 08/10/2012*)

No objections to the Environmental Impact Statement.

Ministry of Interior of the Slovak Republic, Headquarters of Fire Brigades and Rescuers (*letter no. PHZ-OPP-2012/002236-002 date 08/10/2012*)

No negative impacts on the environment are expected from the aspect of fire protection.

Ministry of Health of the Slovak Republic, Inspectorate of Spas and Springs (*letter no. Z41538-2012-IKŽ date 08/30/2012*)

It states that they are not the affected authority regarding the subject matter, since it concerns the affected area, to which the protection of interests is not applied according to the Act no. 538/20005 Coll..

They also point out that there are not any natural therapeutic spas in Chalmová and in Malé Belice (as stated in the Environmental Impact Statement) and the term “spa of local importance” is unknown to the present state of legislation.

Ministry of Economy of the Slovak Republic, Fuels and Energetics Department (*letter no. 784/2012-3230 date 08/10/2012*)

Expression of support to the realization of proposed activity.

Ministry of Defence of the Slovak Republic, Division of Property and Infrastructure (*letter no. SEMaI-25-505/2012 date 08/21/2012*)

No objections to the Environmental Impact Statement.

Ministry of Environment of the Slovak Republic – Department of Nature Protection and Landscape Development, Department of State Administration (*letter no. 3108/2012-2.2, 44149/2012 date 08/22/2012*)

MoE of the SR insists on incorporation of the optimal variant of crossing the Váh river by

new 2x400 kV line into the Environmental Impact Statement. They require adding the comparison statement of impact of submitted variant on wetland biotopes, the impact of variant in the route of original line and possibly the route variant between the original line and the confluence of Dudváh and Váh rivers to the Environmental Impact Statement. They require adding the estimation of social value of damaged and destroyed biotopes in the alternative routes and using of these data in the final comparison of variants and assessment of impacts on biotopes of European and national importance to the comparison statement.

Regional Office of Road Transport and Roads Trnava (*letter no.2012/02484/Ja date 08/14/2012*)

They state that the interests of the office will not be affected, since the line will not cross the roads of the I. class, but the roads of II. and III. class on its route, the affected authority of which is the District Office of Road Transport and Roads Trnava.

Regional Monuments Board Trnava (*letter no. TT-12/90-4/5100/Grz date 08/27/2012*)

They agree with the Environmental Impact Statement.

Regional Environmental Office in Trenčín, Department of Environmental Protection (*letter no. KÚŽP 2012/478/2461 Jk date 08/30/2012*)

From the aspect of nature and landscape protection, they point out the changes in the framework of Regional Territorial System of Ecological stability (RÚSES) approved in the Amendments and addendum no.2 of ÚPN of (Territorial Planning) VÚC Trenčín region (2011), which are necessary to update in the Environmental Impact Statement. There are no further comments.

There are no further comments or objections from the aspect of water management interests. The state air protection and waste management is without comments.

Regional Environmental Office in Trnava, Department of Nature and Landscape Protection, Waste Management and EIA (*letter no. AF2/2012/453/Pu date 08/15/2012*)

The state administration of air protection section does not have any comments to the submitted statement.

The state administration of water protection section assumes that the particular measures for the water protection against the dangerous substances during the construction of facility stated in the Environmental Impact Statement will be adhered.

The state administration of waste management section does not have any comments to the Environmental Impact Statement.

The state administration of nature and landscape protection section insists on the assessment of the alternatives of places of crossing the Váh river by new 2x400 kV line. They require adding to the Environmental Impact Statement the comparison of impact of construction on the wetland biotopes of the variant solved in the proposed route of original towers and the variant of the leading of new route through the section between the original line route and the place of confluence of Dudváh and Váh rivers. They also recommend adding to the Environmental Impact Statement the estimation of social value of damaged and destroyed biotopes in all variant routes and using of these data in the final assessment and comparison of variants based also on the economic evaluation (investment costs). They identify with the proposed measures for the activity realization and the proposal of monitoring and the post-project analysis stated in the Environmental Impact Statement.

Regional Directorate of Fire and Police Brigades Trnava (*letter no. KRHZ-TT-OPP-543/2012 date 08/17/2012*)

They do not assume the creation of negative impacts on environment.

Regional Lands Office Trenčín (*letter no.2012/00140-02 date 08/20/2012*)

They point out that the investor is obliged to request their office for the approval of permanent deprivation of agricultural soil (in Partizánske and Prievidza districts) according to the Act no. 220/2004 Coll. on the Protection and Use of Agricultural Land, if the land area for the

proposed towers exceeds 1 000 m².

Regional Environmental Office in Nitra, Department of Environmental Sections Protection (*letter no. 2012/00048, 2012/35 date 08/15/2012*)

No objections to the Environmental Impact Statement.

Regional Monuments Board Trenčín (*letter no. TN-12/1232-2/5303/Nip date 08/14/2012*)

They state that the conditions of mandatory statement of no. of proceeding TN-1578-2/7550/Nip dated 12/29/2012 (the proponent shall obtain the statement of Regional Monuments Board Trenčín from the aspect of archaeological discoveries in advance before the issue of building permit) are applied to the Preliminary Environmental Study of construction.

Regional Directorate of Fire and Police Brigades in Trenčín (*letter no. KRHZ TN - OPP - 25 - 034 /2012 date 08/07/2012*)

They do not assume the creation of negative impacts on the environment from the fire protection aspect.

Regional Office of Road Transport and Roads Trenčín (*letter no. AA/2012 /01452 - 002/MAR date 08/01/2012*)

They agree with the Environmental Impact Statement under following conditions:

- the constructor ensures that the line will be positioned in the height of min. 4.8 m over the road I/64
- the constructor ensures that during the realization there will not occur any damage or pollution of road land of I/64 road.

Regional Directorate of Fire and Police Brigades in Nitra (*letter no. KRHZ-NR-OPP-710-001/2012 date 08/02/2012*)

They state that the delivered Environmental Impact Statement does not belong under their field of activity and they withdraw from the documentation processing.

Regional Lands Office Trnava (*letter no. KPÚ-B 2012/00218 date 08/08/2012*)

They take the Environmental Impact Statement into account. With respect to the fact that it is the line construction in the public interest and the Preliminary Environmental Study of construction and the implementation of final line route is planned for the earliest update of territorial planning documentation of VÚC Trnava self governing region, they have no objections from the aspect of agricultural soil protection.

Regional Office of Road Transport and Roads Nitra (*letter no. A/2012/03208 date 08/10/2012*)

No objections to the Environmental Impact Statement.

Nitra self governing region (*letter no. ČZ - 19422/2012, ČS – 41 69/2012 date 08/08/2012*)

They require that the Preliminary Environmental Study of construction is assessed according to the law.

Trnava self governing region, Economic Strategy Section, Department of Territorial Planning and Environment (*letter no.02045/2012/OUPZP-006/II date 08/20/2012*)

They state that based on the requirement of SEPS, a.s., the reservation of the territory for the new section of corridor of planned line 2x400 kV Križovany – Bystričany – Horná Ždaňa is incorporated into ÚPN R TTSK (2012). The proposed routing of new 2x400 kV line is incorporated into the Draft and consequently into the Proposal of Territorial plan of Trnava self governing region.

The subjective new section of corridor of 2x400 kV EHV is situated in the direction from DP 400/220/110 kV Križovany in concurrence with the existing corridor of line 2x110 kV HV V8769/8770 in the length of circa 4.5 km up to D1 motorway or up to the intersection of lines V274 and V8769/8770 at the border of cadastral areas of municipalities Dolné Lovčice and Siladice.

The Department of Territorial Planning and Environment does not have any comments in

relation to the above stated information.

Trenčín self governing region (*letter no. TSK/2012/06723-2 date 08/28/2012*)

No objections to the Environmental Impact Statement.

District forest office Prievidza (*letter no. OLU 2012/0020-1024 date 08/30/2012*)

District forest office considers the proposed solution as the most acceptable one.

With respect to the fact that the original line is placed on considerably steep hills in the section of Malé Uherce, Brodzany and Krásno and during construction of new power line the erosion of soil might occur, they recommend to use the SUDOK towers in this section.

District Office of Road Transport and Roads Trenčín (*letter no. AA/2012/04761-002/KRO date 08/24/2012*)

The stated route does not belong to their competency.

District Office of Road Transport and Roads Trnava (*letter no. 2012/04954/Js date 08/27/2012*)

During the realization of construction, they require to keep the two-way traffic on the roads III/05131, III/0628, III/5134, III/5077, II/507 and II/513, it is necessary to elaborate the project of portable traffic signs for the possible traffic restrictions.

District Environmental Office Prievidza, branch office Partizánske (*letter no. OÚŽP/2012/00829/7 date 08/22/2012*)

The state administration section of nature and landscape protection requires following the measures proposed in the chapter VI of the Environmental Impact Statement during the realization of activities. It also points out the following of the provision § 4 par. 4, § 6 par. 2, § 13 par. 1 letter a), § 34, § 35, § 47 par. 3 of the Act no. 543/2002 Coll. as amended and § 2 of the declaration of MoE of the SR no. 17/2008 Coll., which declares the Protected Bird Area of Trábeč.

The section of waste management agrees with the Environmental Impact Statement without objections.

The state section of water management has no objections to the Environmental Impact Statement.

The state administration section of air protection agrees with the Environmental Impact Statement without objections.

District Office Prievidza (*letter no. ObU-PD-CO-2012/01635-4/009471 date 08/03/2012*)

No objections to the Environmental Impact Statement.

District Mining Office Prievidza (*letter no. 213-2409/2012 date 08/06/2012*)

They do not have objections to the proposed activity in case, that the realization of activity does not cause the preclusion or difficulties to mining of exclusive deposits and deposits of non-reserved raw minerals, which are registered by the District Mining Office (in cadastral areas Hrušovany, Preseľany, Solčany, Krnča, Závada, Závada, Klížské Hradište, Malé Kršteňany, Bystričany).

District Office of Road Transport and Roads Nitra (*letter no. A/2012/03834 BC 10 date 08/07/2012*)

They do not have objections to the proposed activity under the condition, that in case of affecting the regional roads of II. and III. class within the construction realization, it is necessary to request the determination of portable traffic signs during the construction realization from District Office of Road Transport and Roads.

District Office Nitra (*letter no. ObU-NR-CO4-2012/10943/2 date 08/07/2012*)

No objections to the proposed activity.

District Office Topoľčany (*letter no. ObU-TO-CO-2012/01160 - 02 date 08/07/2012*)

No objections to the proposed activity.

District Forest Office Trnava (*letter no. A/2012/00121 date 08/07/2012*)

No objections to the Environmental Impact Statement.

District Office Trnava - Department Of Civil Protection And Crisis Management (letter no. *ObÚ-TT-CO1-2012/11050* date 08/08/2012)

No comments or requirements from the aspect of civil protection.

District Environmental Office Trnava – branch office Hlohovec, Department of Quality of Environment, Waste Management Division (letter no. *B/2012/00547/ŠSOH/Ži* date 08/09/2012)

No objections to the Environmental Impact Statement.

District Environmental Office Topolčany (letter no. *ŽP 2012/00894- Ku* date 08/09/2012)

The state administration of waste management, the state administration of nature and landscape protection and the state administration of water management have no objections to the Environmental Impact Statement. The state administration of air protection points out the wrongly stated Act on the air protection.

District Environmental Office Prievidza (letter no. *OÚŽP/2010/01626-10* date 08/10/2012)

The state administration section of nature and landscape protection requires following the measures, which are stated in the Environmental Impact Statement.

The section of waste management agrees without objections.

The state section of water management has no objections.

The state administration section of air protection has no objections.

District Environmental Office Prievidza, branch office Partizánske (letter no. *OÚŽP/2012/00830-2* date 08/13/2012)

They have no objections from the aspect of air protection and agree with the construction realization.

District Office of Road Transport and Roads Topolčany (letter no. *2012/02593* date 08/20/2012)

No objections or comments to the Environmental Impact Statement.

District Environmental Office Trnava, Department of Quality of Environment (letter no. *G2012/01861/ŠSMER/PB* date 08/15/2012)

The state section of water management (statement no. *G/2012/01881/ŠVS/St* date 08/14/2012) requires the following of provisions of the Act no. 364/2004 on Waters and on Amendments to the Act of the Slovak National Council no. 372/1990 on offences as amended in later regulations; the ensuring of ground and surface water protection; the following of the Act no. 7/2010 Coll. on Protection against Floods.

The state administration section of waste management has no objections to the Environmental Impact Statement (statement no. *G/2012/01877/OČO/MB* date 08/10/2012).

The state administration section of air protection (statement no. *G/2012/01881/ŠVS/St* date 08/14/2012) states that from the aspect of air protection according to the Act no. 137/2010 Coll. on Air, no new source of air pollution is created in the category of middle and big sources.

