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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

36th meeting
Strasbourg, 15-18 November 2016

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Possible file

Follow-up of Recommendation No. 98 (2002) on the project to build a motorway through the Kresna Gorge (Bulgaria)

- REPORT BY THE GOVERNMENT -

Document prepared by
the Ministry of Environment and Water, Bulgaria

REPUBLIC OF BULGARIA

Struma Motorway Lot 3.2

Government Report for the 36th Meeting of the Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats

06 October 2016

1 INTRODUCTION

1.1 Purpose of this document

The Struma Motorway project has been monitored by the Bureau and Standing Committee of the Bern Convention for years and as part of this process Recommendation No. 98 (2002) has been issued. Following a complaint from local NGOs in 2015, the progress of the project has been reported at the 35th Meeting of the Standing Committee in December 2015. Based on the available information and the statement of the services of EC the Standing Committee decided not to open a case file for the project and to follow up closely its development. Further to the 35th Meeting, the project has been discussed at the meetings of the Bureau in March and September 2016.

This report describes the main developments of the project that took place in the year 2016.

1.2 Project Summary

Struma Motorway is an important road link connecting the capital of Bulgaria Sofia and Greece. Most of the motorway has been constructed with a very difficult section still remaining. It is called Lot 3 of Struma Motorway and is the main road project of Operational Programme Transport and Transport Infrastructure 2014-2020.

The existing road (E-79) in the direction of Struma Motorway, is passing through an environmentally sensitive area called Kresna gorge for about 20 km. The gorge hosts two Natura 2000 sites, as well as a number of national protected areas. Due to the difficult terrain and the high volume of heavy goods vehicles there is a very high rate of traffic accidents along the existing road. In the period 2010-2015 the statistics indicate 68 accidents/year, about 4 fatalities/year and 26 injured/year. The road is also passing through Kresna town, resulting in increasing exposure of the population to road accidents, noise and air pollution.

The project has a long history and over the years many alternatives have been discussed for the area of Kresna gorge. An environmental impact assessment (EIA) from 2007-2008 rejected most of the alternatives available at that time and declared that passing through the gorge with a 13 to 15 km long tunnel was the only acceptable solution.

Implementing the EIA decision from 2008 the road authorities started developing the project as a long tunnel. In 2013-2014, however, during the preparation of the project, serious problems with that solution started to emerge. This led the country to explore additional project alternatives in the period 2014-2016. The most important of these alternatives are the construction of a new carriageway to bypass the existing road from the east (2016) and doubling the existing road within the gorge (2014-2015).

The main project alternatives are subject to a new formal EIA procedure, which commenced in 2014. The procedure is on-going and an EIA and an Appropriate Assessment (AA) reports are expected to be ready in late 2016 or early 2017. This will allow the Lot 3.2 to be completed before the end of the programming period (2014 -2020) and solve both the environmental and safety problems in the gorge.

2. DESCRIPTION OF THE PROJECT

2.1 Overview

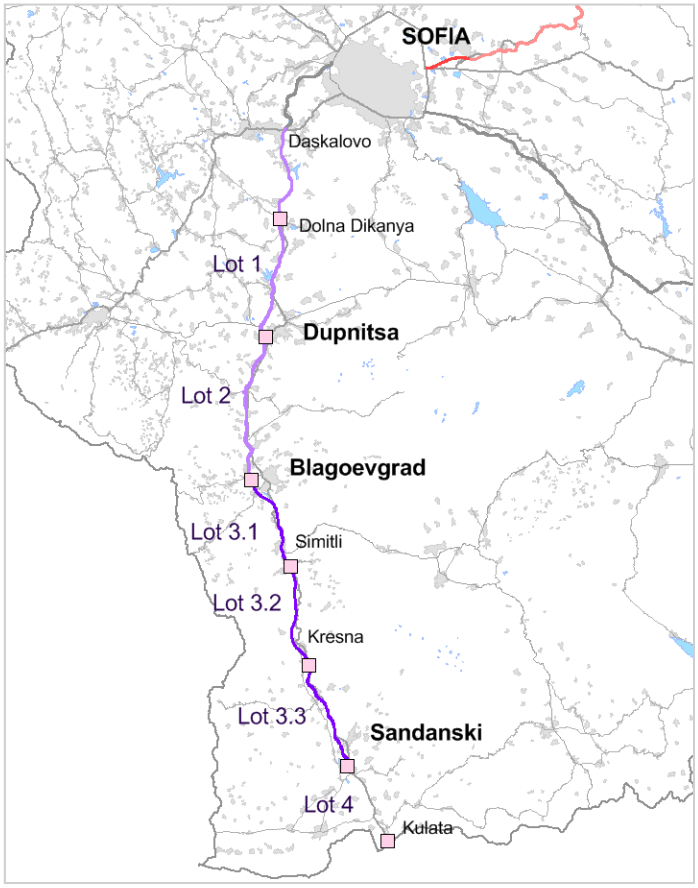
Struma Motorway is approximately 150 km long and is located in the southwest of Bulgaria between the interchange at Daskalovo Interchange and the Bulgarian/Greek border near Kulata. Struma Motorway is part of the core TEN-T network (the former Trans European Corridor No. IV, presently Orient/East-Mediterranean Corridor) linking the cities of Sofia and Thessaloniki.

In 2009 the section of Struma Motorway remaining for construction has been divided into four construction Lots:

- Lot 1, from Dolna Dikanya to Dupnitsa;
- Lot 2, from Dupnitsa to Blagoevgrad;

- Lot 3, from Blagoevgrad to Sandanski; and
- Lot 4, from Sandanski to the Greek border crossing at Kulata.

Figure 1. Overview of Struma Motorway



Lots 1, 2 and 4 have been funded under Operational Programme Transport 2007-2013 and are completed.

Lot 3 remains to be constructed. It is 62 km long and has been sub-divided into four construction lots as follows:

- Lot 3.1 between Blagoevgrad and Krupnik;
- Zheleznitsa Tunnel (2 km long and about 2.5 km of motorway section);
- Lot 3.2 between Krupnik and Kresna (including the Kresna gorge); and
- Lot 3.3 between Kresna and Sandanski.

Lot 3.2 passes through an area of high ecological value –Kresna gorge. The gorge is highly sensitive from environmental point of view and construction in it is technically difficult. This makes the section the most challenging one of the whole project. Lot 3.2 is under a formal EIA/AA procedure which commenced in 2014.

Construction contracts for Lots 3.1 and 3.3 have been signed in late 2015 and are ongoing. The time for completion of both contracts is 3.5 years, followed by a defects notification period of 1.5 years. The tender for Zheleznitsa tunnel is ongoing and tender evaluation is being carried out. The construction contract is expected to be awarded in early 2017.

Construction of Lot 3 of Struma Motorway is the main priority of the Operational Programme Transport and Transport Infrastructure (OPTTI) 2014-2020.

2.2 Existing Situation

One of the big rivers in the country, Struma River, passes through Kresna gorge. The gorge itself is a natural migration route for animals and has warmer climate due to air currents penetrating along Struma River from the south. The sides of the gorge are steep and no road construction could reasonably be done on the slopes. A relatively flat band of land between the two sides of the gorge exists. On the east side of the gorge there is an existing single track railway line. Road E79 (I-1 in accordance with the national numbering) has been built on the west side of the gorge. The Struma River flows between the road and railway for most of the gorge's length.

Figure 2. View of the existing road through Kresna gorge

The annual average daily traffic (AADT) for 2014 and 2015 has been measured to about 8 000 vehicles/day and is increasing every year. The share of heavy goods vehicles (HGV) is about 20%.

The existing road has very few places where overtaking of slower vehicles is possible. The lack of places to safely overtake combined with the high percentage of slow HGV increases the potential for accidents.

According to data from the traffic police between January 2010 and June 2015, there have been 366 declared accidents which resulted in 21 deaths and 139 people injured. Translated to annual values this means 68 accidents per year, 3.87 fatalities per year and 26 injured per year. This is close to 4 times higher than the average for the Bulgarian national road network.

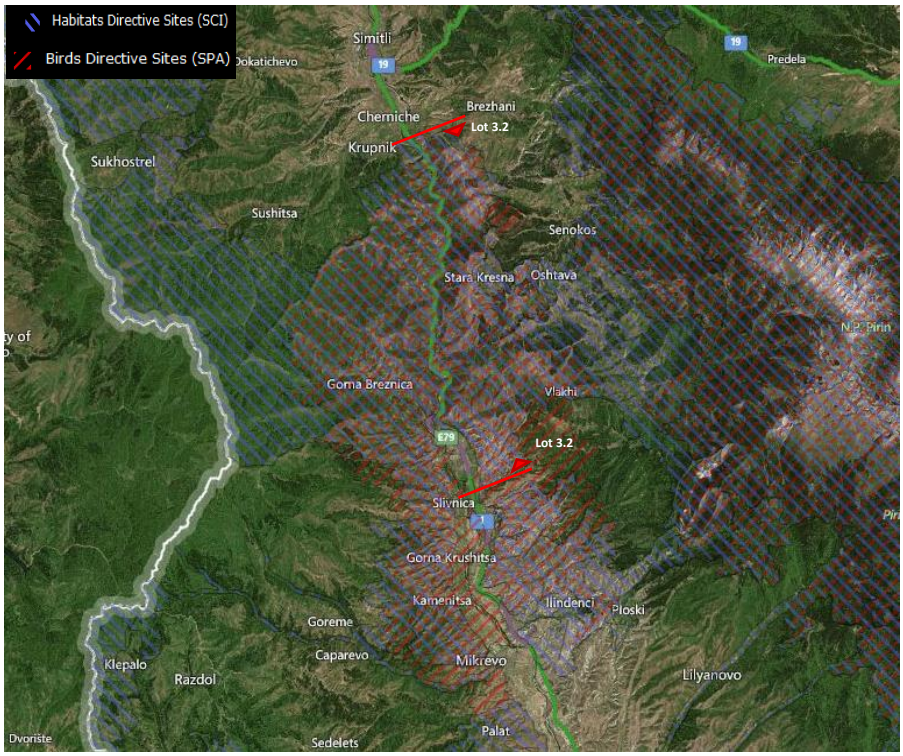
Figure 3. Traffic accidents in Kresna gorge

Another critical location on the route is the town of Kresna through which the existing road passes. There are frequent serious accidents inside the town involving transit traffic.

Figure 4. View from the section of road E79 in Kresna town

In the area of Kresna gorge there are two Natura 2000 sites – BG0000366 "Kresna-Ilindentsi" (under the Habitats Directive 92/43/EC as amended) and BG0002003 "Kresna" (under the Birds Directive 2009/147/EC).

Figure 5. Natura 2000 sites at the location of Lot 3.2



Source: European Environmental Agency's Europa web site http://natura2000.eea.europa.eu

The existing road does not provide for any measures to mitigate the negative effects of the traffic on the local environment. The road and its adjacent structures (e.g. retaining walls) acts as a barrier for many species. No specific passages, or green bridges for animal's circulation are available. Some species are unable to cross the road at all, which has a negative effect on their population, whilst other species are killed by passing vehicles when attempting to cross the road.

The existing situation with regard to traffic safety is considered unacceptable and the effects on the environment could be substantially mitigated.