The state section of nature and landscape protection (statement no. *G/2012/01886/ŠSOPaK/Bo* date 08/15/2012) states that the realization is possible under the following conditions:

- adding to the submitted statement the estimated social value of damaged and destroyed biotopes on the routes of all variants and to use these data in the Final Record
- realization of all measures for the prevention, elimination and compensation of impacts of proposed activity to the environment and also the consequent monitoring and the after-project analysis, that are stated in the chapters IV. and VI. of the Environmental Impact Statement.

In the conclusion they state that the District Environmental Office Trnava agrees with the Environmental Impact Statement if the above stated requirements and comments are followed.

District Office of Road Transport and Roads Prievidza (*letter no. AA/2012/04892-002/JUR date 08/20/2012*)

No objections to the Environmental Impact Statement.

District Environmental Office Nitra, Department of Quality of Environment (*letter no. A/2012/02179-003-F07 date 08/16/2012*)

The affected authority of nature and landscape protection requires including the following:

- In the locality above Lukáčovské rybníky and VN Kapince, objects making DS visible should be installed on the power line, which will soon enough warn the migrating birds of an obstacle in the migration route or in the flight corridor. Since in the Environmental Impact Statement the impact on bats is not assessed, similarly they require installing of objects making DS visible also in the localities of crossing of watercourses and surrounding wetlands.
- Dismantled barriers against birds perching from the previous 220 kV line which will be dismantled (circa 75 km, 238 towers) shall be used for protection of other sections of power line.
- In case of occurrence of invasive plant species in the places of construction, these shall be disposed of together with the roots and burnt on appropriate place.
- In case of potential migration of amphibians in the Nitra district between the forest and the ponds called Lukáčovské rybníky to divert the access roads from the migration route of amphibians or to execute the excavation work and the transport of construction machines after the end of migration, i.e. circa after 15th April in the current year.
- To utilize the branch waste from cut down trees after the agreement with the land owner in appropriate way or to grind it and lay it on appropriate place.
- As a compensation measure, they propose to grow the original trees, which meet the requirements of protective zone of power line. The stated trees can be also the energetic tree growths used for biomass (alder, poplar, willow), to prevent the useless felling and devastation of trees by watercourses as the parts of biocorridors.
- To carry the surplus soil to proper collection site, not to be used for covering up of possible depression (mainly by the water elements), which serve as generation localities of amphibians.
- As a compensation measure, to define and realize within the construction work the placement of nesting boxes for big species of birdlife (falcon and alike) on power towers based on the consultation with the competent organizational body of State Nature Conservancy of the Slovak Republic (ŠOP SR).
- To consistently follow the Act no. 543/2002 Coll. on Nature and Landscape Protection as amended and the regulation no. 24/2003 Coll. as amended with their specific projection into the zoning decision.
- In case that for the issue of zoning decision or building permit one particular building office will be determined, they require inclusion of conditions in adequate extent and measures from the Environmental Impact Statement on p. 265-267 to the conditions of zoning decision or building permit.
- Last of all, they require the monitoring of mortality of birds and bats according to the plan of monitoring defined in the project documentation for the territorial and building proceeding and possible adding of objects making DS visible, physical barriers on towers of 110 kV line (according to the causes of mortality) based on the results of this monitoring.

The affected body of state water management recommends the realization of Preliminary Environmental Study under the condition that the tower places are positioned as far as possible from the watercourses and that the relevant regulations of the Act no. 364/2004 Coll.

on Water are adhered.

The affected body of state administration in the waste management has no comments.

The affected body of air protection recommends the realization of activity.

In the conclusion, District Environmental Office Nitra proposes to recommend the activity if the standpoint of affected body of state administration of nature and landscape protection and water management is followed.

District Environmental Office Trnava, branch office Hlohovec, Department of Water Management and Nature and Landscape Protection (*letter no. B/2012/00546/ŠSOPaK/PB date 08/16/2012*)

From the aspect of nature and landscape protection they insist on consideration of alternatives of places of crossing Váh river by new 2x400 kV line. They require adding the comparative study of impact of construction on wetland biotopes of variant in the route of original line and the route variant between the original line and the confluence of Dudváh and Váh rivers to the Environmental Impact Statement. They require adding the estimation of social value of damaged and destroyed biotopes in all variant routes and using of the data in the final record and comparison of variants based also on the economic evaluation (investment costs).

District Environmental Office Trnava, branch office Hlohovec, Department of Quality of Environment (*letter no. B2012/00548/OČO/Fr date 08/13/2012*)

From the aspect of air protection they agree with the submitted Preliminary Environmental Study of construction under the conditions of provisions of the Act no. 137/2010 Coll. on Air.

Railway Regulatory Authority, Bratislava (*letter no. 5613/12-S4-S/Ta date 08/01/2012*)

They have no objections to the proposed activity. They point out that in case of positioning of other objects into the protective zone of railway or in the circumference of railway and those which serve for the railway purposes, these are possible to establish only with the approval and under conditions stated by the Railway Regulatory Authority.

Civil Aviation Authority of the Slovak Republic, Bratislava (*letter no. 08018/2012/313-002-P/12826 date 08/08/2012*)

They require submitting the project documentation for the standpoint issue.

State Nature Conservancy of the Slovak Republic, Banská Bystrica (*letter no. ŠOP SR / 2688/2011 date 08/15/2012*)

According to State Nature Conservancy of the Slovak Republic the 2x400 kV line Bystričany – Križovany is acceptable in the most part of the proposed route from the aspect of nature and landscape protection, the section between Zelenice and Siladice is routed inappropriately, where the requirement for minimization of impacts on natural wetland biotopes with significant ecologic and recreational function was not observed. They prefer the localization of foundations on the spots of original towers of existing 220 kV line V274.

They recommend adding the comparison statement of impact of submitted variant on wetland biotopes, impact of variant in the route of original line and possibly the route variant between the original line and the confluence of Dudváh and Váh rivers to the Environmental Impact Statement. They recommend consulting the alternative routes with the workers of Administration of CHKO Malé Karpaty.

Such adjusted line route could be realized together with the mitigating measures, from which the most important are: placement of objects making DS visible, boxes on selected towers, nesting pads in forest growth, substitutive tree planting, managing measures for destroyed biotopes according to the requirements of ŠOP SR, monitoring of selected important biotopes, ensuring of environmental supervision of construction.

District mining office Bratislava (*letter no.709-2040/2012 date 08/16/2012*)

District mining office Bratislava points out that in the section 1.1. registers the protected deposit area Križovany nad Dudváchom designated for the protection of exclusive deposit of technically utilizable natural gases and at the same place registers protected area Križovany

nad Dudváhom designated for the special intervention into Earth's crust (underground reservoir of natural gas), and therefore it is needed for their binding standpoint to the building permit.

Railways of the Slovak Republic, Bratislava, General Directorate, Department of Expertise (*letter no. 17335/2012/0420-2 date 08/15/2012*)

They point out the facts related to the construction and its operation and its possible negative impacts on railways and transport on railways.

Archaeological Institute of the Slovak Academy of Science, Nitra (*letter no. 13732-646/12 date 08/13/2012*)

Archaeological Institute recommends meeting the condition: the constructor/investor shall require the standpoint to the planned constructional action in relation to the possibility of disruption of archaeological excavations already in the phase of territorial proceeding from the competent Regional Monuments Board for each phase of construction requiring the excavation work.

Public Health Authority of the Slovak Republic, Bratislava (*letter no. OHŽP – 5760/12 date 08/20/2012*)

They agree with the Preliminary Environmental Study.

Slovak Water Management Enterprise, state enterprise, branch office Piešťany (*letter no. CZ 22595/2012/210 date 08/22/2012*)

No objections to the Environmental Impact Statement. They point out that the route of line crosses Váh river in the place of planned construction of waterworks Sered' – Hlohovec. The minimal height of line overhang over the highest navigation surface (141.10 MASL Bpv) is defined for 19 m.

National Motorway Company, Bratislava (*letter no.388/53305/30103/2012 date 08/22/2012*)

They require respecting the protective zones of expressway R8 Nitra crossroads R2, which was in 2011 assessed according to the Act no. 24/2006 Coll. and the green variant no.4 was selected.

Town Topolčany – Municipal office (*letter no.OVŽP/5868/2012 date 08/16/2012*)

Town Topolčany requires the following of complete environmental legislation during the construction of investment purpose and its operation and the realization of all proposed measures for mitigation of undesired environmental impacts of proposed activity.

They require the following of all measures related to the management of protected bird area Tríbeč (the route leads through the north-western edge) with the priority environmental supervision during the construction work as well as the following of II. degree of protection within the area of CHKO Ponitrie in line construction.

Town Partizánske (*letter no. 5677/2012 date 08/28/2012*)

No objections to the Environmental Impact Statement.

Municipality Siladice (*letter no. 257/2012 date 08/28/2012 and 09/06/2012*)

No standpoints, objections and comments to the line.

Municipality Rišňovce (*letter no. 662/2012 date 08/17/2012*)

No objections or comments to the Environmental Impact Statement.

Municipality Dvorníky (*letter no. A/443/2012 date 09/03/2012*)

Municipality Dvorníky does not have any substantial objections to the line realization. They require incorporating the comments into further grades of building procedure:

- to ensure the awareness of all land owners and to solve financial compensation
- in the local part Posádka the line goes through gardening area and therefore the situation, when some of garden cottages get into new protective zone, needs to be solved
- they require removal of old foundation feet and put the original place of towers back into the original state

- to secure local communications against damage and dustiness during the construction.

Municipality Horné Obdokovce (*letter no. 629/2012 date 09/03/2012*)

They state that the municipal office did not get any standpoints or comments from citizens.

Municipality Dolné Zelenice (*letter no. 133/2012 date 09/04/2012*)

The municipality does not have objections to the construction, if it will not extend to the built-up area and the new line will lead in concurrence with the existing 2x110 kV line.

Municipality Sasinkovo (*letter no.271/2012 date 09/10/2012*)

They state that the municipal office did not get any standpoints or comments from citizens.

They require incorporating the comments into the further phases of building procedure:

- to ensure the awareness of all land owners and to solve financial compensation
- they require removal of old foundation feet and put the original place of towers back into the original state
- to secure local communications against damage and dustiness during the construction.

5. Elaboration of expert review according to § 36 of the Act

The expert review was elaborated according to the § 36 of the Act by doc. RNDr. Katarína Pavličková, CSc., registered in the list of professionally qualified persons for assessment of environmental impacts under the number 157/97-OPV.

The expert review contains all requisites prescribed by the law, including the final record proposal. The reviewer elaborated the expert review based on the submitted Environmental Impact Statement including the annexes, comparative study, delivered standpoints to the Environmental Impact Statement, Scoping of Assessment, minutes from collective public consultations of proposed activity, supporting documents and additional information, as well as based on own findings.

Doc. Pavličková, CSc. stated that the Environmental Impact Statement is elaborated on a good to a very good level. The structure of documentation is in compliance with the valid legislation. The characteristics of particular components of environment and their quality characteristics are processed sufficiently in detail, partially in great detail, they are supplemented appropriately by illustrative annexes, tables and pictures. The assumed impacts of activity on environment are processed precisely, the impacts are divided in standard way, although they are not differentiated from the time aspect for all assessed items, in some cases the impacts are divided into direct and indirect ones. Despite that fact, it is possible to state that the impacts are elaborated on a very good level. In some cases the description of expected impacts blends with the measures, which however does not lower the quality of documentation.

According to her, the Environmental Impact Statement contains also appropriately processed complex assessment of expected impacts from the aspect of their importance. Also the criteria for the selection of optimal variant are processed concisely, while the double stage decision making was applied. In the first stage of assessment the groups were assigned the values of their importance (individually for each variant) and in the second stage of assessment the particular groups were assigned the weights for the importance assessment. In that case, the fact that the impact comparison is not divided into the impacts during construction and during the operation of power line, can be considered as an imperfection.

According to the reviewer, also the complement – the comparative study of proposed alternatives of Váh crossing (cadastral areas Siladice, Dolné Zelenice, Posádka and Dvorníky), is elaborated on a very good level.

In the conclusion she states that the realization of the activity **is possible in the proposed variant** stated in the Environmental Impact Statement in connection with the alternatives that are related to:

1. The routing of new section of the route of 2x400 kV of line in cadastral areas Kapince, Biskupová, Bystričany might be locally changed, that is mainly based on property survey and standpoints of owners and users of affected agricultural lands.
2. The routing of new 2x400 kV line can be led out of original corridor of 220 kV line between break points R12 and R14 so that between these points (point R12 will be moved to the cadastral area Bošany - Horné Pasienky locality) the route of new 2x400 kV line straightens, leading only through agricultural soil.
3. The routing in the section of crossing Váh might be realized in such alternative, which means use of route of 2x110 kV line, while the new 2x400 kV line would be situated parallelly with this route in axial distance of 40 m. In this case, the alternative route would start already by diverting from the original corridor of 220 kV line yet before the crossing of railway Leopoldov – Galanta in the area in front of the railway station Siladice (potentially yet before the crossing of Dudváh watercourse) and by connecting to the corridor of 2x110 kV line by the gravel pit Siladice. In this concurrence the route would enter the inter-dam area of Váh, would continue by crossing Váh and ascending to forested hills of Nitra Highlands above the left bank of river. After reaching the edge of highlands the route of new line would leave the corridor of 2x110 kV line, would cross perpendicularly the protective zone of transit gas line and before the vast areas of vineyards near municipality Dvorníky would come back to the route of 220 kV line V274.

The recommendations and conclusions of the expert review were used as the supporting documents for the processing of VI. Chapter of the Final Record.

IV. COMPLEX ASSESSMENT OF IMPACTS OF PROPOSED ACTIVITY INCLUDING HEALTH

In the assessed documentation there are the expected impacts on particular components of environment during the construction and operation stated. The requirements on inputs, data of outputs and assessment of expected impacts from the aspect of their importance and time course of effect are processed.

For the proposed activity – construction of new 2x400 kV line in the Bystričany locality – Križovany also these facts among others are decisive in the Environmental Impact Statement:

- new 2x400 kV line will be localized in already existing corridors of 220 kV and 2x110 kV lines, i.e. environmental impacts which would have effect related to the operation of new line, already have effect in the affected area to certain extent at present; only their extent will be changed by the operation of new line
- the type of activity means bigger environmental impact in the phase of construction than during operation
- the proposed line is located mostly in significantly anthropogenically affected – intensively used agricultural landscape, partially in the area of Horná Nitra loaded area and also partially in Dolné Považie loaded area
- the corridor of the proposed line goes through Tríbeč foothill with forest growth in the section 1.6, which represents the only spatially more extensive type of original landscape in the affected area. The 2x400 kV line leads through the mountain already in the existing long-term deforested corridor.

The impacts are assessed together for all sections of proposed line (i.e. all expediently divided sections 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7). The impacts are stated particularly only in the case when their extent is different because of different quantity of inputs and outputs.

Impacts on population

The number of citizens affected by the impacts of proposed activity in affected municipalities

The impacts during construction and operation

By the construction of new 2x400 kV line the citizens of those affected municipalities will be affected:

- the edge of built-up area of which is located in the affected area in 300 - 500 m from the corridor of line, from the affected municipalities those are: Zavar, Dolné Zelenice, local part Posádka (municipality Dvorníky), Sasinkovo, Rišňovce, Lukáčovce, local part Ceroviny (municipality Nové Sady), Kapince, Biskupová, Čermany, Horné Obdokovce, Ludanice, Chrabrany, Solčany, local part Baštín (municipality Bošany), Klátova Nová Ves, Turčianky, Brodzany, Malé Uherce, Oslany, Čereňany and Bystričany,
- in which more intensive use of local communications in the built-up area is expected related to the construction, from the affected municipalities those are: Zavar, Dvorníky, Sasinkovo, Lukáčovce, Kapince, Biskupová, Horné Obdokovce, Chrabrany, Solčany, Práznovce, Klátova Nová Ves, Turčianky, Brodzany, Malé Uherce, Oslany, Čereňany and Bystričany.

The total number of citizens temporarily affected by the construction according to the previous identification is about 30 000.

Social and economic consequences and connections

Impacts during construction

The realization of proposed activity will have positive socioeconomic impact mainly during the construction, because it will provide work possibilities for several tens of people, mainly in workman professions. The workers will find the job in preparation phases as well as in auxiliary terrain, dismantling, building and assembling work. We assess this impact as temporary – mid-term one, it will have effect only during several years of construction of new 2x400 kV line.

The positive impact is also the partial economic contribution for the population of affected urban units, which will follow from:

- land purchase, or financial compensation of creation of easement for owners of directly affected lands
- financial compensations for temporarily used areas of agricultural and forest soil during the construction
- financial compensations for restriction of use of lands in the protective zone during the operation of new 2x400 kV line.

Within the proposed activity we do not assume any impact on current demographic development of population during the construction.

Impacts during operation

The positive impact of realization of proposed activity – 1st phase of construction of new 2x400 kV line in the section Bystričany locality – Križovany, is the further strengthening of possibilities of power distribution with indirect positive development and economic consequences.

Within the proposed activity we do not assume any impact on current demographic development of population during the operation.

Health risks

Impacts during construction

During the construction the impacts on population related to the construction work that would affect their health condition are not expected. The construction work will take place in free landscape out of built-up areas of urban units, which will be so affected only by transport related to the construction, which will produce increased noise, dustiness and emissions. These impacts will be temporary and irregular and will cause only decrease in comfort and quality of life of affected population.

Impacts during operation

In relation to the operation of proposed 2x400 kV line, in respect to its character and mainly to positioning of line route predominantly out of built-up and permanently inhabited areas no impacts on health condition of population is expected.

Life comfort and quality disruption

Impacts during construction

The impacts related to the movement of transport and construction machines on access communications including crossing through affected municipalities are expected (mainly Zavar, Dvorníky, Sasinkovo, Lukáčovce, Kapince, Biskupová, Horné Obdokovce, Chrabrany, Solčany, Práznovce, Klátova Nová Ves, Turčianky, Brodzany, Malé Uherce, Oslany, Čereňany and Bystričany), as well as the impacts of construction activities, that is in places where the corridor of proposed line leads in relative closeness to affected municipalities (Zavar, Dolné Zelenice, local part Posádka (municipality Dvorníky), Sasinkovo, Rišňovce, Lukáčovce, local part Ceroviny (municipality Nové Sady), Kapince, Biskupová, Čermany, Horné Obdokovce, Ludanice, Chrabrany, Solčany, local part Baštín (municipality Bošany), Klátova Nová Ves, Turčianky, Brodzany, Malé Uherce, Oslany, Čereňany and Bystričany). Here the population will be temporarily and irregularly exposed to increased noise, dustiness and also the production of transport emissions, as well as the increased noise and dustiness from building sites and movement of machines in the line corridor.

The stated impacts will be temporary, irregular and will disrupt the quality and comfort of life of affected population.

Impacts during operation

The line operation will not cause new barrier effects or dividing effects in the structure of affected urban units. In case of realization of local bypass of municipalities Kapince and Biskupová, the current barrier effect of 220 kV line crossing the built-up area of these municipalities will disappear. We do not expect any other impacts on urban complex of affected urban units.

By the operation of new 2x400 kV line, the use of landscape will not be changed considering the quality. The areas in immediate environs of new corridor will be further used mainly in agricultural and forestry way. The possibilities of forestry will be worsened only insignificantly by total area occupation and extension of protective zone. Permanent soil occupation by tower sites of new line will represent only inconsiderable worsening of possibilities of agricultural use.

With respect to the localization of corridors of proposed 2x400 kV line in the affected area and visual exposure, its negative visual perception might occur by affected population related to the operation of new line. The existence of such perception is significantly subjective, depending on criteria and sensitivity of each individual on perception of sceneries.

Activity acceptability for the affected municipalities

During the process of Environmental Impact Assessment of proposed activity no rejecting standpoints to proposed activity were noticed from population of affected municipalities, objections of municipalities to line routing were solved within the elaboration of Environmental Impact Statement and were incorporated into this documentation.

The former conflict of proposed route of 2x400 kV line with the built-up area of municipalities Biskupová and Kapince was solved by new routing of line – by bypass of built-up areas of both neighbouring municipalities – introduced within the Environmental Impact Statement.

Alike, the proposal of municipality Bystričany to lead the line in the part Dolná Domovina in concurrence with the affected lands near houses was respected, which decreased the demands

for total extent of protective zone in the built-up area of municipality. This new solution is also the part of solution assessed in the Environmental Impact Statement.

The routing of new 2x400 kV line in the existing corridor of 220 kV V274 line is realized out of the built-up area of municipality. It corresponds with the map representation of routing of existing 220 kV line in ÚPD VUC of Nitra region.

Impacts on rock environment, minerals, geodynamic phenomena and geomorphologic conditions

Impacts during construction

The activities related to the construction of power line and the character of geologic structure of assessed area do not create preconditions for creation of such impacts, that would significantly affect in negative way the quality and condition of environment. The impacts on rock environment will be restricted only to the places of construction of new towers and building of access communications to towers.

The contamination of rock environment might occur in case of leakage of oil substances from construction machines and transport. Such impact means only the risk, as well as the following activities, which can be the potential initiators of erosive processes:

- excavation work during building of tower foundations
- the felling of forest growths and wood manipulation
- the felling of line non-forest tree vegetation (hillside growths, copses, windbreaks, side vegetation of erosion furrows) – creation of conditions for pothole erosion
- adjustments of access communications – potential risk of creation of hill landslide (erosions of local character)
- the movement of construction machines – potential movement of released rocks by gravitation powers and water erosion, possible creation of conditions for the development of erosion phenomena.

The stated risks of creation of suitable conditions for the development of geodynamic phenomena (hill deformations, erosion, weathering, volume changes) are related to the cases if the unsuitable construction activity is applied to construction of individual power line towers and access roads to towers. Erosion phenomena are expected mainly in the places with steep hills when crossing the Tríbeč foothill (section 1.6) and with water interaction, as well as in the hilly areas of sections 1.2, 1.3 and 1.5 (except for bottom land areas), mainly in the localities with higher inclinations.

In the affected area the negative impacts of power line construction on mined areas of minerals deposits are not expected.

Impacts during operation

The power line operation will not have negative impact on rock environment. However, by the initiation of erosion during the construction, the local erosive processes might endure also in the phase of operation and so last for several years.

In the affected area the negative impacts of power line operation on mined areas of mineral deposits are not expected.

Impacts on climatic conditions

Impacts during construction and operation

Neither construction nor operation of new 2x400 kV line will affect the current conditions of affected area from the aspect of climatic conditions and air hygiene.

Air impacts

Impacts during construction

During construction of new 2x400 kV line, temporary unfavourable impacts as a result

of machines transport and the work on building sites are expected in the form of:

- increase of dustiness and noisiness at the access roads
- increased proportion of exhaust fumes
- increased dustiness on building sites and in the corridor of construction during the construction work, mainly in the sections of agricultural soil (sections 1.1 - 1.5, section 1.7).

Impacts during operation

During operation, the production of waste heat and also heating and drying of air in its immediate proximity might occur. During the corona discharges, which occur on high voltage line, the electrochemical interactions with air molecules N_2 and O_2 occur, and the moderate increase of content of nitrogen oxides NO_x and ground level ozone O_3 can be expected.

Also the interactions with polluting substances in air might occur (pollutant emissions, exhaust fumes, etc.). In the direction towards the high voltage line, the gradient of electrostatic field is increased and so the possibility of increase of concentration of ions, polarized molecules, aerosols, and dust particles of bipolar character is created. Decay products of radioactive particles might be bound to dust particles, which might cause the increase of ionizing radiation under the high voltage line.

The stated impacts are negligible considering quantity and do not represent possible source of danger to air quality or to microclimatic conditions.

Impacts on water conditions

Surface water

Impacts during construction

Surface water impacts have the risk character, which might be related for example to:

- movement of transport and construction machines through access communications
- long term occurrence of construction machines in building sites.

Relatively greatest risk is represented by the leakage of oil substances from construction machines. From this aspect, the most sensitive ones are areas of watercourses, threatened in its proximity by work, or direct crossing of machines through them. The problem ones might be also the seasons of increased water state and intensive precipitations.

Impacts during operation

The line operation will not have any impact on surface water.

Ground water

Impacts during construction

Surface water impacts have the character of risk. The risk to ground water and water sources is represented by the leakage of oil substances from construction machines, but also excavation work during the building of tower foundations in the sections with increased level of ground water. The risk extent also follows from the permeability of watered layers and presence of impermeable covering layers.

The most risky localities from the aspect of spatial position of impacts are the immediate surroundings of water management objects, or sources located near the proposed line corridor. The closest water management sources and their PZs are:

- II. grade PZ of water management source Šúrovce (cadastral areas Križovany nad Dudváhom, Zavar), southern edge of section 1.1 – outside the line corridor,
- II. grade PZ of water management source in Solčany, northern edge of section 1.4 (cadastral area Solčany) – outside the line corridor,
- II. grade PZ of water management source Goradza (south-eastwards from municipality Brodzany), section 1.6 – outside the line corridor.

The area of route of new line does not reach any protective zone of water management sources.

Impacts during operation

The line operation will not have any impact on ground water.

Impacts on soil

Impacts during construction

The soil impacts represent mainly the risk of erosion and soil removal related to:

- movement of construction machines through the protective zone corridor, particularly through arable soil
- extending and adjustments of existing unhardened communications
- felling of forest growths and wood manipulation
- felling of non-forest tree vegetation.

Soil removal is expected mainly in the places with steep hills with water activity, i.e. mostly in the section 1.6 crossing the Tríbeč foothill. After the removal of vegetation cover, the significant part of soils will be predisposed mainly to pothole erosion, sporadically by the impact of inappropriate actions (e.g. felling of hills by ground work) hill movement might be caused (erosions of local character). Locally the soil removal might occur only in the highland parts of Nitra Highlands (section 1.2 – Zálužie Highlands and section 1.3 – Bojná Highlands).