2.3 Issues to Be Addressed

The analysis of the existing situation in terms of current road, traffic, road safety and effects on the environment shows the following main issues that need to be addressed and solved by way of planning and construction of Struma Motorway in the region of Kresna gorge:

- ***Traffic accidents***

The frequency and severity of traffic accidents along the existing road E79 in the Kresna gorge is one of the highest in the country. It is critical to improve traffic safety and do that as quickly as possible.

- ***Traffic accidents***

The lack of appropriate mitigation measures on the existing road has been quoted as the main reason for increased mortality rates of wild animals attempting to cross the road. As a result it is considered that the road, as it presently stands, is affecting negatively the size and structure of the populations of various animals. Moreover the road and its adjacent structures are actually a barrier for species which cross the road, increasing the negative effect of the road on the animal population.

- ***Traffic accidents***

Although travel times along the section are acceptable under most conditions, the frequent accidents occurring often result in traffic being stopped for hours. This causes a lot of inconvenience to drivers and affects negatively the environment.

- ***Traffic accidents***

At present the existing road passes through the town of Kresna resulting in numerous problems. A major issue is the safety of the residents of Kresna, as well as their increased exposure to noise and air and soil pollution.

3. MAIN PROJECT ALTERNATIVES

3.1 Long Tunnel Alternative

Based on the 2008 EIA Decision bypassing Kresna Gorge with a 13-15 km tunnel has been considered the main project alternative. In the course of the studies carried out in the period from 2011 to 2015 and as the design of the Lot 3.2, Long Tunnel Alternative was advancing during 2013 and 2014, a number of problematic issues were identified, which had not been taken into account when approving the Long Tunnel Alternative with the 2008 EIA Decision. These included, but were not limited to:

- the environmental impact of building such a structure would be severe, as well as the effect of tunnel construction on the traffic safety along the existing road;
- the geological conditions were found to be extremely unfavourable and seismicity and existing active faults in the area would pose unacceptably high risk during operation of the long tunnel;
- the risk of substantial volumes of radioactive tunnel spoil was identified;
- given that a long tunnel would cost about € 812 million (€ 1 billion with VAT) the whole Struma Motorway project would become economically unfeasible, meaning that legally it could not receive EU funding, nor could it be funded through the national budget;

- the costs for that section of the road, with the long tunnel, alone would be substantially more than the whole allocation for roads for the 2014-2020 programming period – € 673 million.
- the construction duration would last far beyond the Programming Period (2014 - 2020) and, more importantly, the existing road would become even more dangerous to the users than it already is.

Eventually, in 2014 it became clear, due to the scientific and technical studies on the project, that the Long Tunnel was not a viable project alternative and this led the country to explore additional alternatives in the period 2014-2016.

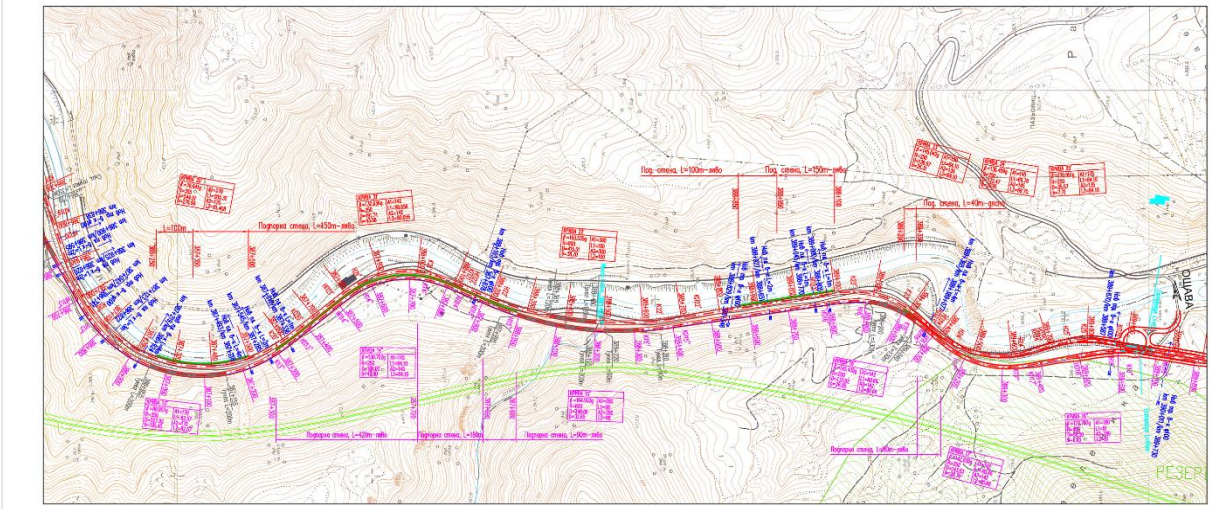
3.2 Dual Carriageway Alternatives

Considering the problems with the Long Tunnel Alternative in 2014 the authorities decided to develop a "backup" alternative for the Kresna gorge. This alternative should mitigate the risks identified and have minimum impact on the nature.

Considering the fact that all previously developed alternatives outside Kresna gorge have been proved impossible to implement in the course of the studies performed and the 2008 EIA Decision (due to environmental, technical and/or economic reasons), it was decided to attempt a much more modest and conservative technical solution, which would minimise the areas to be used in the gorge. A key factor for this would be the use of the existing road through the gorge as much as possible and build an additional carriageway appropriately located within the gorge.

The "backup" alternative is designed as a dual carriageway road (2 x 10 m wide). The design speed is 80 km/h which will allow for operational speed of 100 km/h under most conditions. One carriageway closely follows the existing road through the gorge, straightening it in some sections, and the other carriageway develops independently with tunnels and viaducts. The rationale behind this design is to minimise as much as possible the footprint of the road and thus reduce impacts on habitats and species as much as possible.

Figure 5. A typical section of the Backup alternative



Since the launch of the EIA procedure for Lot 3.2 in the late 2014 the EIA consultant has been working together with the designer and other experts, including geologists and biologists specialised on nature protection, to improve the original alignment of 2014. A number of site visits have taken place to identify locations where the impact of construction could be minimized. As a result of this work, the road authorities and the consultants have put a lot of efforts to significantly improve the alignment of the "backup" alternative from environmental point of view and the affected habitat areas have been substantially reduced. A number of additional measures have also been implemented – for example in two sections of the alignment the new carriageway is designed above the existing carriageway, so that no areas of the gorge are affected at all. The final Dual Carriageway Alternative

of 2015 has been heavily influenced by the work done by the environmental consultants to mitigate the effects on the environment.

The Dual Carriageway Alternatives of 2014 and 2015 were developed as an effort to come up with an environmentally acceptable and at the same time technically and economically feasible solution. They were not, however, recognized as good enough from environmental point of view by a number of local NGOs.

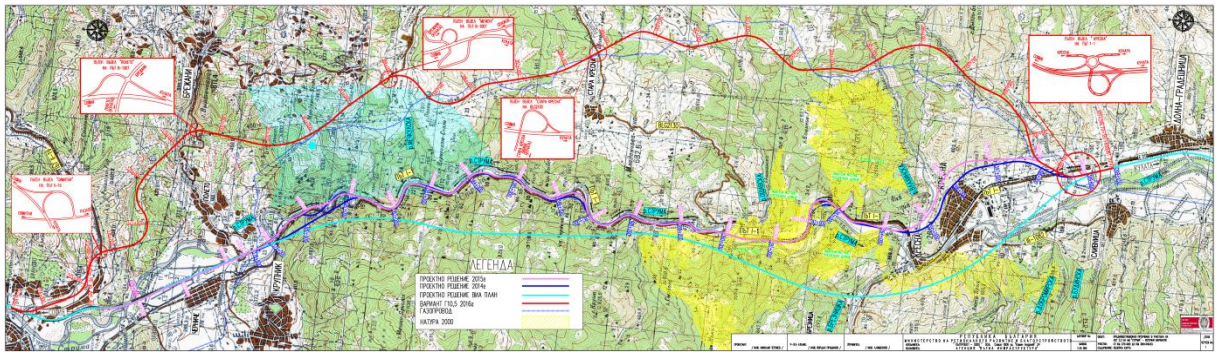
3.3 Eastern Bypass Alternative

In the beginning of 2016 the Road Infrastructure Agency (RIA) took over the development of the project from the National Company Strategic Infrastructure Projects (NCSIP). It was decided once again to attempt to find an alternative which is environmentally, technically and economically acceptable. In April 2016 RIA commissioned feasibility studies for a new alternative to bypass the Kresna Gorge from the east.

The Eastern Bypass Alternative features the construction of a new single carriageway east of the Kresna Gorge. The carriageway shall have 2 lanes and a total width of 10.5 m. The terrain in the region is severe and results in high longitudinal grades. At sections with exceptionally high longitudinal grades a third lane for slower vehicles is foreseen.

The existing road is to remain in use but without being widened after the introduction of mitigation measures to limit the risk of mortality of wild animals and fragmentation of their habitats.

Figure 6. Layout of the Eastern Bypass Alternative



The traffic in direction Greece-Sofia will be using the new carriageway, while the traffic in the opposite direction will use the existing road through Kresna Gorge. Interchanges along the new carriageway are designed and are expected to substantially improve the quality of transport services for the population of the nearby villages.

Figure 7. A view of the Eastern Bypass Alternative (3D render)

The Eastern Bypass Alternative has been received favourably by the members of the scientific community and environmental NGOs. It has been discussed with NGOs at a number of meetings of the Struma Motorway Monitoring Committee, in the period July-September 2016 and two site visits (with NGOs and members of the scientific community) to formulate mitigation measures have been made. The alternative is included in the scope of the EIA/AA reports.

4. PROJECT PREPARATION ACTIVITIES

4.1 Environmental Impact Assessment / Appropriate Assessment

The EIA/AA procedure was initiated in December 2014 and in the beginning of 2015 the communities affected by the project were notified about it. The initial scope of the EIA/AA was the comparison of the Long Tunnel Alternative and the Dual Carriageway Alternative of 2014.

In May 2015 the Ministry of Environment and Water (MoEW) issued specific instructions to NCSIP on how to proceed with the development of the EIA/AA for the project. It was specifically noted that preference must be given to alternatives complying with Recommendation No. 98 of the Standing Committee of the Bern Convention, i.e. alternatives altogether outside the Kresna gorge.

In the period 3 November – 3 December 2015 consultations on the scope and content of the EIA report were carried out. After receiving comments from the relevant authorities and NGOs the scope was revised and forwarded in December 2015 to JASPERS for review and comments.

In January 2016 JASPERS' recommendations and methodological comments on the EIA process and content of the EIA report were received. As a result, a working document was prepared and agreed upon. The document was also reviewed and agreed by the Ministry of Environment and Water. The document was then forwarded to the services of EC (DG ENV and DG REGIO) for information and feedback.

In March 2016 MoEW issued specific requirements and recommendations regarding the scope and content of the EIA report. The letter confirms that the scoping document is in compliance with the applicable requirements and underlines that the EIA report must include detailed environmental analysis of all alternatives mentioned in the scoping document. This is also in line with the general recommendations of DG ENV received at meetings in March and May 2016.

In the period March-August 2016 the Road Infrastructure Agency developed a feasibility study for a new eastern alternative (herein the Eastern Bypass Alternative) and revised the EIA scoping document to take into account the instructions received by the MoEW, various recommendations from third parties and to provide for the evaluation of the newly developed eastern alternative.

During the second half of September 2016 RIA launched formal public consultations on the new scope of the EIA report.