Also the mechanical damage of soils is presupposed by the movement of construction machines – permanent firming of arable and under surface layer in the protective zone of line and that is mainly on agricultural soil comprised of arable soil, practically almost in the whole affected area except for the forested part in section 1.6.

In the areas with removed vegetation cover, wind erosion will have effect during the construction and in the initial period of operation.

Impacts on soils during the construction of line will be represented by temporary occupations of soils in the space of protective zone of new line, building sites and in the routes of access roads.

Impacts during operation

The line operation will not have any impact on the soil quality. By initiation of erosion and removal of soil during the construction work the given impact might be irreversible in extreme cases, or might endure also in the phase of operation and last for several years.

Soil impacts during line operation will be also represented by permanent soil occupations in the areas of tower sites in the area of protective zone of new line.

During the line operation the towers positioned on arable soil will have effect as permanent obstacle to agricultural activities.

Impacts on fauna, flora, and their biotopes

Regarding the time, the routing of new 2x400 kV line, its operation and also realization of regular felling related to the care for protective zone of line means permanent and long term impact on biota. Construction impacts have temporary, mostly irregular character. In relation to biota, the impacts will be presented in four levels:

- impacts depending on routing of proposed line
- felling
- impacts as a result of construction activities
- operational impacts.

Impacts on biotopes and flora

Impacts during construction

During realization of proposed activity – construction and operation of 2x400 kV line in the section Bystričany locality – Križovany we assume inappropriate impacts on vegetation mainly during preparation work and during construction (felling, machine movement in PZ of line and access roads, ground work at tower feet, tower mounting, wire drawing), which will

be presented as follows:

- permanent impact on continuous forest communities of Tríbeč foothill and on scattered forest communities in agricultural landscape
- impact on non-forest line vegetation of hillside growths, copses, windbreaks, shrubs along erosion furrows and alike, related to the disposal of vegetation section
- disruption of meadow communities
- degradation of line wet localities in case of machine movement through them
- spreading of unoriginal and invasive species into landscape caused by the entry of construction machines into the area
- increased synantropization and ruderalization
- potential decrease of biodiversity of area as a result of possible levelling of terrain depressions by excavation material
- (indirectly) by degradation of water or coastal vegetation, possible pollution of watercourses by oil substance leakage from construction machines.

Direct impacts – felling

The construction of proposed 2x400 kV line is related mainly to felling of forest and non-forest vegetation with respect to direct impacts on vegetation.

New line route leads through forest already in the existing (deforested) corridor of 220 kV line mainly in the section 1.6 – through forest growths of Tríbeč foothill in total length of circa 5100 m, and that is in already existing (deforested) corridor of 220 kV line. It also leads through smaller growths on forest lands in agricultural landscape in scattered way.

By routing of new 2x400 kV line in the corridor of existing line – in route along 2x110 kV line V8769/8770 the width of existing protective zone and so the area for the possibility of felling realization will be extended by circa 60 m from one side using DONAU towers, or 50 m using SÚDOK towers. The stated is applied for the forest section situated in cadastral area Dolné Lovčice (part of section 1.1).

By routing of new 2x400 kV line in the existing corridor of 220 kV line V274 the total width of existing protective zone will be extended by circa 12 m from both sides using DONAU towers, or by 7 m using SÚDOK towers. The stated is applied for the forest section situated in whole remaining part of proposed line (part of section 1.1, sections 1.2 - 1.7).

So the total area of possible felling on forest lands will be extended compared to existing state - by 15.06 ha (using DONAU towers), or by 8.86 ha (using SÚDOK towers).

The impacts of realized felling will be permanent. The felling in the stated sections related to the construction and also to regular line maintenance, with maximal extent of felling of 15 ha, will cause permanent disposal of oak, oak-hornbeam, beech or mixed forests of Tríbeč foothill - thus the direct disposal of part of biotopes, hiding places, nesting sites or thinly mobile fauna. Tree layer will be disposed of; there will be disposal of shrubby layer and herbal copse as a result of manipulation with wood mass and ensuring of access. By the felling, the edge of forest biotope will be substituted by another type of biotope, which will be changing its character to clearing with herb or shrub superiority as a result of successive processes and regular interventions because of maintenance and operation of line.

The impact on forest biotopes can be considered as potentially important with the impact on ecologically important types of forest biotopes, however with minimal spatial impact. The reverse recovery of forest growths and long term care for new protective zone of lines enables to support the composition of trees close to natural ecosystems, which will improve the quality and stability of growths.

The route of proposed 2x400 kV line crosses besides forest also the line and small surface components of grown vegetation, which is in present types of agricultural landscape bound to hillside growths of local watercourses, ravines, erosion furrows, pasture groves, windbreaks and other grown lines bordering particular agricultural areas. By routing of new

2x400 kV line in extended common corridor of lines, the extending felling of these lines of vegetation with the risk of disruption of continuous herbal vegetation cover related also to disruption of soil cover will take place.

In the affected area of line the localities of grown vegetation out of forest lands were identified preliminarily, which shall be necessarily removed in relation to the construction of proposed activity - 2x400 kV line.

The total area of felling on agricultural soil is max. 3-5 ha, the width of felling depends on the height of growths – in case of height of growth which does not threaten conductors, it is not necessary to do the felling in the whole width of PZ.

The direct impacts on the vegetation cover might occur in the affected area also by other construction activities, which are for example excavation of towers sites foundations, installation and mounting of towers, wire drawing, building of temporary building sites, movement of machines in protective zone and on access roads. The permanent disposal of cover will for sure occur in areas designated for installation of towers of new 2x400 kV line, which will be substituted by built-up areas – concrete tower feet. Other activities will cause mainly the temporary impacts or change to another type of biotope. Their ending up will be continuous after finish of construction activities, with possible restoration only after few years. From this aspect, the possible spreading of ruderal, invasive and unoriginal species from protective zone to forest, or surrounding biotopes is a great risk.

Direct impacts – occupations of biotopes

In total the permanent biotope occupation will occur in the extent of newly installed foundations – tower feet, the localization of foundations in places of original towers will be preferred. On agricultural soil only biotopes of intensively cultivated fields or pastures will be affected, the occupation of soil is not expected in more important line non-forest biotopes– installation of feet inside of these lines would be of liquidation character with respect to its fragmentary positioning.

New permanent occupation of forest biotope areas will be related to the installation of approximately 16 pieces of towers in forest growths of Tribeč foothill (of section 1.6).

The temporary occupation of biotope areas is related to use of some unhardened access roads and also movement of machines inside PZ of new line.

In case of non-forest biotopes, different extent of damage or liquidation of grass growth in routes of accesses will occur. Damage of biotope might reach various degrees and that depends on the character of terrain and intensity of movement of machines and vehicles through access road. At low intensity, in flat terrain, the temporary impact with natural consequent renewal of plant cover can be expected. In more extreme conditions (long term precipitation) and intensive use of access roads it is possible to expect more distinctive impact, removal of grass growth, mechanical damage of soil cover with possible initiation of erosive processes.

The temporary occupation of biotopes of rather substantial area extent is expected also in manipulation areas around tower feet, where the damage or removal of plant cover will occur. The same as in case of access roads, the extent will depend on intensity of manipulation and transport of machines, but also on terrain conditions and current weather conditions. Renewal of biotopes is possible, but it will require reconstruction activities. It is possible to assess similarly the direct impact of non-forest biotopes by temporary damage by other activities connected to line installation, mainly in case of wire drawing in terrain.

At forest biotopes (1.6 - forest biotopes of Tribeč foothill, scattered forest units within agricultural soil) temporary occupation of areas in route - corridor of protective zone of line is expected. In case of these biotopes also the temporary forest occupation has permanent impact

on forest biotopes and permanent or repeated liquidation of biotope is expected, because by forest felling it will be substituted by another non-forest type of biotope – clearing biotope.

Indirect impacts

In the period of construction they represent the risk of impact on biotopes and vegetation through pollution or degradation of other components of environment. It is not possible to exclude them in case of pollution of water and soil environment by leakage of oil products and other dangerous substances from machines and transport means used for dismantling, construction work or felling of growths. In case of elaborate maintenance and checking and also following of operational regulations, these impacts can be considered as unlikely, but with respect to the extent and area of work it cannot be definitely excluded, for example in case of extraordinary and emergency situations. The extent of impact on vegetation and biotopes is expected to be of local character in this case, but with long term effect.

It is possible to include also the impact of hydrologic regime of surface and ground water to potentially indirect impacts, which might occur during processing of access roads, ground work and alike. Unfavourable impact can be displayed in case of non-forest wetland biotopes, which have specific and usually vulnerable water regime. In the affected area it is not possible to exclude this risk in case of effusions and springs in the area of erosion furrows, which locally condition the specific representation of species.

Unfavourable impact on biotopes and vegetation can be displayed indirectly as a result of spreading of unoriginal and invasive species, which might potentially occur during manipulation with excavation soil, dumps founding, and transport of machinery and vehicles. It is possible to eliminate this risk by the following of certain organizational precautions.

Impacts during operation

After finishing the realization of construction work the extent of impact on vegetation will be reduced significantly. During the operation of new 2x400 kV line the impacts on vegetation are expected in the extent of regularly realized tree felling in the protective zone of line. In the places of tower installation we can expect increased occurrence of weed species or also natural seeding of caught shrubs and trees (e.g. elderberry, hawthorn, dog rose, aspen or goat willow), which is a positive impact mainly in agriculturally intensively used landscape.

Direct impacts

Potential impact can be expected only in case of regular maintenance of facilities or in case of removal of failures, which will be related to the movement of machinery in the route of line, it is likely that the same access roads as during construction will be used. The extent of damage of vegetation cover related to that can be considered as insignificant compared to the construction and from time aspect as unimportant.

More significant impacts on plant cover are expected in the sections which lead through forest growths of Tríbeč foothill (section 1.6). In the width of protective zone, the regular felling of tree vegetation will be realized, by which the biotope character will be changed in certain cycles. After the elimination of shrubby component, the species composition of copse will be changed mainly in favour of more photophilous species and in the next period the species composition will be adapting to advancing succession of trees, e.g. by invasion of some forest species and total reduction of diversity. From the aspect of value those are common ruderal biotope types which do not belong to important ones.

The irregular impacts of operation on biota can be also represented by the potential impacts on biotopes at the access to the protective zone during regular maintenance or failures or emergency. The regular maintenance of protective zone will have impact on the present biota – regular felling of grown trees, seedling care, liquidation of unfavourable trees and vegetation.

Indirect impacts

The risk of indirect impacts on flora can be described similarly to the construction period. It is potential influence of flora component through pollution of another components mainly water and soil. The source can be the leakage of oil substances from vehicles and machines used for maintenance and repairs or other dangerous substances used for these activities. Compared to the period of construction, with respect to time of operational maintenance it is a negligible risk. During line operation the indirect impacts caused by interventions to hydrologic regime of surface and ground water are excluded.

Impacts on significant biotopes

Impacts during construction and operation

The project expects the direct impact on existing biotopes and tree vegetation mainly in relation to the extension of protective zone of EHV 2x400 kV. Mainly in the area of Tribeč there are significant impacts, the result of which is the direct liquidation of important forest biotopes. In total, the extension of line PZ related to the felling will affect the following types of forest biotopes:

- Ls1 – Riparian forests (biotope of European importance of priority interest 91E0*)
- Ls 1.2 – Oak-elm-ash lowland riparian forests (biotope of European importance 91F0)
- Ls 2.1 – Oak-hornbeam Carpathian forests, (biotope of national importance)
- Ls 3.1 – Thermophilic sub-mediterranean oak forests (biotope of European importance of priority interest 91H0*)
- Ls 3.4 – Oak-cerris forests (biotope of European importance 91M0)
- Ls 5.4 – Calcareous beech forests (biotope of European importance 9150).

The direct impact on existing biotopes can be expected related to the construction of newly installed foundations – tower feet. Direct danger of grass-herb biotopes is presupposed – Tr1 – Xerophilous grass-herb and bush growths on calcic substrate (biotope of European importance 6210) **and Lk1 Lowland and foothill mowable meadows** (biotope of European importance 6510). The indirect impact on these grass-herb biotopes can be expected during the dismantling of existing line and installation of new one, mainly the crossing of necessary machinery.

If the grass-herb biotopes are not liquidated directly by construction, or indirectly by crossing, the maintenance of protective zone of EHV will not be a problem for these biotopes, quite the opposite, the regular removal of tree successive vegetation keeps these biotopes in favourable condition.

The extent of permanent and temporary occupations of important biotopes is possible to expound based on the presupposed collision of affected areas with the route of new 2x400 kV line, presupposed tower spans, protective zone of new line, presupposed extent of felling and routing of access roads. The following tables contain the comparison of presupposed occupation of important biotopes alternatively for use of both types of towers in m².