The EIA/AA report is expected in late 2016 or early 2017.

4.2 Design of the Eastern Bypass Alternative

In case the Eastern Bypass Alternative is assessed as the most environmentally favourable alternative as part of the EIA/AA processes it will be the one to be constructed. In the interest of saving time, RIA is preparing a competition for the design of the alternative, which will be launched in October 2016. This will allow the design to be ready in the early 2017.

Tenders for construction may be launched after an EIA decision for the project is in force and the design is available.

4.3 Application for Funding

In the period 2014-2015 a number of studies to support the funding applications for Lot 3 have been carried out. These include a traffic model and forecast, a CBA model and a Multi-Criteria Analysis (MCA). These have been reviewed by JASPERS who have approved the traffic and CBA models. The MCA will be included as the Option Analysis for the purposes of the application for funding.

After the scope of Lot 3.2 is finalized, RIA will initiate an update of the traffic forecast and CBA to reflect the EIA approved alternative. Hence an application for funding for Lot 3.2 may be reasonably expected in the first half of 2017.

4.4 Consultations with the Public

A substantial volume of information regarding the project has been made available to the public by the project's developers – the former developer NCSIP through their web-site at www.ncsip.bg and the present project developer the RIA at www.api.bg. This includes various reports and maps related to Struma Motorway Lot 3. However, the main instrument for consultations with the public is Struma Motorway Monitoring Committee (the Committee). The committee was established in 2012 when the Minister of Regional Development and Public Works issued rules for the work of the Committee and appointed its members. These include representatives from several environmental NGOs, as well as representatives from the Managing Authority, the MoEW, the Central Coordination Unit, the Ministry of Finance, etc. Committee meetings are held every 2 months and NCSIP reports the development of Struma Lot 3 at each meeting.

Since the establishment of the Committee in 2013, a number of notable issues regarding the development of Struma Motorway have been reported to it. Its members have been informed in particular about:

- the environmental proceedings related to the geological studies planned for the Kresna tunnel, the scope of the studies and the impact on nature elaborated in them;
- the scope of the main contracts for the preparation of Lot 3, the scope of some of the less major but still important contracts, such as the assignment for monitoring of the mortality of wild animals along the existing road in Kresna gorge;
- the analysis carried out by NCSIP about whether it would be possible to phase the construction of Kresna tunnel and the possibility for building of one tunnel tube (in an attempt to reduce project costs and make the project feasible);
- a report regarding the impact of ventilation shafts and possible intermediate access locations to speed up the construction of the tunnel, so that it could fit the timeframe of the 2014-2020 programming period;
- the analysis done by the Environmental Consultant regarding the compliance of the road sections of Lot 3 (that is Lots 3.1 and 3.3) with the requirements of the 2008 EIA Decision, as well as the results of the latest wild animals mortality study;
- the environmental evaluation framework developed by the Environmental Consultant of NCSIP which would be used to evaluate the effects of the project in Kresna gorge;
- the findings regarding the extremely risky geological conditions in the Kresna gorge area;
- the development of the backup alternative and the rationale behind it, recent developments of the project and various documents, such as technical, geological and environmental reports, copies of official correspondence, etc.
- the complete geological studies for the Long Tunnel Alternative in Kresna gorge;
- the progress of the EIA procedure for Lot 3.2 in 2015 and technical and environmental details regarding both the backup and the improved backup alternatives;
- the new eastern alternative of 2016 has been extensively discussed at several meetings of the Committee which took place in July-September 2016.

Evident from the summary of the issues discussed, the Bulgarian authorities are committed to developing the project in a reasonable and transparent manner and have been taking the involvement of local NGOs very seriously.

5. MITIGATION MEASURES

5.1 Immediate Measures

In the period 2013-2016 a number of field studies to determine the mortality of wild animals in the Kresna Gorge have been carried out. The most dangerous places along the existing road E-79 have been identified and the Environmental Consultant has proposed a number of immediate measures that may be taken to reduce the mortality rates.

The following mitigation measures have been identified:

- Construction of walls next to the road to prevent amphibians and reptiles from entering the road – at km 2.1-2.2 (protecting amphibians), between km 3.7 and km 4.5 (water snake and leopard snake), between km 6.6-6.7 (snakes; one of the most critical locations), km 8.2-8.3, km 10.1-10.2, km 12.1-12.2 (reptiles), between km 12.5 and km 12.8 (reptiles and small mammals).

Figure 8. A wall in Kresna Gorge to prevent amphibians and reptiles from entering the road

- Placement of small walls at culverts to guide the animals which try to cross the road.
- Installation of nets with height 4 m to protect birds and bats – at the portals of the existing tunnel, at km 12-13 and at km 5-6.
- Cutting of vegetation at the shoulders of the road.

Figure 9. Vegetation removal in Kresna Gorge – views before and after

- Speed reduction signs or information board at km 4.5, km 1.8, km 6.5 and km 12.

Figure 10. An information board which helps reduce mortality rates for about 1 km after it

- Restricting the access of animals to shafts and revision chambers near the road.

Figure 11. An open shaft that poses danger to some reptiles

The Road Infrastructure Agency has commissioned the implementation of the above measures in September 2016 and some measures had already been introduced. All measures are expected to be in place by the end of October 2016.

5.2 Long-Term Measures

The analysis of the mortality of wild animals along the existing road in Kresna Gorge is being taken into consideration in the development of the EIA/AA reports. The baseline gathered will help identify appropriate long-term mitigation measures. These will also be discussed with the independent environmental consultants preparing assessments, the scientific community and environmental NGOs. Mitigation measures along the existing road will become part of the EIA/AA decision and will be implemented as part of Lot 3.2. The inclusion of the long-term mitigation measures in the scope of the overall project for Struma Motorway Lot 3.2 has been discussed and agreed upon by the Bulgarian authorities and DG ENV and DG REGIO.

6. IMPLEMENTATION OF RECOMMENDATION NO. 98

This section sets out the items of Recommendation No. 98 and explains how each of them has been addressed. Most of the recommendations have a continuous effect and clarification is provided as to how the authorities intend to keep following them.

1. *take account, in the development of the project, of the imperatives of conserving fauna, flora and habitats as well as the concerns of the local communities in the municipalities concerned;*

There are a number of project alternatives developed since 2012: a) the alternative with a 15.4 km tunnel, b) the alternative bypassing the gorge from the west and c) the alternatives upgrading the existing road to a dual-carriageway. All these three alternatives have been developed with due consideration of the importance of habitats and of species (both EU priority list and national list) likely to be affected by the project. Several changes have been made to the designs in order to minimise the areas affected by infrastructure construction. This process has been recorded in various reports and summarised in the Multi-Criteria Analysis for the project developed in 2015-2016.

The imperatives of conserving fauna, flora and habitats envisaged in the EU Birds Directive and the Habitats Directive, as well as the concerns of the local communities are being seriously taken into account in the new EIA/AA. The project has been presented and discussed at a number of meetings with the local public, NGOs and authorities.

2. *ensure that the decision on the routing of the motorway is taken on the basis of an in-depth environmental impact assessment (EIA) supplemented by scientific and mapping data and any other useful source of knowledge on the area concerned by the project, to justify the choice of alternative as recommended in the expert's report*

The final decision on the alignment of the motorway is to be taken, as EU Environmental law demands, on the basis of an in-depth EIA. The scope of the EIA/AA report has been presented to JASPERS for comments and in the beginning of 2016 JASPERS' recommendations have been reflected. Additional recommendations to the scope of the EIA/AA report were made in March-May 2016 by DG Environment which have been included in the scoping document. The EIA scoping document has been made subject to formal public consultations in November 2015 and again in September 2016.

The work on the EIA/AA is based on data collected by previous studies, as well as on new scientific and mapping data collected by the EIA/AA team in the period 2013-2016. The MoEW maintains maps of protected habitats and species and the latest data has been provided to the EIA/AA team.

3. *consider the possibility of abandoning the option of enlarging the current road since this would substantially increase damage to a unique site, without possible measures of compensation, and continue studying alternative routes outside the gorge that would respect the natural constraints as far as possible and provide for the integration of engineering works and compensate for environmental impact;*

A substantial number of alternatives outside the gorge have been studied, namely:

- *Eastern alternatives (2002).* Two eastern alternatives have been proposed by environmental NGOs with the idea to completely bypass the gorge and Natura 2000 sites. These have been examined in 2002 and later rejected as part of the Appropriate Assessment of 2007.
- *ECO A and ECO B (2002)*. Two additional eastern alternatives have been re-examined as part of the Multi-Criteria Analysis carried out in 2015-2016. These alternatives affect inhabited areas, cross Natura 2000 sites and national protected areas and have extremely poor operational properties.
- *Long tunnel alternatives (2007, 2014)*. The idea of bypassing the gorge with a long tunnel originated during the EIA process in 2007 and became the basis for the EIA decision of 2008. Based on the alignment selected in the EIA a preliminary design was developed in the period 2013-2014. Environmental analysis of the alternative shows substantial environmental damages

to the biotope and to species during construction and high risk for the life, health and safety of the population.

- *Western alternative (2015)*. In an attempt to avoid Kresna Gorge altogether a completely new alternative bypassing the gorge from west was developed. This alternative involved the construction of tunnels with extreme lengths (10 km in total) and was found to have poor environmental properties (passing very near Kresna town, crossing Natura 2000 sites and affecting a national protected area).
- *New eastern alternative (2016)*. As part of the continuing efforts of the authorities to find the optimal solution for the project respecting the Bern Convention and the EU environmental legislation in April-June 2016 a new eastern alternative was formulated, attempting to avoid the deficiencies of the old eastern alternatives. The alternative has been included in the scope of the EIA/AA report.

Substantial efforts have been put into finding a feasible technical solution for the project taking the motorway outside Kresna Gorge. The EIA/AA reports will include a detailed comparison of the main project alternatives.

4. *ensure that the choice of alternative is based not only on technical, legal and economic criteria but also on social and ecological criteria;*

In order to properly steer the process of project justification a Multi-Criteria Analysis (MCA) was developed in 2015-2016 [*1*]. It features a comparison of all previously and more recently identified alternatives (a total of 16) in accordance with a coherent evaluation framework. The MCA has been developed with focus on the environmental aspects of the project and a detailed Environmental evaluation methodology [*2*] has been developed to support the analysis.

In compliance with Environmental law, the environmental and social considerations are also being taken into account in the development of the EIA/AA report.

5. *institutionalise dialogue and seek consensus solutions with the different partners concerned; active partnership could be forged with non-governmental organisations with sound knowledge of the location of habitats and the presence of protected species, and setting up of advisory groups could be envisaged;*

For the implementation of this particular recommendation, by Order No. РД-02-14-2857 dated 29 November 2012 of the Minister of Regional Development and Public Works a Struma Motorway Monitoring Committee was established.

The Committee is chaired by the Chairman of the Management Board of the Roads Infrastructure Agency, which is responsible for the design and construction of Struma Motorway. To ensure the maximum involvement of the interested parties, the committee includes representatives of the MoEW, Ministry of Transport, Information Technology and Communications, Ministry of Regional Development and Public Works, Ministry of Finance, municipal administrations, Association Transparency International, non-government environmental organizations – Balkani Wildlife Society, Bulgarian Society for Protection of Birds, Green Policy Institute, Centre for Environmental Information and Education and others.