Presupposed occupation of important forest biotopes alternatively for use of both types of towers in m²

		Ls 1	Ls 1.2*	Ls 2.1	Ls 3.1	Ls 3.4	Ls 5.4
occupation (PZ extent)	For	21496	1725	21864	22740	600	17160
number of towers in B	DONA	0	0	3	3	0	2
occupation (tower)	U type	0	0	243	243	0	162
occupation (PZ extent)	For	12540	1006	12754	13265	350	10010
number of towers in B	SÚDOK	0	0	3	3	0	2
occupation (tower)	type	0	0	192	192	0	128

**marked biotope is a biotope of national importance, all other stated biotopes are biotopes of European importance*

Presupposed occupation of grass-herb biotopes of European importance alternatively for use of both types of towers in m²

		Tr 1	Lk 1
temporary occupation (PZ extent)	For DONAU type	21496	1725
number of towers in B		2	2
permanent occupation (installation)		162	162
temporary occupation (PZ extent)	For SÚDOK type	12540	1006
number of towers in B		2	2
permanent occupation (installation)		128	128

From the stated overviews it arises that maximal possible impact on the important forest biotopes is 8.5 ha. Maximal area of potentially threatened important grass-herb biotopes is 2.3 ha.

Damage of forest and non-forest biotopes in preliminary stated extent can be substituted by revitalization of damaged areas, reclamation and forestation of protective zone with the consequent management, substitutive planting, substitutive measures on another areas (e.g. management impacts on areas threatened by succession) within revitalization activities.

Impacts on fauna

Impacts during construction

Impacts following from the line routing

The line routing will not have substantial impact on fauna in comparison with the current state. The line route will be led in already existing line corridors (except for local bypass in cadastral areas Kapince and Biskupová).

Impacts following from felling realization

Impacts of realized felling by extension of existing protective zone will be permanent. The felling related to construction and also regular maintenance will cause permanent liquidation of forest growths and thus direct liquidation of biotopes, hiding places, nesting sites or thinly mobile fauna.

By felling realization the following phenomena are expected, which can be marked as presupposed impacts on fauna:

- liquidation of tree growths in protective zone reduces the population density of original species of fauna in assessed area
- fragmentation of biotopes caused by liquidation of trees in hilly growths and field copses causes the creation of islets which will lose its functionally e.g. as nesting biotopes
- liquidation of trees in protective zone causes the change of biotope and unoriginal species of fauna get into the original community of forest.

Impacts of construction activities

Construction activities in protective zone of line will mean the disturbance of animals, which might cause the temporary leaving of given area by mobile fauna species. For thinly

mobile fauna species the impacts of construction activities will be even liquidating, e.g. for soil organisms by tower foundations excavation work.

For the construction activity we expect also the creation of the following phenomena, which we characterize as impacts on fauna:

- according to time schedule, the areas filled with water will be created during construction activity, which migrating amphibians might enter with the purpose of copulation and egg laying
- temporarily suitable substitutive places for species existence will occur by founding of buildings (tower feet)
- by the entry of machines or by tower building (especially in forest biotope) the restriction of biorhythms of fauna species living here might occur, which might lead to leaving of nesting sites.

Nesting possibilities of birdlife will be made worse only locally by extending felling, without impact on nesting possibilities of standard and other important forest species of birdlife. The felling as well as the construction realized outside the nesting period eliminates the damage of possible active nests or nesting in surrounding growths.

Impacts during operation

Barrier effect of route of distance line is not developed by terrestrial migration of animals. The facility does not constitute an obstacle restricting the migration and on the contrary, several species use protective zone by movement (e.g. huntable species of vertebrates, reptiles).

Operation impacts of new 2x400 kV line mean potential collisions of birdlife with air conductors.

Selection of route is crucial for minimization of number of killed birds because of collisions. It is necessary to apply the principle of preliminary caution, where the species important from the aspect of nature protection are concentrated. Climatic conditions (speed and direction of wind, temperature and air humidity), type, distance and height of flight, period (day, night, season) and topography of terrain, all this influences the risk of collision, as well as the bird species, its age and state of year cycle of birds. All these factors are necessary to be taken into account for collision risk assessment. There is the highest risk for flying in case of bad weather conditions as strong wind, rain, mist, dark nights. Under these conditions the migrating birds tend to decrease the flight height.

In comparison to the current state the risk of bird collisions by construction of new 2x400 kV line will be increased, when instead of single system (three simple conductors - wires) 220 kV line new double system will be installed (six three-bundles of conductors + two combined earth wires) 400 kV line. On the other hand, bigger three-bundles of conductors are more visible for birds, moreover, at particular spans the objects making DS visible will be installed.

The subjective route of power line attacks 2 migration routes of birds:

- Váh bottom land, in the section Dvorníky – Zavar. The most important intercontinental migration route
- Nitra bottom land, in the section Čereňany – Malé Uherce and in the section Baštín – Solčany. The only migration route of birds in Ponitrie.

For the bird migration not only the bottom land of river and existence of Váh and Nitra is important, but the migration conditions have favourable and unfavourable impact on other circumstances, mainly possibilities for rest and food obtaining. It can be stated that these circumstances are provided by the affected area in some sections in sufficient extent. During spring and autumn migration, biotopes with constant water surface serve mainly to migratory water birds for rest, or as navigation posts with food obtaining possibility. E.g. banks of Váh, banks of Nitra, mainly gravel shoals and small shallow islands. The important elements for

birdlife migration are also water dams, wet meadows and gravel pits. Mainly in central and southern part of watched area there is a high number of such biotopes. Those are water dams by municipalities Horné Obdokovce, Kapince, Lukáčovce, gravel pits by Horné Zelenice, with various water and bank vegetation, which substitute the original wetlands. It is necessary to include two water dams Kráľová and Drahovce into varied scale of water biotopes, which are the biggest from the aspect of size and directly impact flights mainly of water birds, in the whole bottom land of Váh, thus in the subjective area of overhead 2x400 kV power line.

The importance of Váh river and water dams is increased in winter season when these do not freeze and become settlements of numerous hibernating species of water birds, which might fly from VD Kráľová to VD Drahovce and vice versa.

Forest and shrub growths are more important environment for migrating birds that are not bound to water e.g. songbirds. These are represented in the affected area in broader scale and line positioning only in some parts of dealt area. The same scale applies for agrocenoses without tree and shrub growths.

The area of bottom land of Váh is part of supra-regional biocorridor, the area of bottom land of Nitra river is part of supra-regional biocorridor and only the presence and quality of suitable biotopes is determining which species and in what number stay here and settle in a nest or they stop during migration.

The installation of objects making DS visible and installation of artificial nests for raptors on particular towers will be the inherent part of project of construction of 2x400 kV line to minimize the risk of bird collisions in selected tower spans. Both facts improve significantly the environmental parameters of proposed activity from the aspect of avifauna in comparison to the current state.

With high probability, the operation of 2x400 kV line without proposed environmental improvements of objects making DS visible and scarers would have negative impact on there existing bird communities, on spring and autumn migration, as well as nesting bird population – not only on the ones nesting here, but also the species flying here for food, nesting in another ecosystems (forest, rocky, built-up areas, surrounding agrocenoses).

By application of objects making DS visible presupposition of reduction of cases of bird collision with power line is real. In this way the negative impact of their qualitative and quantitative structure would not occur.

Within the operation of new 2x400 kV line we expect creation of other phenomena which can be characterized as fauna impacts:

- new towers will attract nesting and migrating species for nesting or perching
- the space in route of new line will have new quantity of intensity of electromagnetic field, the consequence of which on ethology and ecology we do not know because of absence of surveys focused on such element of fauna impacts
- in the forest section the newly created clearing will be ideal life and migrating space for reptiles.

It can be assessed as the positive that field biotopes (agrocenoses) have dominant position in considered route of power line. Right the agrocenoses are distinguished by the lowest variety of nesting bird species. Despite that fact, the species of European importance are nesting here, too, e.g. Montagu's Harrier (*Circus pygargus*). The negative is that agrocenoses are hunting territory of several important protected species from other types of biotopes. From the forest biotope these ones fly here to hunt: Eastern Imperial Eagles (*Aquila heliaca*), Lesser Spotted Eagles (*Aquila pomarina*) and Black Storks (*Ciconia nigra*), from wetland biotopes Western Marsh-harriers (*Circus aeruginosus*), Grey Herons (*Ardea cinerea*), from rocky biotopes Eurasian Eagle-Owls (*Bubo bubo*) and from built-up areas White Storks (*Ciconia ciconia*).

Although new 2x400 kV line will be built mainly in route instead of existing 220 kV

line V274 Bystričany – Križovany, but the extension of original protective zone V274 from current 55 m to 78 m (or 69 m) will occur.

It can be assessed as negative that the route of power line crosses the bottom land of river Váh, which is the most important migration corridor of birds in western Slovakia (section Dvorníky – Zavar). The most numerous in migration are Black-headed Gulls (*Larus ridibundus*), Wild Ducks (*Anas platyrhynchos*), Great Cormorants (*Phalacrocorax carbo*). Regularly there are also Greylag Geese (*Anser anser*), Greater White-fronted Geese (*Anser albifrons*) and Bean Geese (*Anser fabalis*). Similarly the negative is the crossing of bottom land of river Nitra, which is also important migration bird corridor in Slovakia. The route of power line attacks the bottom land of river Nitra on several places, either it crosses concurrently with the bottom land (section Čereňany – Malé Uherce), or crosses the bottom land in various angles (section Baštín – Solčany). The most numerous ones during spring migrations are: Northern Lapwing (*Vanellus vanellus*), Ruff (*Philomachus pugnax*), Common Wood Pigeons (*Columba palumbus*) and White Stork (*Ciconia ciconia*). There are regularly Common Sandpiper (*Actitis hypoleucos*) and Little Ringed Plover (*Charadrius dubius*).

Another negative is the fact that the subjective 2x400 kV power line is not the only one overhead power line in solved area and particularly dense system of overhead power lines is located right in the southern part of route, including the Váh line – in main migration corridor of birds in western Slovakia.

Impacts on landscape

Impacts on landscape structure

Impacts during construction and operation

The construction and operation of new 2x400 kV line will not change significantly the current landscape structure. The extension of edge of existing deforested corridor in the forest has overall unimportant impact. The rate of impact of operation of line on the landscape structure of forest will be periodically affected by necessary felling of trees in the extended protective zone of line in the forest, in the section with total length circa 6.1 km.

Dense system of overhead lines is typical for the affected areas, so the proposed activity will not be a new phenomenon in the landscape. Moreover, the route of proposed line will be localized in existing corridors of overhead lines.

Minimal negative impact on landscape structure will be the felling related to crossing of line elements of non-forest tree vegetation (hill growths, windbreaks, lines of trees and alike), that is with respect to the current discontinuous character given by existence of deforested corridors of another lines, which the route of proposed 2x400 kV line uses.

Temporary negative impacts on landscape structure can be the deforested lines created by possible adjustment of existing forest access roads, which is however not expected. These impacts will endure after the construction, but will be gradually ending up by repeated reclamation, or forestation of created lines.

Impacts on scenery and landscape

Impacts during construction and operation

The relief layout of affected area – flat area, undulating flat area, hilly area and the shape of valleys, foothills, ridges, the presence of vertical elements of current landscape structure, as well as the positioning of line route corridor with respect to potential lookout points cause that the current corridors of 220 kV and 2x110 kV lines, in which the new 2x400 kV line will be placed, are most intensively perceived in the section 1.1, southern part of section 1.2 and in the bottom land part of Nitra in sections 1.4 and 1.7, i.e. in open agricultural landscape that is characteristic for its concentration of air lines of various type, moreover frequented road communications, as well as important sources of view perception are located in it. In the central part of affected area (sections 1.2, 1.3, 1.5) the line corridor is more

hidden in undulated and hilly landscape and is not that intensively perceived. In the section 1.6 the perceptibility is different, with respect to the localization in the hilly and forest landscape, where the line is more perceived through visibly deforested corridor, however it is only in exposed sections visible e.g. from road I/64 by Partizánske.

The impacts on scenery of landscape are of significantly subjective character and depend on sensibility of each individual. Related to the construction and operation of new 2x400 kV line these facts will be decisive for the perception of given impacts:

- existing route of single 220 kV line will be substituted by new route of double 400 kV line
- one new route of 2x400 kV line will be added to existing corridor of 2x110 kV line (start of section 1.1, for cadastral areas Križovany nad Dudváhom, Zavar and also partially Dolné Lovčice)
- new separate route of 2x400 kV line will be created (in case of local bypass of municipalities Kapince and Biskupová)
- the height of new towers (circa 50 m by SÚDOK towers, or 40 m by DONAU towers) and their thickness (massiveness) will cause the view dominance of new 2x400 kV line in comparison to the current state of 220 kV line.