The Committee has a monitoring function and its main activity being to acquaint the representatives of various authorities and NGOs with the implementation of Struma Motorway. The main objectives are to ensure a maximum degree of transparency, information dissemination and efficiency in the overall development and successful completion of the infrastructure project.

In June 2016 the composition of the Committee was updated and the number of participating NGO's and representatives of the local population was extended.

Since its establishment the Committee has held 17 meetings, during which the management teams of the projects have provided the members with detailed information on the progress of each of the four Lots, as well as with official documents. (A summary of the topics discussed is presented in [*1*] and [*3*] and in item 4.4; minutes of the Committee meetings can be found at: http://ncsip.bg/en/index.php?id=48).

6. *provide for the downscaling and rehabilitation of the existing road, restoring its initial status of a local road used by the farming community and tourists and thus ease current pressure on the site, with suitable planning to revitalize damaged areas and provide user information services;*

It must be noted that the existing road E79 has never had the status of a "local road used predominantly by farming community and tourists" as mentioned in the Recommendation. Road E79 is part of the core Trans-European Transport Network (formerly referred to as Corridor IV and at present Orient/East-Mediterranean Corridor). Evident from the national traffic counts this route has the highest volume of traffic in Bulgaria in the north-south direction. A large proportion of the traffic along the road is transit and the share of heavy goods vehicles is also very high. The road is the only feasible link between the western parts of Greece and Bulgaria and Romania.

It would appear that the recommendation had been drafted without consideration of the status and importance of the existing road. The road will inevitably remain under heavy use regardless of the technical solution for the Kresna Gorge.

In order to minimise the impact on wildlife an important component of the EIA/AA report being developed are the permanent mitigation measures to be implemented along the existing road (as noted in item 5.2).

7. *establish periodic site assessments (Kresna gorge and motorway route), providing, as soon as the EIA is produced, the mapping and biological inventories necessary for long-term bio-monitoring;*

With the purpose to implement this recommendation MoEW has instructed NCSIP in 2013 to undertake the following actions:

- Perform *traffic monitoring* on the sections of the existing road E79 going through protected areas SPABG0002003 "Kresna" and SCIBG0000366 "Kresna – Ilindentsi", in order to register the number, type and speed of the passing vehicles;
- Perform monitoring of the *mortality rates* of wild animal species in the section of road E79, passing through protected areas SPABG0002003 "Kresna" and SCIBG0000366 "Kresna – Ilindentsi". The main purpose of the monitoring is to identify the separate specimens' mortality in the section of the road leading through Kresna gorge and passing through both protected areas along with its impact on the species populations.

The traffic monitoring is being carried out 24/7 since 2013 and annual reports have been published by NCSIP.

With regard to the mortality monitoring, the length of the section being monitored is 15 950 m. The starting point (the Northern end of the gorge) is about 1 350 m after the junction for Krupnik village, with GPS coordinates N 410 50,702', E 023008,777', while the end point is at the first house in Kresna village – GPS coordinates N 410 43,743', E 023009,162'. The height above sea level is from 280 to 185 m.

The monitoring has been performed in two time spans (spring-summer and autumn-winter period), each comprising 8 weeks, within the following four sub-periods:

- Spring season (March 15 – May 15);
- Summer season (May 15 – July 15);
- Autumn season (September 1 – October 31);
- Winter season (December 1 – January 31).

Each week all dead animal specimens on road E79, in the Kresna gorge section are being registered. The monitoring covers all classes of subphylum vertebrate – amphibians, reptiles, birds and mammals and their mortality as a result of the vehicle traffic. The registration of the animal species is performed along the length of the whole alignment, without concentrating on specific randomly chosen sections. Data collection is carried out by at least three experts trained in advance going over

the whole section in both traffic directions. Additional control monitoring is performed once per every sub-span (season) for five consecutive days.

In order to establish a possible correlation between traffic intensity and mortality rate, collection of data could be performed within different spans during daytime (e.g. 7-9 h, 9-11 h, 11-13 h, 13-15 h and 15-17 h), at separate randomly chosen sections with length 1 km, where for five consecutive days constant daily monitoring is carried out.

Field survey method: Several trained experts (three to five people) go over the whole section in both traffic directions. The whole section is divided into sub-sections with average length of 3-5 km and one person covers one sub-section in one direction.

For all dead animals along the road is registered their species, sex, age, direction of movement and precise location on the road or the road shoulder. For each specimen are written down the precise GPS coordinates and is subsequently marked on a map. Furthermore is registered the kilometrical position with precision up to 0.1 km, measured from the Northern end of the gorge (Krupnik village side) and distance from the closest road structure (tunnel, culvert, bridge, junction, roadside fountain, etc.). All data is recorded in a special field survey developed for the purpose.

There is an obligation to register whether the relevant dead animal is subject of protection and conservation in one of the two protected areas.

In order to avoid repeated registration of dead specimens they are marked with colour spray at the time of their encountering, with the colour and the shape of the marking being recorded in the relevant field survey form.

The specific tasks set for achieving the main objective are as follows:

- Performing of mortality assessment of each species' specimens killed on the road by a passing vehicle.
- Establishment of the separate species' percentage of the total number of dead animals.
- Establishment of the abundance or frequency of encountering among the collected data samples, along with the share of the relevant class – amphibians, reptiles, birds and mammals.
- Establishment of the estimated age (when it can be determined).
- Analysis of the mortality dynamics during the different months and seasons.
- To the extent to which it is possible, reaching conclusions regarding the populations' abundance in the vicinity of the road.
- Assessment of the mortality rate of the species subject to protection and conservation in both protected areas BG0002003 "Kresna" for conservation of wild birds and BG0000366 "Kresna – Ilindentsi" for conservation of natural habitats and the wild flora and fauna, along with analysis of its impact on the populations in the relevant protected areas.
- To the extent to which it is possible, assessment of the actual mortality rate of the animal species in the monitored section of the road and the time they have survived on the traffic lane.
- Comparison and analysis of the mortality rate survey data and the vehicle traffic data in the monitored section of the road.
- Identification and proposal, if possible, of mortality mitigation measures on the basis of the collected data.

The study reports (final and interim reports for each field survey season together with the raw data) are published in due time on NCSIP web page and are made available for the general public.

The surveys have been carried out for four consecutive years (2013, 2014, 2015 and 2016) and form a good basis for further analysis as part of the EIA/AA for Lot 3.2 as well as other studies. With view to the above, it could be summarized that this recommendation has been implemented with the conducted periodic site assessments in the Kresna gorge region and on the motorway route.

8. select the zone concerned for the Emerald network, by extending the central site to cover the gorge entrance and exit areas, to take stronger account of the biological functioning of the natural habitats and the connecting areas between the sites (ecological network of core area plus complementary sites)

The process of creating the ecological network Natura 2000 in Bulgaria started in 2002 with the adoption of the Biodiversity Act, which establishes the norms of both European directives - Directive 92/43/EEC and Directive 2009/147/EC.

According to the Biodiversity Act protected areas are declared in the country as part of the National Ecological Network. These are places of the territory and the waters of the country that meet the criteria for presence of important biodiversity of plant and animal species and habitat types listed in the Annexes of the Habitats Directive and the Birds Directive. Lists of habitats and species, including birds whose habitats are declared protected areas are listed in Annexes 1 and 2 of the Act.

Depending on the specific objectives, methodology and criteria for the designation of protected areas under the two Directives of the European Union (Habitats and Birds) process was divided into two:

- determining the ecological network in its part to protect the habitats of birds as per the Birds Directive;
- determining the ecological network in part on conservation of natural habitats and habitats of species as per the Habitats Directive.

From 2002 to 2006, through the implementation of several projects, a national list of potential sites for inclusion in the Natura 2000 network has been established. The originally proposed list includes 114 protected areas for the preservation of wild birds (Natura 2000 sites under the Birds Directive), covering approximately 23.6% of the country and 225 protected areas for preservation of natural habitats and of wild fauna and flora (Natura 2000 sites under the Habitats Directive), covering approximately 30% of the country.

In 2007 after decisions № 122/02.03.2007, № 661/16.10.2007 and № 802/04.12.2007 of the Council of Ministers of the Republic of Bulgaria, the country presented to the European Commission the national list of potential Natura 2000 sites which include:

- 114 protected areas for the preservation of wild birds, covering 20.4% of the territory of Bulgaria;
- 228 protected areas for the preservation of natural habitats, covering 29.5% of the territory of Bulgaria.

With Decisions of the Council of Ministers № 811/16.11.2010, № 335/26.05.2011, № 660/01.11.2013, № 678/07.11.2013, № 223/04.24.2014 the national list of protected areas is completed and currently includes:

- 119 protected areas for the preservation of wild birds, covering 22.7% of the territory of Bulgaria.
- 234 protected areas for the preservation of natural habitats and wild fauna and flora, covering 30% of the territory of Bulgaria.

A total of 340 protected areas from Natura 2000, covering 34.4% of the country (for 13 areas the scope in both Directives matches).

Currently the network of protected areas is almost completely built by national lists of protected areas established by the Council of Ministers and the European Commission. The process of preparing and issuing the orders for declaring protected areas for the conservation of wild birds is completed and the issuing of orders declaring protected areas for habitat is forthcoming.

In the course of these procedures the entire territory of the gorge, including the entrance and exit of the gorge, is designated Natura 2000 site under Directive 92/43/ EEC - BG0000366 "Kresna-Ilindentsi" and Directive 2009/147/EC - BG0002003 "Kresna" and special attention is given to the biological functions of natural habitats and the connecting areas between the zones:

- protected area for wild birds BG0002003 "Kresna" is included in the list of protected areas adopted by Decision № 122/02.03.2007 of the Council of Ministers and announced by Order № РД-748 from 24.10.2008 of the Minister of Environment and Water, with a total area of 23,496 hectares.
- protected area for preservation of natural habitats and of wild fauna and flora BG0000366 "Kresna-Ilindentsi" is included in the list of protected areas adopted by Decision № 122/02.03.2007 of the Council of Ministers, as amended by Decision № 811/16.11.2010, with a total area of 48,596 hectares.

To ensure the preservation of natural habitats and habitats of species subject to preservation in protected areas, the plans, programs, projects and investment intentions that may, alone or in combination with others, have a significant negative impact, shall be assessed for compatibility with the object and purpose of the preservation of the protected area. The conditions and procedures for the assessment of conformity are regulated by the Ordinance on the terms and conditions for assessing the compatibility of plans, programs, projects and investment proposals with the object and purpose of preservation of protected areas.

Detailed information and public access to data on protected areas, procedures for assessment and related documents are available on the website of the Information System for protected areas of ecological network Natura 2000 http://natura2000.moew.government.bg.

The public administration system provides access to information on protected areas by selection from a dynamic map or through a specialized search engine. The latter allows for the search of protected areas by name, code, type, location, and species and habitats, subject to preservation in the areas.

The users are provided with access to an extensive set of data and documents for each of the protected areas, including:

- Order issued for the proclamation of the protected area and its attachments;
- Standard form for Natura 2000;
- Purpose and preservation objectives of the protected area;
- Chronological presentation of the procedure for proposing and approving the protected area and related documents;
- Digital boundaries of the protected area in different formats and coordinate systems;
- Other data related to the protected area;
- Preview of the boundaries of the protected area on the Web GIS map.

The public administration system provides access to information on the procedures for assessing the compatibility of plans, programs, projects and investment proposals with the object and purpose of preserving protected areas, providing search capabilities by competent authority, type of procedure and location.