The proposed 2x400 kV line will not represent new element in landscape qualitatively, although in some open and intensively perceived spaces it will be new vertical and line dominant feature.

Impacts on stability of landscape

Impacts during construction and operation

Ecologic quality of space structure of affected area is favourable in general only for the section 1.6 going through the foothill of Tribeč. High representation of eco-stabilizing landscaping elements (forests) and low representation of destabilizing elements (built-up areas, arable soil) in this section is also reflected in total evaluation of stability degree, while the important factor is the area extent of stabile structures and mosaic alternation of secondary and primary elements in the affected area. On the contrary, for all remaining sections the ecological quality of space structure of area is considerably unfavourable, because of dominant representation of arable soil as considerably destabilizing element and only minimal share of eco-stabilizing landscape elements, which are represented here by the lines of watercourses and biotopes related to them.

The construction and operation of line will not have impact on total ecological stability of affected area.

Impacts on protected areas and their protective zones

Impacts on protected areas

Impacts during construction and operation

The actual route of proposed 2x400 kV line in the section Bystričany locality – Križovany leads in dominant length (circa 78 km) through the area of first degree protection (according to the Act of NC SR no. 543/2002 Coll. on Nature and Landscape Protection as amended). The line goes through CHKO Ponitrie of second degree of protection only in a short, circa 1.7 km long section.

In the affected area, CHKO Ponitrie reaches only the cadastral area of municipality Brodzany and line route leads through it in the section 1.4 (the last 200 m of this section in cadastral area Brodzany) and in the section 1.5 in the length of circa 1 500 m in western half of this cadastral area. It is anthropogenically affected border part of given CHÚ (protected area), which does not belong among its most important ecologically-functional space. The affected area is used here for forestry activity.

Impacts on localities of the system NATURA 2000

Impacts during construction and operation

The actual route of proposed 2x400 kV line reaches also the area of system NATURA 2000, particularly CHVÚ Tribeč (SKCHVÚ031), through which it leads in the length of circa 2.5 km.

The area declared by Declaration of MoE of the SR no. 17/08 Coll. 01/07/2008, is located in the districts Nitra, Topoľčany, Partizánske and Zlaté Moravce on the area of 23 802 ha. It is mainly forested area on limestone and dolomites from which quartzite hills rise up on some places. In the central part beech growths prevail, in lower altitudes oak growths prevail. The foothill of mountain is composed of agrocenoses represented by fields, meadows, in smaller extent by orchards and vineyards.

The actual route of proposed 2x400 kV line leads through stated CHVÚ in the section 1.4 and partially also in the section 1.5, particularly through cadastral areas: Nitrianska Streda, Topoľčany, Solčany, Práznovce, Baštín, Veľké Bošany and Klátova Nová Ves. The route goes through CHVÚ Tribeč in the edge part of protected area, which is agriculturally used, or it is represented by anthropogenic areas. These areas are rather hunting territory, CHVÚ was declared as their nesting site to protect them.

The impacts are elaborated in more detail in the chapter V of Final Record together with presupposed impacts on CHVÚ Špačinsko – nižnanske polia and CHVÚ Úľanská mokrad', which are located in the coverage of proposed activity.

Impacts on territorial system of ecological stability

Impacts during construction and operation

As it follows from the assessment of impacts on biota, the barrier effect of route of distance line is not reflected in terrestrial migration of animals. The actual facility does not represent an obstacle restricting migration and on the contrary, protective zone is used by several species for movement (e.g. huntable species of vertebrate, reptiles).

The routing of new 2x400 kV line through all stated elements of ÚSES (territorial system of ecological stability) is not a new phenomenon, the existing corridor of 220 kV line, in one case the corridor of 2x110 kV line, lead through all elements of ÚSES. The transverse leading of proposed line through affected hydric biocorridors does not represent the substantial problem for its functionality.

The proposed 2x400 kV line Bystričany locality – Križovany will not have any impact on functionality of particular affected elements of ÚSES, the functionality can be restricted temporarily during construction of respective section of line.

Impacts on urban complex and use of earth

The use of landscape of affected area will not change qualitatively by construction and operation of new 2x400 kV line Bystričany locality – Križovany. The space in immediate surrounding of extended corridor will be used mainly agriculturally and for forestry.

Impacts on industrial production

Impacts during construction

Since in the routing of proposed line there is no object of industrial production, the direct impacts on industrial production are not expected.

Indirect positive impact on industry is represented by production and finish (zincification) of new towers, which are necessary for the construction of new 2x400 kV line. The important positive is also prospective secondary use of towers, which will be removed related to the considered dismantling of 220 kV line.

Impacts during operation

The realization of proposed Preliminary Environmental Study – construction of new

2x400 kV line in the section Bystričany locality – Križovany will have indirect positive impact on overall development of region (middle and upper Nitra), including industrial production, which will follow from new possibilities of supply of electric energy for given region given by reconstruction and qualitatively by new connection.

Impacts on transport and other infrastructure

Impacts during construction

Public communications, existing hardened and unhardened special-purpose communications and mainly field and forest roads will be used for the construction of 2x400 kV line. Since their selection and routing are currently unknown, it is not possible to specify the impacts of construction on particular transport infrastructure. The construction of new access communications is expected only in the form of adjustments of terrain inside the corridor of protective zone to enable the access to the tower sites.

The original users will be temporarily restricted by the use of existing field and forest roads during the construction of proposed activity. By intensive movement of construction machinery through unhardened communications, their degradation is expected (terrain furrows, potholes, holes), the extent of which depends on intensity of use and type of construction machinery.

Temporary negative impacts will occur at the crossing of line route with existing roads, with an emphasis on the crossed important communications, mainly the road I/64 (which the route crosses 2x– in the sections 1.4 and 1.7 and in the part of these sections it goes in its proximity), also the II. class road no. 507 by municipality Dvorníky (section 1.2), II. class road no. 513 by municipality Rišňovce (section 1.2) and II. class road no. 511 by Malé Uherce (section 1.6). The route of line also crosses the railway no.133 in the section 1.1 (in cadastral area Dolné Zelenice), railway no.141 in the section 1.2 (in cadastral area Rišňovce), railway no. 142 in the section 1.3 (in cadastral area Biskupová), railway no.140 in the section 1.3 (in cadastral area Ludanice). We suppose that by wire drawing through these but also other transport routes, the traffic restrictions will exist temporarily, the extent of which is not possible to estimate now.

In the affected area the construction of expressway R8 is prepared, which the line should cross westward from Ludanice (section 1.3) and consequently lead concurrently with the proposed communication up to Práznovce (section 1.4) – in the route instead of existing 220 kV line. The protective zones of both constructions should merge in this concurrent section. The concurrency of motorways and expressways with overhead lines is a common phenomenon, which is shown in mutual overlay of protective zones of communication and overhead line if the conditions agreed mutually in advance are met.

In the affected area in Partizánske – local part Malé Bielice (section 1.4) there is public intrastate airport Partizánske for general aviation and also field airport Ludanice (cadastral area Ludanice, section 1.4), in which the work of forestry, agriculture and water management is realized.

The proposed route of 2x400 kV line reaches the protective zone of airport Partizánske in the length of 8.8 km, the PZ of horizontal plane 228 MASL in the length of 5 km and the protective zone of takeoff and approach area (360-390 MASL) in the length of 2.5 km.

The proposed route of 2x400 kV line reaches the protective zone of airport Ludanice with building restriction of HV and EHV in the length of 2.8 km and the PZ of horizontal plane 186.44 MASL in the length of circa 2 km. The line route is in close contact with northern edge of PZ of transitional plane and also the northern edge of PZ of takeoff area (175 MASL), which it consequently crosses under the angle approximately 45°. The same way the current 220 kV line reaches the PZ, during the existence of which the airport is in long term operation. The line reconstruction is not a new phenomenon for the airport operation and the

conditions of construction and operation will reflect the requirements of aviation authority.

Other infrastructure will be affected by line construction, which is represented by other overhead lines (2x110 kV, 110 kV, 22 kV) and other distribution systems – gas lines, water conduits, sewerage systems, the protective zones of which have to be respected. In this phase of processing of documentation the crossings of overhead distribution systems have not been identified so far.

The impact on elements of infrastructure in built-up areas of affected municipalities is not expected.

Impacts during operation

The line operation will have temporary impact on the operation of the infrastructure, for which the realization of adjustments and relaying is presupposed related to the construction of new 2x400 kV line. It is mainly 110 kV line and 22 kV line.

The line operation will not impact the operation of radio communications, which will be ensured by proposed cross-section of line conductors, which meet the condition that intensity of electric field with nominal voltage of 400 kV does not exceed the amount of 16.0 kV.cm⁻¹(according to STN EN 50 341 - 1) under normal atmospheric conditions.

Impacts on services, recreation and tourism

Impacts during construction

During the line construction the indirect positive impact on services in affected municipalities is expected, which will follow from the presence of construction employees, who will use the present services.

The line construction will not have negative impact on recreation and tourism since the prevailing part of affected area is unattractive for recreational use.

Recreational area of foothill of Tribeč (section 1.6) will be affected negatively by the construction of 2x400 kV line short-term temporarily during the realization of construction in the given section. For example, areas of crossing of edge of ridge or near cycling routes and hiking tracks might be temporarily degraded by construction work. In the cadastral area Brodzany the line route crosses the hiking tracks 2x, and it can be said that neither construction nor operation of line will affect the use of these tracks for hiking and recreation in this cadastral area. In the cadastral area Malé Uherce the line route leads over cottage and gardening settlement in the south of built-up area, towards Belianske Štále. Holidaymakers from this area can be short-term affected during the line construction, however, the operation will not affect the recreation in the area, since the line is too high above the settlement, which is located in a valley and towers will stand on opposite hills above the settlement.

The stated local impact of tourism and recreation in CHKO Ponitrie, or in the Tribeč mountain is expected during one tourist season.

Impacts during operation

The line operation will not impact the recreation. The impact on services and general tourism is not expected after the construction of new line.

Impacts on forestry

The forestry will be affected negatively and also positively by the construction and operation of new 2x400 kV line. The most important activities of Preliminary Environmental Study related to the impact on forestry are:

- permanent (repeated) felling in the extended PZ of line corridor
- temporary felling – in case of adjustments of existing access roads
- foresting and care for planted trees in the new PZ
- reclamation of temporarily occupied areas.

Impacts during construction

During construction of 2x400 kV line in the forest sections the extending stretch will be deforested permanently in the new conditions of protective zone.

By the routing of new 2x400 kV line in the corridor of existing line– in the route along the 2x110 kV line V8769/8770 the width of current protective zone and so the area for realization of felling will be increased by 60 m on one side using DONAU towers, or by 50 m using SÚDOK towers. The stated is applied for the forest section located in the cadastral area Dolné Lovčice (part of section 1.1).

By the routing of new 2x400 kV line in the existing corridor of 220 kV line V274 the total width of current protective zone will be increased by circa 12 m on both sides using DONAU towers, or by 7 m using SÚDOK towers. The stated is applied for the forest sections located in the total remaining part of proposed line (part of section 1.1, sections 1.2 – 1.7).

The total area of possible felling on forest lands will be increased compared to current condition by 15.06 ha (assuming use of DONAU towers), or by 8.86 ha (assuming use of SÚDOK towers). The area of felling in the PZ remains as the forest land. After the construction on these forest lands, there will be reclamation executed by foresting and consequent care for trees which will be regularly felled. The alternative is also the leaving the area to the natural succession. Only the areas under towers of the presupposed area of circa 1000 m² will be excluded from the forest lands.

Under the given technical and economical possibilities and mainly the fact that the construction in the form of 220 kV line already exists long-term, the routing of new line in the existing corridor – in the route instead of dismantled 220 kV line is ecologically and economically the most convenient. With respect to the spatial conditions of surroundings of the largest forest unit in the section 1.6, the line route would have to cross the forest growths also in another alternative (mainly because of necessity to respect the built-up area of surroundings including town Partizánske, existing infrastructure and its PZ and other collision points), while the creation of new clearing (although possibly in shorter trajectory) would mean ecologically drastic impact on forest ecosystem and also the felling of whole new PZ in the width of 78 or 69 metres. It would also mean much greater economical losses of wood material than the extension of existing – already deforested zone by 12 m, or 7 m to both sides.

Impacts during operation

During operation or after construction of new 2x400 kV line on the forest lands there will be reclamation realized by foresting and consequent care for trees which will be regularly felled. Similarly the area after possible extension of existing access roads will be reclaimed. The alternative is also the leaving the area to the natural succession.

With respect to new conditions in PZ of line corridor, in the sections where the extending felling will be realized, after the construction negative impacts are expected related to the effect of climatic factors (wind and sun) on newly created edges of growths, which were originally inside the forest, until the restabilization of edges of PZ is realized (creation of shrub connection, branching to the area of PZ).