Users are provided with information on the characteristics and location of the investment proposals, plans, programs and projects submitted for compatibility assessment and the decisions of the competent authority proceedings.

9. ensure that adequate legal protection is given to the whole of the gorge site and its development areas

Bulgaria is a party to the Bern Convention and as a member of the EU it has duly transposed the provisions of Directive 2009/147/EC on the conservation of wild birds of 30 November 2009 and Directive 92/43/EEC of 31 May 1992 on the conservation of natural habitats and wild fauna.

In this regard, in the policies for planning and development, the requirements for preservation of protected areas are taken into account so as to prevent or reduce as far as possible the deterioration of these areas.

The route of Lot 3.2 is close to the national protected territories, namely:

- Protected Area “Kresna gorge” declared buffer zone of the Tissata nature preserve by Order No. 130 dated 22 February 1985, as amended by Decree No. 844 dated 31 October 1991, and the re-categorized as protected area by Order No. 56 dated 30 January 2008 of the Minister of Environment and Water;
- Tisata nature reserve declared by Decree No. 6663 dated 05 December 1949 of the Ministry of Forestry, the Order No. 440 dated 09 December 1977, and the Order No. 844 dated 31 October 1991 of the Minister of Environment for alteration of the area size and protection of the only compact field of juniper and Mediterranean plant associations in Bulgaria;
- Protected area “Moravska” declared a natural landmark by Decree No. 133 dated 22 February 1985, and re-categorized as a protected area by Order No. 727 of 28 September 1991 of the Minister of Environment, in order to protect relict Mediterranean vegetation mainly consisting of juniper.

Lot 3.2 passes through Natura 2000 protected areas, as follows:

- Protected Area "Kresna-Ilindentsi" with identification code BG0000366 established with Directive 92/43/EEC on the preservation of natural habitats and of wild flora and fauna;
- Protected Area "Kresna" with identification code BG0002003 established with Directive 2009/147/EC on the protection of wild birds.

The territory of protected areas for the preservation of natural habitats and of wild flora and fauna and for the preservation of wild birds overlap (the area of the zone for habitats is two times greater than the area of the zone for birds) in such a way that the above-mentioned three national protected areas are within their Natura 2000 borders.

Various environmental protection measures have been imposed within the protected territories to ensure the preservation of the natural and biological diversity and minimize harmful environmental impacts over these sites

7. CONCLUSION

Struma Motorway Lot 3.2 is by far the most complicated project in Bulgaria and poses significant environmental and technical challenges. The authorities are committed to developing the project in a transparent and appropriate manner. In view of this all efforts are being made to increase the awareness of the public about the project. The regular feedback from the services of the EC and JASPERS contributes to the successful completion of the project.

It must be made clear that the part of the Struma Motorway project in Kresna gorge is currently under EIA/AA and an EIA/AA report is expected to be completed in the near future.

Bulgaria as a Member State of the EU will be supported by the EU financing mechanisms for nature protection. The Kresna gorge area, being part of the EU protected areas, will be supported to apply the necessary compensation and mitigation measures and the necessary regular monitoring, especially as under the realistic alternatives it is only one of the options that envisages that only one road of the motorway will pass through the gorge (the new eastern alternative) and thus, as an EU project will benefit from the strict surveillance and protection.

The Bulgarian Government clarifies that the existing road in the Kresna gorge (E79) is part of the Trans-European Network (not a local road), with serious problems concerning traffic and safety for the road users and species). The final decision on the construction of Struma Motorway Lot 3.2 will address simoultaneusly the environmental and safety inconveniences of the existing road.

The Bulgarian Government declares that it is strictly applying the EU environmental legislation, namely the Directive on Environmental Impact Assessment, the Birds protection Directive 2009/147/EC (demanding the elaboration of an Environmental Impact Assessment) and the Habitats Directive 92/43/EC (demanding the elaboration of an Appropriate Assessment). In addition, the Bulgarian Government is applying all the relevant provisions of the Bern Convention, giving special attention to the value of the protected area, collaborating with specialists on nature conservation.

The Bulgarian government, in this difficult effort, is being supported by the best consultants in Europe, in collaboration with the European Commission and JASPERS, to identify the optimal, sustainable and scientifically justified solution.

Through the Struma Motorway Monitoring Committee and other initiatives the Bulgarian Government proceeds in full transparency, involving all stakeholders and NGOs to guarantee the convergence towards the safest, sustainable and optimal technical solution for the construction of the road in the protected area.

The Bulgarian Government, in the case of the Kresna gorge, is facing the challenge to harmonize different aspects and different approaches. Based on logical arguments, supported by updated scientific knowledge, in open dialogue with the interested parties, in full transparency, proceeds towards the final decision.

8. DOCUMENT REFERENCE

[*1*] *Multi-Criteria Analysis of Struma Motorway Lot 3.2 (Release 1, February-2016).* The document has been developed in the period 2015-2016 by Arup (UK) and the National Company Strategic Infrastructure Projects. It features a comparison of 16 project alternatives (all alternatives identified by the end of 2015) and is the most comprehensive project document to date. It is available at: http://ncsip.bg/en/index.php?id=48

[*2*] *Methodology for environmental evaluation of project proposals and alternatives in the roads sector (2015)*. The document (together with the software for applying it) has been developed by the National Company Strategic Infrastructure Projects during the work on the Multi-Criteria Analysis. It is available at: http://ncsip.bg/en/index.php?id=48. It has been presented to the Bureau in March 2016 as Appendix 3 to the Government Report (T-PVS/Files(2016)11).

[*3*] *Government Report for the 35th Standing Committee Meeting (2015)*. The document summarises the development of the project since 2008 and includes detailed information regarding the various project alternatives, the consultations with the public, the implementation of Recommendation No. 98 (2002), etc. It has been registered under ref. T-PVS/Files(2015)59.

[*4*] Government Report for the Meeting of the Bureau (March 2016). The report summarises the progress since the previous report of November 2015. It has been registered under T-PVS/Files(2016)11.

[*5*] *Struma Lot 3.2 EIA Development, Working Document (Revision 1, 03 February 2016)*. The working document has been jointly developed by JASPERS and the National Company Strategic Infrastructure Projects and aims to streamline the development of EIA/AA for the project. It has been presented to the Bureau in March 2016 as Appendix 1 to the Government Report (T-PVS/Files(2016)11).

REPUBLIC OF BULGARIA

MINISTRY OF ENVIRONMENT AND WATER

Struma Motorway Lot 3.2 – Progress since February 2016

- July 2016 -

1. Introduction

The Struma Motorway project has been monitored by the Bureau and Standing Committee of the Bern Convention for years and as part of this process Recommendation No. 98 (2002) has been issued. Following a complaint from local NGOs, the progress of the project has been last reported at the 35th Meeting of the Standing Committee in December 2015. Further to that, at the Meeting of the Bureau on 22 March 2016 the project has been discussed and a request for information has been sent to the authorities (letter dated 18 May 2016).

This report provides the information sought by the Bureau and summarises the progress of the environmental procedures and project preparation since the previous reports from November 2015 and February 2016.

2. Project Summary

Struma Motorway is an important road link connecting the capital of Bulgaria Sofia and Greece. Most of the motorway has been constructed but a very difficult section remains. It is called Lot 3 of Struma Motorway and is the main priority of Operational Programme Transport and Transport Infrastructure 2014-2020.

There is an existing road (E-79) in the direction of Struma Motorway. It passes through the environmentally sensitive Kresna Gorge for about 20 km. The gorge hosts two Natura 2000 sites, as well as a number of national protected areas. Due to the difficult terrain and the high volume of heavy goods vehicles using the existing road there is a very high rate of traffic accidents in the Kresna Gorge area. The road also passes through Kresna town which increases the exposure of the population to accidents, noise and pollution. The accidents in Kresna town are also a serious issue awaiting solution.

The project has a long history and over the years many alternatives have been in discussion for the Kresna Gorge area. An environmental impact assessment (EIA) from 2007-2008 rejected most of the alternatives available at the time and declared that passing through the gorge with a 13 to 15 km long tunnel was the only acceptable solution. This decision was based on literally no information regarding the environmental effects of tunnel construction of such magnitude and was not supported by sufficient data or by technical and scientific evaluation of the effects of the construction to the environment The technical, geological, economic, etc. effects of the project were not known at the time and were also not considered as at the time no designs were available but only a preliminary tunnel alignment drawing.

Implementing the EIA decision from 2008 the road authorities started developing the project as a long tunnel. The project was scoped with JASPERS' assistance in 2010-2011 and in 2012 a team comprising of designer, strategic advisor and environmental consultant commenced the development of the design. As the design was advancing, in 2013-2014 more and more problems with the long tunnel started to emerge. It became evident that:

- the environmental impact of building such a structure would be severe, as well as the effect of tunnel construction on the traffic safety along the existing road;
- the geological conditions were found to be extremely unfavourable and seismicity and existing active faults in the area would pose very high risk during operation of the structure;
- the risk of substantial volumes of radioactive tunnel spoil was identified;
- with a long tunnel with costs of about € 812 million (€ 1 billion with VAT) the whole Struma Motorway project would become economically unfeasible, meaning that it could not receive EU funding, nor it could be funded through the national budget;
- the cost of that section alone would cost substantially more than the whole allocation for roads for the 2014-2020 programming period – € 673 million.
- the construction duration would last far beyond the Programming Period and more importantly the existing road would become even more dangerous to the users than it already is.

These considerations lead the country to exploring additional alternatives in the period 2014-2015. As part of this process two alternatives (proposed by NGOs in 2001-2002) for bypassing the gorge from east have been evaluated in detail. A completely new alternative for bypassing the gorge from the west has been developed and evaluated (2015). An alternative for doubling the existing road through Kresna Gorge to a dual carriageway road has also been developed (2014-2015).

It is important to note that all old and newly developed alternatives for Kresna Gorge have been evaluated through a transparent multi-criteria analysis (MCA, [*1*]). The ToR for the MCA has been consulted with JASPERS[1] and environmental NGOs in the beginning of 2015. In the period March 2015 – March 2016 there have been a number of revisions of the MCA prepared by Arup (UK) and project's developer (National Company Strategic Infrastructure Projects). Regular consultations with the services of EC and namely DG REGIO and DG ENV and JASPERS have taken place and are recorded in the report. (The MCA report has been made publically available at http://ncsip.bg/en/index.php?id=48.)

The analyses that have been carried out show that one of the very few possible alternatives for the project in the Kresna Gorge area that suffice the environmental, technical and economic constraints is the newly developed dual carriageway alternative.

The dual carriageway alternative and some of the other main alternatives are subject to a new formal EIA procedure which commenced in 2014. The procedure is on-going and EIA and appropriate assessment reports are expected to be ready in 2016.

As part of the continuing efforts of the authorities to find the optimal solution for the project, in April-June 2016 a new alternative bypassing the gorge from east has been formulated. This alternative will be evaluated as part of the EIA/AA reports.

It is important to underline that the preferred solution for the project must not only comply with a set of environmental, technical and economic requirements but must also be completed within a reasonable timeframe – and that is by the end of the Programming Period. Any delays in the implementation of the project result in a measurable losses in terms of human lives.

3. Issues to Be Addressed

3.1 Overview

Struma Motorway is approximately 150 km long and is located in the southwest of Bulgaria between the interchange at Daskalovo Interchange and the Bulgarian/Greek border near Kulata. Struma Motorway is part of the core TEN-T network (the former Trans European Corridor No. IV, presently Orient/East-Mediterranean Corridor) linking the cities of Sofia and Thessaloniki.

[1] JASPERS (Joint Assistance to Support Projects in European Regions) is a partnership between the European Commission, the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD).

A 62 km section of the motorway (referred to as Lot 3) remains to be constructed. It has been sub-divided into four construction lots as follows:

- Lot 3.1 between Blagoevgrad and Krupnik;
- Lot 3.2 between Krupnik and Kresna (including the Kresna gorge); and
- Lot 3.3 between Kresna and Sandanski.

Lot 3.2 passes through an area of high ecological value – the Kresna gorge. The gorge is highly sensitive from environmental point of view and construction in the area is technically difficult.

Construction contracts for Lots 3.1 and 3.3 have been signed in late 2015 and are ongoing. The time for completion of both contracts is 3.5 years.

Construction of Lot 3 of Struma Motorway is the main priority of the Operational Programme Transport and Transport Infrastructure (OPTTI) 2014-2020.

3.2 Existing Situation

One of the big rivers in the country, Struma River, passes through Kresna gorge. The gorge itself is a natural migration route for animals and has warmer climate due to air currents penetrating along Struma River from south. The sides of the gorge are steep and no road construction could reasonably be done on the slopes. A relatively flat band of land between the two sides of the gorge exists. On the east side of the gorge there is an existing single track railway line. Road E79 (I-1 in accordance with the national numbering) has been built on the west side of the gorge. Struma River flows between the road and railway for most of the gorge's length.

Figure 1. View of the existing road through Kresna gorge

The annual average daily traffic (AADT) for 2014 and 2015 has been measured to about 8 000 vehicles/day. The share of heavy goods vehicles (HGV) is about 20%.

The existing road has very few places where overtaking of slower vehicles is possible. The lack of places to safely overtake combined with the high percentage of slow HGV increases the potential for accidents.

According to data from the traffic police between January 2010 and June 2015 there have been 366 accidents which resulted in 21 deaths and 139 people injured. Translated to annual values this means 68 accidents per year, 3.87 fatalities per year and 26 injured per year. This is close to 4 times higher than the average of the Bulgarian national road network.

Figure 2. Traffic accidents in Kresna gorge

Another critical location on the route is the town of Kresna through which the existing road passes. There are frequent accidents inside the town involving transit traffic.

Figure 3. View from the section of road E79 in Kresna town

In the area of Kresna gorge there are two Natura 2000 sites in the area – BG0000366 "Kresna-Ilindentsi" (under the Habitats Directive 92/43/EEC as amended) and BG0002003 "Kresna" (under the Birds Directive 2009/147//EO).

The existing road does not comply with the obligation of the EU legislation, to impose mitigation measures to compensate environmental damage caused by the traffic on the local environment. The road and its adjacent structures (e.g. retaining walls) act as a barrier for many species. Some species are unable to cross the road at all which has a negative effect on their population whilst other species are killed by passing vehicles when attempting to cross the road.

The existing situation with regard to traffic safety is considered unacceptable and the effects on the environment could be substantially mitigated.

3.3 Issues to Be Addressed

The analysis of the existing situation in terms of current road, traffic, road safety and effects on the environment shows the following main issues that need to be addressed and solved by the planning and construction of Struma Motorway in the region of Kresna gorge:

- **Traffic accidents**

The frequency and severity of traffic accidents along the existing road E79 in the Kresna gorge is one of the highest in the country. It is critical to urgently improve traffic safety.

- **Mortality of wild animals**

The lack of appropriate mitigation on the road has been quoted as a reason for increased mortality rates of wild animals attempting to cross it. As a result it is considered that the road affects negatively the size and structure of the populations of various animals. The existing road and its adjacent structures also function as a barrier for some species which increases the negative effect of the road on the animal population.

- **Travel time, comfort and reliability**

Although travel times along the section are acceptable under most conditions the frequent accidents often result in traffic being stopped for hours. This causes a lot of inconvenience to drivers and affects negatively the environment.

- **Safety and environmental issues in Kresna Town**

At present the existing road passes through the town of Kresna resulting in numerous problems. A major issue is the safety of the residents of Kresna, as well as their increased exposure to noise and pollution.

4. Implementation of Recommendation No. 98

This section presents the items of Recommendation No. 98 and explains how each of them has been addressed. Most of the recommendations have a continuous effect and clarification is provided as to how the authorities intend to keep following them.

1. *take account, in the development of the project, of the imperatives of conserving fauna, flora and habitats as well as the concerns of the local communities in the municipalities concerned;*

There are a number of project alternatives developed since 2012, and these are namely the alternative with a 15.4 km tunnel, the alternative for bypassing the gorge from the west and the alternatives for upgrading the existing road to dual-carriageway. All of these have been developed with due consideration of the habitats and species (both priority and from the national list) likely to be affected by the project. Numerous changes have been done to the designs in order to minimise the areas affected by infrastructure construction. This process has been recorded in various reports and summarised in the Multi-Criteria Analysis for the project developed in 2015-2016.

The imperatives of conserving fauna, flora and habitats envisaged in the EU Birds Directive and Habitats Directive, as well as the concerns of the local communities are being taken into account with the new EIA/AA. The project has been presented and discussed at a number of meetings with the local public and authorities.

2. *ensure that the decision on the routing of the motorway is taken on the basis of an in-depth environmental impact assessment (EIA) supplemented by scientific and mapping data and any other useful source of knowledge on the area concerned by the project, to justify the choice of alternative as recommended in the expert's report*

The final decision on the alignment of the motorway is to be taken, as the EU environmental law demands, on the basis of an in-depth EIA. The scope of the EIA/AA report has been presented to JASPERS for comments and in the beginning of 2016 JASPERS' recommendations have been reflected. Additional recommendations to the scope and the EIA/AA report made in March-May 2016 by DG Environment are being included in the scoping document.

The work on the EIA/AA is based on data collected by previous studies, as well as on new scientific and mapping data collected by the EIA/AA team in the period 2013-2016.

The Ministry of Environment and Water (MoEW) maintains maps of protected habitats and species and the latest data has been provided to the EIA/AA team.

3. *consider the possibility of abandoning the option of enlarging the current road since this would substantially increase damage to a unique site, without possible measures of compensation, and continue studying alternative routes outside the gorge that would respect the natural constraints as far as possible and provide for the integration of engineering works and compensate for environmental impact;*

A substantial number of alternatives outside the gorge have been studied and namely:

- *Eastern alternatives (2002).* Two eastern alternatives have been proposed by environmental NGOs with the idea to completely bypass the gorge and Natura 2000 sites. These have been examined in 2002 and later rejected as part of the Appropriate Assessment from 2007. The eastern alternatives (named ECO A and ECO B) have been re-examined as part of the Multi-Criteria Analysis carried out in 2015-2016. These alternatives affect inhabited areas, cross Natura 2000 sites and national protected areas and have extremely poor operational properties.
- *Long tunnel alternatives (2007, 2014)*. The idea for bypassing the gorge with a long tunnel originated during the EIA process in 2007 and became the basis for the EIA decision from 2008. Based on the alignment selected in the EIA a preliminary design was developed in the period 2013-2014. Environmental analysis of the alternative shows substantial environmental damages to the biotope and to species during construction and high risk for the life, health and safety of the population.
- *Western alternative (2015)*. In an attempt to avoid Kresna Gorge altogether a completely new alternative bypassing the gorge from west was developed. The alternative involved the construction of tunnels with extreme lengths (10 km in total) and was found to have poor environmental properties (passing very near Kresna town, crossing Natura 2000 sites and potentially affecting a national protected area).
- *New eastern alternative (2016)*. As part of the continuing efforts of the authorities to find the optimal solution for the project respecting the environmental legislation in April-June 2016 a new eastern alternative was formulated, attempting to avoid the deficiencies of the old eastern alternatives. The alternative is in process of development and will be included it in the scope of the EIA/AA report.

Substantial efforts have been put into finding a feasible technical solution for the project taking the motorway outside Kresna Gorge. Unfortunately such technical solutions are extremely problematic due to the mountainous terrain on both sides of the gorge.

4. *ensure that the choice of alternative is based not only on technical, legal and economic criteria but also on social and ecological criteria;*

In order to properly steer the process of project justification a Multi-Criteria Analysis was developed in 2015-2016 [*1*]. It features a comparison of all previously and more recently identified alternatives (a total of 16) in accordance with a coherent evaluation framework. The MCA has been developed with focus on the environmental aspects of the project and a detailed Environmental evaluation methodology [*2*] has been developed to support the analysis.

As in compliance with the environmental law, the environmental and social considerations are also being taken into account in the development of the EIA/AA report.

5. *institutionalise dialogue and seek consensus solutions with the different partners concerned; active partnership could be forged with non-governmental organisations with sound knowledge of the location of habitats and the presence of protected species, and setting up of advisory groups could be envisaged;*

For the implementation of this particular recommendation, by Order No. РД-02-14-2857 dated 29 November 2012 of the Minister of Regional Development and Public Works a Struma Motorway Monitoring Committee was established.

The committee is chaired by the Chairman of the Management Board of the Roads Infrastructure Agency, which is responsible for the design and construction of Struma Motorway. Also represented in the committee are the MoEW, Ministry of Transport, Information Technology and Communications, MRDPW, Ministry of Finance, municipal administrations, Association Transparency International, non-government environmental organizations - Balkani Wildlife Society, Bulgarian Society for Protection of Birds, Green Policy Institute, Centre for Environmental Information and Education and others.

The Committee has a monitoring function and its main activity being to acquaint the representatives of various authorities and NGOs with the implementation of Struma Motorway. The main objectives are to ensure a maximum degree of transparency, information dissemination and efficiency in the overall development and successful completion of the infrastructure project.

In June 2016 the composition of the committee was updated and the number of participating NGO's and representatives of the local population was extended.

Since its establishment the committee has held 15 meetings during which the management teams of the projects have provided the members with detailed information on the progress of each of the four Lots, as well as official documents. (A summary of the topics discussed is presented in [*1*] and [*3*]; minutes of the committee meetings can be found at: http://ncsip.bg/en/index.php?id=48).

6. *provide for the downscaling and rehabilitation of the existing road, restoring its initial status of a local group used by the farming community and tourists and thus ease current pressure on the site, with suitable planning to revitalize damaged areas and provide user information services;*

It must be noted that the existing road E79 has never had the status of a local road used predominantly by farming community and tourists. Road E79 is part of the core Trans-European Transport Network (formerly referred to as Corridor IV and at present Orient/East-Mediterranean Corridor). As evident from the national traffic counts this route has the highest volume of traffic in Bulgaria in north-south direction. A large proportion of the traffic along the road is transit and the share of heavy goods vehicles is also very high. The road is the only feasible link between the western parts of Greece and Bulgaria and Romania.

It would appear that the recommendation had been drafted without consideration of the status and importance of the existing road. The road will inevitably remain under heavy use regardless to the technical solution for Kresna Gorge.

5. Project Progress

5.1 Design

Long Tunnel Alternative

The design contract was signed in 2013 and in 2105 the preliminary designs for a tunnel with length 15.4 km have been approved by the employer. In the second half of 2014 the design was considered to be mature enough to commence environmental analyses of the effects of tunnel construction. The preliminary analyses suggested that the environmental and other impacts of the tunnel would be significant. An EIA/AA procedure commenced in late 2014.