Impacts on agricultural production

Impacts during construction

Impacts of construction of 2x400 kV line on agricultural production will appear as a result of temporary use – occupation of some areas of agricultural soil for non-agricultural purposes within the areas needed for the construction of individual towers (manipulation areas, access routes and alike). These temporary impacts will be minimal with respect to the dominance of agricultural areas in the affected area.

Impacts during operation

Minute increase of permanent negative impact on agricultural use of landscape in the areas of arable soil will occur by the line operation, which follows from the permanent occupation of areas of tower foundations of new 2x400 kV line. The restriction of use of irrigation is applied in the PZ of line. The impact is negligible with respect to the dominance of arable soil and agricultural use of affected area and its surroundings.

After the construction of new 2x400 kV line in the affected area the reclamation will be realized on agricultural soil. Similarly, the area after use of existing field access roads will be reclaimed.

Impacts on cultural and historical monuments

Impacts during construction and operation

The proposed route of 2x400 kV line will not cause changes in positioning of cultural and historical monuments, neither it will affect any object, nor significant lookouts on the silhouettes of such objects will be affected.

Based on the present knowledge, we do not expect the impact of construction or operation of proposed line on cultural and historical monuments.

Impacts on archaeological and palaeontological excavations

Impacts during construction and operation

Based on the present knowledge, we do not expect the impact of construction or operation of proposed line on archaeological and palaeontological excavations. In the next phase of construction preparation (in territorial proceeding), the statement of respective monument authority is one of the conditions for line construction.

Impacts on significant geological localities

Impacts during construction and operation

Within the affected area there is one geologically significant locality that is in the category of sedimentological and petrographic localities in the cadastral area Lukáčovce (section 1.3) – the so-called Lukáčovce layers– Lower Pleistocene. No negative impact of the construction or operation is expected on this locality.

Impacts on cultural values of immaterial character

Impacts during construction and operation

The proposed activity does not have impact on cultural values of immaterial character.

Other impacts

No other impacts are expected either during construction or during operation of line.

V. OVERALL ASSESSMENT OF IMPACTS OF PROPOSED ACTIVITY ON PROPOSED PROTECTED BIRD AREAS, AREAS OF EUROPEAN IMPORTANCE OR CONTINUOUS EUROPEAN SYSTEM OF PROTECTED AREAS (NATURA 2000)

The decisive fact for the assessment of possible impact on the area is that the proposed line goes through the area of CHVÚ in the existing corridor of 220 kV line.

From the aspect of migration function of area of CHVÚ Trábeč the important fact is that the number of lines in the common corridor will not be changed by the construction of new 2x400 kV line instead of 220 kV line. The risk of bird collisions remains on the same level. More wires on new line are compensated by its massiveness – visibility and installation of objects making DS visible on combined earth wires. Compared to the current state it is a significant positive of proposed activity. Moreover, in this section the installation of artificial

nests of raptors on towers is presupposed.

The negative is that bottom land of Nitra river is significant bird migration corridor in Slovakia. The route of power line attacks the bottom land of Nitra river on several places within CHVÚ. Either it leads concurrently with the bottom land (section Čereňany – Malé Uherce), or it crosses the bottom land in different angles (section Baštín – Solčany). The line construction outside the migration period helps to minimize the collisions.

The positive is that the field biotopes, characteristic of the lowest variety of nesting bird species, have dominant position in the proposed route of power line – also within the 2.5 km long section leading through CHVÚ Tribeč. Agrocenoses are also hunting territory of several significant protected species flying here from other biotopes.

On three places within the line route leading through CHVÚ, the felling of circa 15 pieces of grown trees will be necessary because of extension of PZ according to terrain research. It is the felling of non-forest tree vegetation within the bank growths of Nitra, Dršňa and Solčiansky brook. The felling and also actual construction realized outside the nesting period eliminates the damage of possible active nests or nesting in surrounding growths.

It can be said that for the whole route and also for CHVÚ the important impacts are the impacts of construction activities during construction period, mainly the actual presence of machinery, building traffic and felling of non-forest tree vegetation (bank growths of Nitra, Dršňa and Solčiansky brook). With respect to the surface area of the area and the condition of affected and surrounding biotopes, we assess the possible impact of proposed activity as distinctively local, with minimal extent of interventions. The operation of new 2x400 kV line has even positive impact compared to the present state, because of the possibility of installation of artificial nests and objects making DS visible. The potential impacts are regular maintenance and repair of built facilities and also regular felling in the PZ of line. These activities might so require the access to PZ of line through the stated area.

The impact on object of protection of standard species in CHVÚ Tribeč by proposed activity is excluded. With respect to the fact that proposed route of 2x400 kV line enters the space of stated area of European system NATURA 2000, it is inevitable to follow all measures related to the management in this area.

From the areas of system NATURA 2000, the relevant ones related to the proposed line are also CHVÚ Špačinsko – nižnanske polia and CHVÚ Úľanská mokrad', with respect to the relative nearness, although the line does not go through them and they are not located in the area of affected municipalities. The areas are important nesting and food biotopes for bird species bound to open agricultural landscape.

The stated CHVÚ are localized westward from assessed area, approximately 10-15 km from the Váh watercourse. The impacts on these areas are expected in lower extent than on areas directly in the bottom land of Váh, which is important migration corridor and which the line crosses. If the collision occurs, the species migrating from these areas (CHVÚ Špačinsko – nižnanske polia and CHVÚ Úľanská mokrad') will be more affected and the nesting species less affected, similarly, bigger species will be more affected than small species (songbirds). The only negative is that the proposed 2x400 kV power line is not the only one overhead power line in the solved area and particularly dense system of overhead power lines is in the southern part of the route, thus including the bottom land of Váh river, thus in the main migration corridor of birds in western Slovakia. By this cumulative impact the number of killed birds is increased as a result of collisions.

It can be said that for the whole route and also for all affected protected areas the decisive impacts are the impacts related to construction activities during construction period – mainly the actual presence of machinery and building traffic.

The particular problems are possible collisions of protected bird species with the line. The potential impacts on protected areas or important biotopes are also represented by regular maintenance and repair of built facilities and also regular felling in the PZ of line. These activities might so require the access to the PZ of line through edge parts of stated areas.

VI. CONCLUSIONS

1. The final standpoint to the proposed activity

Based on the results of process of Environmental Impacts Assessment of proposed activity realized according to the provisions of the law, in which the situation of use of area and bearing capacity of environment, importance of expected impacts of proposed activity on environment including the impact on protected areas and health of population, from the aspect of probability, extent, duration, character, place of execution of proposed activity, Environmental Impact Statement, expert review, standpoints of authorities and organizations affected by the proposed activity, as well as the other standpoints and the information about current state were considered, the realization of proposed activity “Power line rated 2x400 kV Bystričany locality – Križovany”

is recommended

provided that the conditions stated in the point VI.3. of this Final Record are met. Uncertainties occurred in the process of impact assessment have to be solved in the further phases of project preparation of construction.

2. Recommended variant

From the aspect of impacts of construction and operation on environment **the solution of variant 1 stated in the Environmental Impact Statement can be considered as realizable**, while **the realization of the following alternatives** is also possible:

1. The routing of new section of the route of 2x400 kV of line in **cadastral area Kapince**, might be locally changed, that is mainly based on property survey and standpoints of owners and users of affected agricultural lands.
2. The routing of new section of the route of 2x400 kV of line in **cadastral area Biskupová** might be locally changed, that is mainly based on property survey and standpoints of owners and users of affected agricultural lands.
3. The routing of new section of the route of 2x400 kV of line in **cadastral area Bystričany** might be locally changed, that is mainly based on property survey and standpoints of owners and users of affected agricultural lands
4. The routing of new 2x400 kV line can be led out of original corridor of 220 kV line between **break points R12 and R14** so that between these points (point R12 will be moved to the cadastral area Bošany - Horné Pasienky locality) the route of new 2x400 kV line straightens, leading only through agricultural soil.
4. The routing in the **section of crossing Váh** might be realized in the alternative, which means use of route of 2x110 kV line, while the new 2x400 kV line would be situated parallelly with this route in axial distance of 40 m. In this case, the alternative route would start already by diverting from the original corridor of 220 kV line yet before the crossing of railway Leopoldov – Galanta in the area in front of the railway station Siladice (potentially yet before the crossing of Dudváh watercourse) and by connecting to the

corridor of 2x110 kV line by the gravel pit Siladice. In this concurrence the route would enter the inter-dam area of Váh, would continue by crossing Váh and ascending to forested hills of Nitra Highlands above the left bank of river. After reaching the edge of highlands the route of new line would leave the corridor of 2x110 kV line, would cross perpendicularly the protective zone of transit gas line and before the vast areas of vineyards near municipality Dvorníky would come back to the route of 220 kV line V274.

3. Recommended conditions for the phase of construction and operation of proposed activity

Based on the overall results of process of assessment of comments and standpoints of respective affected and approving authorities, affected municipalities, authorities of state administration, public consultations of Environmental Impact Statement, expert review, the following conditions are recommended for the phase of preparation, realization and operation for proposed activity:

1. New 2x400 kV line Bystričany – Križovany and its PZ are necessary to be incorporated into the territorial planning documentation of higher territorial unit (VÚC) Trnava self governing region, that is for the section of routing of new 2x400 kV line in the corridor with the 2x110 kV V8769/8770 line (section 1.1, cadastral areas Križovany nad Dudváhom, Zavar and Dolné Lovčice).
2. New 2x400 kV line Bystričany locality – Križovany is necessary to be incorporated into the territorial planning documentation of higher territorial unit (VÚC) Nitra self governing region, including the route modification in cadastral areas Kapince and Biskupová outside the original corridor of 220 kV line V274.
3. New 2x400 kV line is necessary to be incorporated into the territorial planning documentation of most affected municipalities.
4. To incorporate the results of expert review for exclusion of impact of electromagnetic radiation on the health of population into further project preparation within the documentation for zoning decision.
5. To elaborate expert review for the standpoint of aviation authority for the routing of proposed 2x400 kV line in the PZ of field airport Ludanice as well as the routing in the PZ of airport Partizánske, and to incorporate possible conditions into further project preparation of construction.
6. For the preparation of realization of proposed activity it is necessary to realize the archaeological research according to the Act no. 479/2005 Coll. (Act on the Protection of Monuments).
7. The appropriateness of foundation soils or mineral environment for every tower site to be verified by review, or according to the need by engineering – geological research.
8. The movement of construction machines to be realized only through existing access communications stated in advance. To use preferably the existing local, field and forest roads, the existence of which was verified by terrain research. The building of new access routes is possible only inside the corridor of PZ of line. Temporary access communication panel foundation to be used on the places with high risk of erosion.
9. Soil from excavation of tower sites to be used exclusively for backfill inside the PZ in the surrounding of tower site or to be used in another way after the approval.
10. In the places of crossing of watercourses, in case of necessity of crossings, to create temporary bridge connections or laid panel shaped bricks.
11. Work near banks of watercourses to be planned for the period out of high level of water and to restrict the activities near banks to inevitable minimum.

12. The felling of bank growths in PZ to be minimized only to highest trees, or necessary width for wire drawing. In case of need of hardening of banks, the vegetative ways of adjustment to be used.
13. In case of necessity of felling realization to realize the research of route from the aspect of possible occurrence of nesting species of birds. To prevent possible collisions of birds with line, wires to be coordinated with the environmental protection authority in selected sections (CHVÚ Tríbeč, CHKO Ponitrie, important localities regarding gene pool, important biotopes, crossing of biocorridors, migration routes and alike), or in other recommended places, realized making wires visible.
14. To maximally restrict construction work with intensive disturbing impacts in forest complexes of Tríbeč foothill in spring season of reproduction and leading out of young animals of forest species of animals.
15. To prevent inappropriate nesting on line towers, after agreement with state nature protection, to install artificial nesting boxes for raptors on selected towers. In the forest section or elsewhere, to install also artificial nesting pads. In the project documentation, to select towers on which the substitutive nesting boxes will be installed (to prefer boxes in open landscape and in CHVÚ Tríbeč, and nesting pads for owls within CHKO Ponitrie and other forest areas).
16. Survey of occurrence of nesting species of raptors on towers will precede the dismantling work on 220 kV lines.
17. Backfilling of areas, into which rainfall or ground water got, to be done with respect to the possible presence of animal species in them, particularly in spring season. In terrain depressions and excavation holes of building site, before its filling or reclamation, to realize remediation research with collection of animals (mainly amphibians) and their transport to substitutive places.
18. If possible, to use towers with minimal height for routing of line in open flat landscape.
19. Preference of SÚDOK tower types in the section 1.6, with respect to smaller demand for the width of PZ in forest part of section, possibly also in further sections with forest growth or important forest biotope.
20. To reconsider the tree felling inside new PZ to minimize it, using possibilities given by § 43, par. 5) of Act no. 251/2012 on Energetics – preservation of growth in the length of 5 m from outer line conductors, in confrontation with the height of towers (according to possibilities the stretch of forest will be felled not in the full width of PZ, so that the left growth does not threaten the lines in case of falling).
21. To propose tower sites so that ravines, erosion furrows, bank growths and alluviums of rivers and brooks are spanned to the highest extent. The founding of towers in places of occurrence of line non-forest tree vegetation is undesirable.
22. To ensure all available measures to prevent spreading of ruderal and invasive plant species.
23. In the sections which lead through important non-forest, mainly line biotopes, to minimize the manipulation with conductors during wire drawing through the terrain.
24. To propose and realize the project of foresting of new PZ (or leaving to succession) based on environmental criteria, in coordination with the environmental protection authority.
25. To minimize the extent of extending felling of non-forest tree vegetation by retaining of shrub layer mainly by bank growths.
26. Before issue of zoning decision to make an inventory of trees growing outside the forest and calculation of their social value.