Dual Carriageway Alternative

After the problems with the Long Tunnel Alternative became apparent in 2014, the authorities decided to look for a "backup" solution. In order to minimise the effects on the environment the motorway was downgraded to a dual carriage road with lower speed and the existing road through the gorge was included in the design as one of the carriageways. A preliminary design for a dual carriageway road was commissioned in the summer of 2015 and was completed by the end of 2015. It is being evaluated as part of the EIA/AA.

New Eastern Alternative

In an attempt to avoid Kresna Gorge altogether, in May-June 2016 a completely new eastern alternative was formulated. The design work on the alternative will continue in 2016 and it will be included in the EIA/AA.

5.2 Environmental Impact Assessment / Appropriate Assessment

The EIA/AA procedure was initiated in December 2014 and in the beginning of 2015 the communities affected by the project were notified about it. The initial scope of the EIA/AA was the comparison of the Long Tunnel Alternative and the Dual Carriageway Alternative.

In May 2015 the MoEWissued specific instructions to NCSIP on how to proceed with the development of the EIA/AA for the project. It was specifically noted that preference must be given to complying with Recommendation No. 98.

In the period 03 November – 03 December 2015 consultations of the scope and content of the EIA report were carried out. After receiving comments from the relevant authorities and NGOs the scope was revised and forwarded in December 2015 to JASPERS for review and comments.

In January 2016 JASPERS' recommendations and methodological comments on the EIA process and content of the EIA report were received. As a result, a working document [5] was prepared and agreed upon. The document was also reviewed and agreed by MoEW. The document was then forwarded to the services of EC (DG ENV and DG REGIO) for information and feedback.

In March 2016 MoEW issued specific requirements and recommendations to the scope and content of the EIA report. The letter confirms that the scoping document is in compliance with the applicable requirements and underlines that the EIA report must include detailed environmental analysis of all alternatives mentioned in the scoping document. This is also in line with the general recommendations of DG ENV received at meetings in March and May 2016.

As of July 2016 the EIA scoping document is being revised to take into account the instructions received by MoEW, various recommendations from third parties and to provide for the evaluation of the newly developed eastern alternative. Once the revision is completed the scope and content of the EIA report will once again be made subject to formal public consultations.

5.3 Further Steps

EIA/AA

The main focus of project preparation in 2016 will be the finalization of the EIA scoping document and the preparation of the EIA/AA report and communicating it properly with all parties concerned. All necessary mitigation and, if necessary, compensation measures will be adopted to maintain the ecological value of the area

Construction

Struma Motorway Lot 3.2 in Kresna Gorge is not in construction. Construction may commence only after an alternative has been selected as part of the EIA/AA process and an EIA decision has been issued. Furthermore, funding for the project must be approved before signature of construction contracts.

Funding

Struma Motorway Lot 3 is the main priority of Operational Programme Transport and Transport Infrastructure 2014-2020. An application for funding must be submitted to the services of the European Commission after there is a positive EIA decision. In order for funding to be approved, the project must be economically feasible. A major problem for most project alternatives identified to date is that they are economically unfeasible and legally cannot be funded by either the EC and international financial institutions, or the national budget.

6. Publicity

6.1 Struma Motorway Monitoring Committee

On 04 July 2016 the 15th meeting of the Struma motorway monitoring committee has been held. The members of the committee have been updated regarding the progress of the project and have been informed regarding the new eastern alternative developed in the last months. It has been agreed that once the preliminary alignment of the alternative is sufficiently developed it will be presented to the members of the committee. This is likely to happen by the end of July or in the beginning of August 2016.

6.2 Consultations with the affected Communities

Discussions with the affected communities have taken place in November 2015 and later in February 2016. The different project alternatives have been presented to the municipal administrations in Kresna town and the village of Simitli. New discussions are expected to take place in the following months once the scope of the new eastern alternative is clear.

6.3 Public Information

In February 2016 NCSIP has restructured their web-site, so that information related to the EIA procedure for Struma Lot 3.2 becomes easier to locate. All information related to the formal EIA procedure, as well as other information related to the environment has been collected in a dedicated section. The section is available in both Bulgarian and English and can be accessed at http://ncsip.bg/en/index.php?id=48

7. Document Reference

Multi-Criteria Analysis of Struma Motorway Lot 3.2 (Release 1, February-2016). The document has been developed in the period 2015-2016 by Arup (UK) and the National Company Strategic Infrastructure Projects. It features a comparison of 16 project alternatives (all alternatives identified by the end of 2015) and is the most comprehensive project document to date. It is available at: http://ncsip.bg/en/index.php?id=48

Methodology for environmental evaluation of project proposals and alternatives in the roads sector (2015). The document (together with software for applying it) has been developed by the National Company Strategic Infrastructure Projects during the work on the Multi-Criteria Analysis. It is available at: http://ncsip.bg/en/index.php?id=48. It has been presented to the Bureau in March 2016 as Appendix 3 to the Government Report (T-PVS/Files(2016)11).

Government Report for the 35th Standing Committee Meeting (2015). The document summarises the development of the project since 2008 and includes detailed information regarding the various project alternatives, the consultations with the public, the implementation of Recommendation No. 98 (2002), etc. It has been registered under ref. T-PVS/Files(2015)59.

Government Report for the Meeting of the Bureau (March 2016). The report summarises the progress since the previous report from November 2015. It has been registered under T-PVS/Files(2016)11.

Struma Lot 3.2 EIA Development, Working Document (Revision 1, 03 February 2016). The working document has been jointly developed by JASPERS and the National Company Strategic Infrastructure Projects and aims to streamline the development of EIA/AA for the project. It has been presented to the Bureau in March 2016 as Appendix 1 to the Government Report (T-PVS/Files(2016)11).

REPUBLIC OF BULGARIA

MINISTRY OF ENVIRONMENT AND WATER

STRUMA MOTORWAY LOT 3.2 – PROGRESS SINCE THE 35TH MEETING OF THE BERN CONVENTION STANDING COMMITTEE

23 February 2016

INTRODUCTION

The Struma Motorway project (Complaint No. 2001/4) has been monitored by the Bureau and Standing Committee of the Bern Convention for years and Recommendation No. 98 (2002) has been issued. Following an alert from local NGOs the progress of the project has been last reported at the 35th Meeting of the Standing Committee in December 2015.

This report has been drafted further to a request for information from the Secretariat of the Bern Convention. The report summarises the progress of the environmental procedures and project preparation since 04 December 2015 in the light of the provisions of Recommendation No. 98 (2002).

ENVIRONMENTAL ISSUES

2.1 Design Readiness of Lot 3.2

The design of Lot 3.2 (Krupnik-Kresna) which features a *long tunnel* through Kresna Gorge was completed and approved in early 2015. Considering the issues arising with the implementation of the long tunnel, a design contract for a *dual carriageway* alternative for Lot 3.2 was signed in the summer of 2015 and was completed and approved in late December 2016. The rationale behind this approach has been described in detail in the Government report from 23 November 2015 with reference T-PVS/Files(2015)59.

During 2015 the environmental consultant for the project and the designer worked together to improve the design of the new alternative through Kresna Gorge from environmental point of view. The designs of both alternatives are sufficiently developed to become subject of detailed EIA/AA which will be prepared during 2016.

2.2 Lot 3.2 EIA Procedure

A formal EIA procedure was initiated in December 2014 by the National Company Strategic Infrastructure Projects (NCSIP; the project developer) and in the beginning of 2015 the communities affected by the project were notified about it.

In May 2015 the Ministry of Environment and Water (MoEW) issued specific instructions to NCSIP on how to proceed with the development of the EIA/AA for the project

In the period 03 November – 03 December 2015 NCSIP carried out consultations of the scope and content of the EIA report. After receiving comments from the relevant authorities and NGOs the scope was revised and forwarded in December 2015 to JASPERS for review and comments.

In January 2016 NCSIP received JASPERS' recommendations and methodological comments on the EIA process and content of the EIA report. As a result, a joint working document has been prepared and agreed upon. The document has been also forwarded by NCSIP to the services of EC

(DG ENV and DG REGIO) for information and feedback. The document will be reviewed by the Ministry of Environment and Water.

The working document on Struma Lot 3.2 EIA Development is presented as *Appendix 1*.

MULTI-CRITERIA ANALYSIS FOR LOT 3.2

3.1 Purpose

The purpose of the Multi-Criteria Analysis (MCA) is to provide a robust base for decisions regarding the future of the Struma Motorway Lot 3.2 project. The project has reached a stage in its development wherein it is of critical importance that the most effective solution for Lot 3.2 is identified within a reasonable timeframe. Therefore the MCA focuses on updating the methodology from the previous MCA of 2011 (which covered the whole of the Struma Motorway) to reflect the specific characteristics of Lot 3.2.

The results of the MCA shall be used by NCSIP, and will be provided to the Bulgarian government, the European Commission and other stakeholders of the project to arrive at an informed decision about the optimal solution for Lot 3.2 that takes into consideration all important factors of the project.

3.2 Contents of the MCA Report

The MCA report covers the development of the Struma Motorway project since 2000 and identifies the studies done since. All project alternatives for Lot 3.2 identified prior the EIA decision from 2008 have been described, as well as a number of newer alternatives have been identified. A total of 16 project alternatives have been reviewed and compared through a two stage process.

The evaluation of the different alternatives involves a comprehensive environmental analysis. This analysis has been carried out using a comprehensive methodology presented in *Appendix 3* to this document.

3.3 Status

After discussions with the services of EC in late 2014 it was decided to commence preparation of an MCA and NCSIP developed Terms of Reference for the task. In February 2015 the ToR were presented for consultations to JASPERS, the services of EC and local NGOs participating in the Struma Motorway Monitoring Committee. Eventually, in March 2016, NCSIP commissioned the consulting firm Arup (UK) to prepare the MCA.

The MCA (as well as its link to the EIA/AA process) has been discussed between the Bulgarian authorities and the services of EC and JASPERS at a number of meetings in 2015. Eventually the first non-draft version of the report has been made available for review by DG REGIO, DG ENV and JASPERS on 03 February 2016.

The MCA report is presented in *Appendix 2* to this document.

PUBLIC CONSULTATIONS

4.1 Multi-Criteria Analysis Discussions

The MCA is an important document in the development of the project. NCSIP has made it publically accessible through their website (http://ncsip.bg/files/Documents/NCSIP%20Struma%20Lot%203.2%20MCA,%20Release%201%20(complete).pdf). Furthermore, NCSIP intends to hold a discussion of the MCA report with the general public and NGOs in March 2016.

4.2 Struma Motorway Monitoring Committee

The Struma Motorway Monitoring Committee has been established in 2012 with the purpose of informing the public and environmental NGOs regarding the development of the project. The committee meets every two months and all important issues have been discussed at these meetings.

In February 2016 the Ministry of Regional Development and Public Works decided to extend the circle of representatives of NGOs and local authorities participating in the work of the committee. The next meeting of the committee is expected to take place in March 2016 and the approach to the EIA/AA procedure and MCA will be reported and discussed.

4.3 Consultations with the affected Communities

Discussions with the affected communities have taken place in November 2015 and later in February 2016. The different project alternatives have been presented to the municipal administrations in Kresna town and Simitli town.