27. As a compensation for the impacts on biotopes of national or European importance, to realize the revitalization measures in the given biotope or in substitutive areas in cooperation with State Nature Conservancy of the Slovak Republic.
28. To ensure that the line will be positioned over the road I/64 in the height of min. 4.8 m, that constructor will apply for permit, and that during construction the damage of road land will not occur.
29. During the dismantling work to organize the work so that the traffic will not be restricted nor threatened.
30. In case of need to require the determination of portable traffic signs and also to submit the realization project for statement issue.
31. During construction realization to retain two-way traffic on roads III/05131, III/0628, III/5134, III/5077, II/507 and II/513.
32. To respect the PZ of D1 and to consult with National Motorway Company the routing of planned expressway R8 before approval process of both constructions.
33. In the place of planned construction of waterworks Sered' – Hlohovec to keep the minimal height of overhang of line above the highest navigation surface (141.10 MASL) 19 metres.
34. To use dismantled barriers against perching of birds from previous 220 kV line, which will be dismantled (circa 75 km, 238 towers), for other sections of power line.
35. In case of potentially possible migration of amphibians to divert the access roads from the migration route of amphibians or to conduct excavation work and the movement of construction machines after the end of migration, i.e. circa after 15th April in the current year.
36. To utilize the branch waste from cut down trees after the agreement with the land owner in appropriate way or to grind it and store it on appropriate place.
37. To ensure the awareness of all land owners.
38. To compensate for damage caused by movement of construction machines through affected urban areas, for registration of easement for plots of affected lands, for the loss of non-productive functions of forest, for the restriction of use in the PZ of new line.
39. To consistently follow the standard technical, technological, organizational and safety regulations, related to the construction and operation of proposed type of activity.
40. To make plan of waste management and to deal with created waste according to this plan in compliance the valid legislation.
41. To make plan of construction organization, which would contain the calculation of the demand of raw materials and materials, the production of particular type and amount of waste and transport routes to and from the building sites together with its schedule and intensity.
42. To regularly realize service and technical checks of facilities by professional service company.
43. To establish environmental supervision of construction.
44. Consistently follow the conditions for PZ of power lines given by the Act no. 251/2012 Coll.

4. Substantiation of final record including assessment of written standpoints

The final record was elaborated by Ministry of Environment of the Slovak Republic according to § 37 of the Act in cooperation with the Public Health Authority in Bratislava

based on the Environmental Impact Statement, comparative study of alternatives of Váh crossing, standpoints of participators of assessment process, minutes from public consultations and expert review.

The assessment of source materials and elaboration of Final Record was realized according to the provisions of the law. Ministry of Environment of the Slovak Republic consistently analyzed every comment and standpoint of affected subjects. In the assessment the possible negative impacts of proposed activity on environment and the health of population was considered, including possible risks of accidents and the presupposed effectiveness of proposed measures.

From the aspect of delivered 61 standpoints, 58 contained agreement with the proposed activity, agreement with the Environmental Impact Statement, or did not have any comments or objections and 3 did not contain the statement to the subjective construction, or to the Environmental Impact Statement. 4 standpoints (ŠOP SR, Regional Environmental Office in Trnava; Department of Nature and Landscape Protection, Waste Management and EIA; District Environmental Office in Trnava, branch office Hlohovec; MoE of the SR, Department of Nature and Landscape Protection) contained substantial comment related to the change of route of power line in the part of crossing of Váh, for which the special consultation was arranged and consequently **new alternative of routing was elaborated.**

From the aspect of affected municipalities the activity is acceptable. No objections were raised by state administration or population to the proposed activity.

Realization of proposed activity as public welfare construction brings important economic and development perspective not only to the affected region. Due to high age and wear of operation of existing 220 kV line V274 Križovany – Bystričany the proposed activity means necessary investment, which definitely enables dismantling of whole stated 220 kV connection, retaining or significantly improving operational capacity of DP Bystričany (in case of construction of 400 kV part of distribution point).

From the aspect of routing the proposed activity brings the least negative environmental impacts by its localization in the area of existing corridors of 220 kV and 2x110 kV lines. The occurring negative impacts are mainly of local character, with various value of importance.

Alternative routing of new sections of route of 2x400 kV line in cadastral area Kapince, cadastral area Biskupová (section 1.3) and in cadastral area Bystričany (section 1.7) proposed in cooperation with the municipalities, bypassing its built-up area or built-up areas, represents the primary proposal which can be (without environmental harm) locally changed and that is mainly based on the consequent property survey and standpoints of owners and users of affected agricultural lands within the further preparation of construction, before the elaboration of project documentation for the zoning decision.

Alternative routing of new 2x400 kV line outside the original corridor of 220 kV line between break points R12 and R14 so that between these points (point R12 will be moved to the cadastral area Bošany - Horné Pasienky locality) the route of new 2x400 kV line straightens, leading only through agricultural soil, follows from additional findings and was presented at public consultations, where no objections were raised against them. Its aim is to eliminate the impacts following from inappropriate routing of original route of 220 kV line, particularly:

- conflict of PZ with the dwelling house in the cadastral area Bošany – Baštín
- 2 x crossing of biocorridor of Vyčoma brook
- the concurrence of route of line with the III. class road Klátova Nová Ves - Bošany
- the approach of line route to the built-up area of municipality Klátova Nová Ves
- the approach of line route to the built-up area of municipality Turčianky.

Alternative routing in the section of crossing of Váh, which represents the use of route of 2x110 kV line, and new 2x400 kV line would be located parallelly with this route in axial distance of 40 m. The whole inter-dam area between Siladice and Dolné Zelenice, which follows the right bank of Váh in the length of more than 1.5 km, is characteristic of relatively dense system of field roads that are related to the occurrence of gravel pit, now non-operating raft, the occurrence of pipelines and their protective zones (maintenance), pipeline bridge, distinctive shelf in river, fishing places and alike. The occurrence of routes of pipelines leading through inter-dam area has the greatest importance.

It is:

- overhead 220 kV V274 line, which in the northern part of area in the direction from west to east crosses the right side dam, the branch of Váh, free area of meadows and finally Váh itself
- overhead 2x110 kV line, which in the southern part of area in the direction from west to east crosses the right side dam, smaller water area, narrow occasional branch, several tree lines, free area of meadows and finally Váh itself
- concurrent transit gas lines, which in the northern part of area in the direction from east cross main Váh watercourse by pipeline bridge, behind which they enter under the surface of terrain again and turn north-westwards and northwards, and they cross the route of 220 kV line V274.

For the proposal of new alternative the future realization – non-realization of waterworks Hlohovec – Sered' is very important. As following from comparative study for current state of affected area, the state without realization of waterworks Hlohovec – Sered' is the realization of original alternative environmentally more suitable. It is given mainly by the necessity of realization of felling and from that following impact on important biotopes for new alternative. Also crossing of sliding hill between the bottom land of Váh and the edge of Nitra Highlands is trouble-free in case of original alternative. The potential of renewal of original biotopes is in case of leaving the original corridor limited by existence of PZ of transit gas lines in the same area that means that in case of realization of new alternative, this area de facto will not be left. Inconvenient crossing of railway or the presence of objects in PZ of line represents the problem for the original alternative solvable in the territorial proceeding. By construction of waterworks the environmental problem of routing of new 2x400 kV line in the current inter-dam area virtually disappears, since trees and also forest, meadow and wetland biotopes in this area will disappear by backfilling of a ditch. The only problem area from the aspect of impacts on biotopes is the area on sliding hill over the left bank of Váh, in which there is oak forest significantly attacked by acacia and in which, in case of realization of new alternative, the extending felling would have to be realized in new PZ of common corridor of 2x110 kV and 2x400 kV line. For these reasons it is necessary to focus on original and also the current routing of line in the section of Váh crossing, and from that the recommendation of both alternatives follows.

5. Required extent of after-project analysis

For the monitoring of presupposed impacts on particular components of environment it is necessary to elaborate the separate complex monitoring project, which shall contain the proposal for monitoring of biotic components of environment and proposed measures. The object of interest of monitoring will be the components of environment, for which the realization of proposed activity and zero variant causes change of quantifiable features.

Based on the assessment of current state of affected area and the identification of possible impacts on environment at present, the monitoring system will be focused mainly on these aspects:

- biota – forest vegetation, biota – non-forest vegetation and ornithofauna; to focus on

the areas of important biotopes that were identified in the Environmental Impact Statement in the monitoring localities for the monitoring of forest and non-forest vegetation and ornithofauna

- the monitoring activities shall be launched minimally one year before the planned start of construction work to document the current state of monitoring locality as a comparative base
- monitoring of realization of foresting projects, or revitalization into the monitoring.

The course and results of monitoring activities will be recorded in the documentation, which will consist of:

- Executing project of monitoring
- Environmental modification of longitudinal profile of line for DÚR (documentation for zoning decision)
- Partial concluding reports for particular years
- Final Record.

The check of proposed measures shall be applied by **environmental supervision of construction**. Realization of environmental supervision is the necessity with respect to the extent of affected area, the extent and character of construction work, routing of part of line in important forest biotopes, in protected areas CHVÚ Trbeč and CHKO Ponitrie, as well as in important line components of lowland landscape.

The aim of environmental supervision will be the following activities:

- Informing the future main contractor of construction and also all its subcontractors about environmental specific features of construction, proposed measures and particular conditions of construction in individual localities so, that they are understandable to all constructors and consequently implemented
- direct supervision at work in terrain focused on check of following of environmental measures and guiding the constructor right in the terrain
- active and equal participation in regular check days of construction with the evaluation of conducted work from the aspect of following of environmental measures and proposals for removal of possible drawbacks
- retaining of environmental impact on project
- cooperation with the monitoring process - the results from environmental supervision will be reflected in the relevant partial final reports from monitoring during the construction period, and also the in the individual documentation of environmental supervision.

Further, it is necessary to state that based on the provisions of § 39 par. 1 of the Act, the one, who will be conducting the proposed activity, is obliged to ensure its monitoring and evaluation mainly:

- to systematically monitor and measure its impacts,
- to check the fulfilment of all conditions stated in the permit and related to the issue of permit of proposed activity to evaluate its effectiveness,
- to ensure the expert comparative study of presupposed impacts with the actual state stated in the Environmental Impact Statement.

The permitting authority will state the extent and the period of monitoring and evaluation according to § 39, par. 2 of the Act, if it is the permitting of proposed activity according to the special regulations with respect to this Final Record.

Based on the operative evaluation of results of monitoring according to § 39, par. 3 of the Act, in case that it is found out that the actual impact of proposed activity is worse than expected in the Environmental Impact Statement, the proponent is obliged to ensure the measures for harmonization of actual impact with the impact stated in the Environmental Impact Statement in compliance with the conditions stated in the decision on the permit of

proposed activity according to the special regulations.

6. Information for the permitting authority about the participating public

The participating public is according to § 24 of the Act the public which is or might be interested in the procedure of environmental decision making. A natural person according to § 24a of the Act, legal person according to § 24b or § 27 of the Act, civic initiatives according to § 25 of the Act and organizations supporting the environmental protection according to § 26 of the Act belong among the participating public.

In the process of assessment of impacts of proposed activity the participating public was identified (Agricultural Cooperative - Poľnohospodárske družstvo, Tríbeč, Družstevná 792/73, 956 17 Solčany). According to the record from public consultation, the citizens appeared in the public consultations with the questions about the proposed activity.

The participating public has according to § 27a of the Act the right of active participation in the preparation and permitting of proposed activity through the whole process of impact assessment until the issue of proposed activity permit.

6a. Validity of Final Record

The validity of Final record is 7 years from the date of issue. The validity of the Final Record is not terminated if during its validity the proceeding of location or activity permit according to special regulations (e.g. building Act) is started.

VII. CONFIRMATION OF DATA CORRECTNESS

1. Processors of Final Record

Ministry of Environment of Slovak Republic
Department of Environmental Assessment
Ing. Milan Luciak

in cooperation with

Public Health Authority of Slovak Republic, Bratislava

2. Confirmation of data correctness by authorized representative of respective authority, stamp

RNDr. Gabriel Nižňanský
Director of Department of Environmental Assessment
Ministry of Environment of Slovak Republic

3. Place and date of issue of Final Record

Bratislava 12/19/2012