At the February meetings it has been agreed that meetings with the general public will be organised in March-April 2016. The project and its effects on the local communities will be presented at these meetings.

4.5 Public Information

In February 2016 NCSIP has restructured their web-site, so that information related to the EIA procedure for Struma Lot 3.2 becomes easier to locate. All information related to the formal EIA procedure, as well as other information related to the environment has been collected in a dedicated section. The section is available in both Bulgarian and English and can be accessed at http://ncsip.bg/en/index.php?id=48

Appendix 1 **Struma Lot 3.2 EIA Development, Working Document (Revision 1, 03 February 2016)**

Appendix 2 **Multi-Criteria Analysis of Struma Motorway Lot 3.2 (Release 1, February 2016)**

Appendix 3 **Methodology for Environmental Comparison of Alternatives of Road Projects (NCSIP, 2015)**

Appendix 1

Struma Lot 3.2 EIA Development, Working Document

Revision 1, 03 February 2016

1) Introduction

1.1 Background

Struma Motorway is one of the most challenging road projects in Bulgaria. The motorway is about 150 km long and the section that remains to be constructed – Lot 3 from Blagoevgrad to Sandanski – is about 62 km long.

Lot 3 has been sub-divided as four construction contracts as follows:

Lot 3.1 between Blagoevgrad and Krupnik;

Tunnel Zheleznitsa;

Lot 3.2 between Krupnik and Kresna (including the Kresna Gorge); and

Lot 3.3 between Kresna and Sandanski.

Lot 3.2 is the most problematic section both technically and environmentally. It passes through the Kresna Gorge area, which is extremely sensitive from environmental point of view.

1.2 Main Alternatives

Overview

Over the years there has been well over 10 different technical alternatives developed for Lot 3.2. The main are the so called Long Dual Tunnel alternative (that features a dual tube tunnel of 15.4 km length) and the Dual Carriageway alternatives (which feature an upgrade of the existing road through the gorge and the construction of a new carriageway in the vicinity of the existing road). The Long Dual Tunnel alternative has been declared the only environmentally acceptable alternative in the EIA decision for the project from 2008 and the newer Dual Carriageway alternatives (introduced in 2014 and further improved in 2015) have not yet been a subject of a formal EIA procedure.

All alternatives for the project have been described and compared in the Multi-Criteria Analysis for Struma Lot 3.2 developed in (2015-2016) by NCSIP (hereinafter MCA). In view of the EIA procedure, a summary of only the main alternatives is presented below.

Long Dual Tunnel

This alternative represents the preliminary design for Struma Lot 3.2, as developed in years 2013-2015. It is based on the earlier EIA Approved and NSI Violet – 13 km Tunnel alignments and is a development of the original idea for a long tunnel in the Kresna Gorge. The alternative features a 15.4 km tunnel which is a result of joining the 2 km and 13.3 km tunnels from the EIA Approved / NSI Violet – 13 km Tunnel alternative and refining the underground alignment of the tunnel.

As the original study from 2007 was of very limited detail it included only longitudinal profiles and general layouts. Geological conditions, number of tubes, tunnel cross-section, tunnel driving method, costs and other important issues were not commented upon at all. Later, in 2011 as part of the preparation of the project for funding under OP Transport 2007-2013, the tunnel was defined as “dual two”, i.e. two tunnel tubes with unidirectional traffic. Consequently, in 2012 the ToR for preliminary design was prepared with the requirement to design the tunnel with two tubes.

In the EIA scoping document the alternative is referred to simply as Long Tunnel (still assuming two tubes).

There is a design available for the alternative, which provides all information necessary for a detailed EIA/AA.

Dual Carriageway (2014)

The alignment is designed as a dual carriageway road (2 x 10 m wide). The design speed is 80 km/h which would allow for operational speed of 100 km/h under most conditions. One carriageway closely follows the existing road through the gorge, straightening it in some sections, and the other carriageway develops independently with tunnels and viaducts (the total length of the tunnels is 6.5 km and the total length of bridges is about 2 km). The rationale behind this design is to minimise as much as possible the footprint of the road and thus reduce impacts on habitats.

In the EIA scoping document the alternative is referred to as G20 (meaning 20 m dual carriageway standard).

The alternative was developed as a preliminary design, which was supplemented with data and analysis regarding technology, temporary roads, and other factors which must be taken into account when performing an EIA/AA.

Dual Carriageway (2015)

The original Dual Carriageway alternative was developed in 2014. In 2015 the alternative was developed further and designed in detail. The improvements made were driven mainly by environmental considerations and had the purpose to reduce the environmental impact of the road on both the natural environment and the population. The Dual Carriageway alternative from 2015 follows the philosophy behind the Dual Carriageway alternative from 2014 but its layout differs significantly.

There is a design available for the alternative, which provides all information necessary for a detailed EIA/AA.

ECO A Eastern

The alignment is dual carriageway motorway to the east of Kresna Gorge. This alignment and ECO B Eastern were proposed by NGOs in 2002. They are among the least developed of the alignment options and only very limited design details are available.

Technical review of the alignment indicate that it was developed without due consideration of basic engineering requirements. The alignment results in unusually high continuous vertical gradient not suitable for an arterial road of this nature. The route attempts to avoid the Natura 2000 sites in the area but still crosses them for about half of its length. The total length of this alignment is about 28.7 km and is one of the longest. The total length of the tunnels is 12.865 km and the length of bridges is 7.230 km. The alignment has extreme longitudinal grades as it starts at about 300 m altitude, reaches 674 m and then goes down back to about 180.

This alternative was considered as part of the 2007 EIA – more precisely, it was discussed in the Appropriate Assessment report.

The alternative was developed as a feasibility design in 2011 for the purposes of comparing the alternatives.

ECO B Eastern

This alignment is very similar to ECO A Eastern with the main difference that it attempts to minimise the impact on Natura 2000 sites and deviates further east from ECO A. Consequently this is the longest of all the alignments with a length of about 32.6 km. Among other big structures, it features a 8.500 km and a 3.140 km long tunnels. The total length of the tunnels is 18.245 km and the length of bridges is 3.630 km. The alignment has extreme longitudinal grades as it starts at about 300 m altitude, reaches 747 m and then goes down back to about 130 m.

This alternative was considered as part of the 2007 EIA – more precisely, it was discussed in the Appropriate Assessment report.

The alternative was developed as a feasibility design in 2011 for the purposes of comparing the alternatives.

Western Alternative

As part of the formal EIA procedure for Struma Lot 3.2 in 2015 MoEW instructed NCSIP to study alternatives outside Kresna Gorge. Considering the fact that the possibility to build a new road on the east side of the gorge had been previously investigated NCSIP commissioned studies for an alternative on the west side.

The initial version of the Western alternative (as was presented in draft 2 of the MCA report) crossed the "Kresna Gorge" national protected area from km 394+180 to km 394+650. Because this made the alternative legally not admissible in late July 2015 a new alignment in the problematic section was developed which avoided the need to pass through the protected areas. The alternative features an 8 km long tunnel, as well as high longitudinal grades (some of them in the long tunnel).

The alternative was developed as a feasibility design in 2015 for the purposes of assessing it as part of the EIA.

Do-Minimum/Do-Nothing

This option is considered, taking into account the highly environmental sensitive nature environment in the area and the difficulty in identifying an environmentally acceptable engineering solution through the gorge. This alternative involves minor improvements to the existing road. It has, however, been declared inadmissible as part of the 2008 EIA decision.

1.3 EIA Procedure

In late 2014 NCSIP initiated a formal EIA procedure for Lot 3.2 with a notice to the public and the relevant authorities (registered in MoEW under their ref. НСЗП-471 dated 13 December 2014). The notice specified two alternatives to be compared in the EIA – Long Dual Tunnel and Dual Carriageway (2014) alternatives.

With letter ref. OBOC-85 dated 13 May 2015 MoEW instructed NCSIP how to carry on with the procedure. Based on the instructions from MoEW NCSIP drafted terms of reference for the scope and content of the EIA report and on 03 November 2015 published the document for public consultations.

1.4 Consultations with JASPERS

After feedback from the public and the relevant authorities had been received on the EIA scoping document NCSIP amended the document and on 28 December 2015 forwarded it to JASPERS for comments. JASPERS' preliminary considerations regarding the EIA process were received on 14 January 2016 and were discussed at a consequent meeting on 20 January 2016.

This document is a result of the consultations between JASPERS and NCSIP and reflects the view of both parties on how the EIA process must be carried out.

1.5 Purpose of This Document

The purpose of this document is to detail JASPERS' comments and recommendations regarding Struma Lot 3.2 EIA process and further use it to present the matter to MoEW, DG ENV and other parties concerned. It is to be used by NCSIP as a 'roadmap' in the development of the EIA.

2) EIA Process

2.1 General Comments

JASPERS reviewed the "*Terms of reference for the scope and content of environmental impact assessment of the investment proposal for – Improving the route of Lot 3.2 of Struma motorway*" (further referred to as EIA ToR) drafted by NCSIP, and found that, in general, it covered all technical aspects required by the legislation in force and the specificity of the project.

The main weakness of the document was found to be the lack of description of the link between the assessment required by the EIA Directive and the one required by art. 6 (3) of the Habitats Directive (the so called Appropriate Assessment). The steps considered necessary to address this weakness are detailed in the next section.

2.2 EIA Methodology

In practical terms, the following steps and sequence in implementing both EIA and AA assessment processes are recommended by JASPERS:

- The project was approved in 2008 by Decision No.1-1/2008 issued by Ministry of Environment and Water based on a holistic EIA assessment process completed by an EIA Report and a Compatibility Assessment (Bulgarian terminology used for AA) Report. The original report covered all Struma Motorway sections (Lots 1, 2, 3, 4) and was completed in 2007. The EIA decision approving the Long Dual Tunnel alternative was based on limited technical information available at the time and the impact of the tunnel during both the construction and operational stages was not considered at all. Since that time it was estimated that the impact of the tunnel on Natura 2000 sites and/or other environmental features is likely to be significant, mainly during construction stage. In 2014 NCSIP made a notification for "Improving the route of Lot 3.2 of Struma Motorway" considering two alternatives – the Long Dual Tunnel alternative and the Dual Carriageway alternative (2014; also referred to as G20).
- According to the BG legislation, the AA (compatibility assessment) is integral part of the EIA procedure (the AA report is annex to the EIA Report). Nevertheless, for the coherence of the process and identification of the optimised alternative, the following steps are recommended:

  A. Starting the process with an in-depth environmental assessment of the Long Dual Tunnel alternative and the Dual Carriageway alternative with focus on Natura 2000 sites (such analysis is not mentioned in the EIA ToR version from December 2015). The relevant ecological concerns/aspects and impact of the project on the integrity of the relevant Natura 2000 sites should be considered with respect to the conservation objectives of the sites and to their structure and functions. JASPERS has recommended since 2012 in the Environmental Strategy to clarify the status of determination of the conservation objectives of all relevant Natura 2000 sites.

  B. Depending on the outcome of this assessment process one or all of the alternatives can be disregarded from further analysis and the EIA report.

  C. The impact of the alternative (or alternatives) which remain will be assessed against other environmental vulnerabilities, paying attention also to human health, security, and safety. If the impacts are found to be unacceptable, one or all of the alternatives will be excluded and the justification will be presented in the EIA Report.

  D. If at B. or elsewhere in the assessment process one or more of the alternatives are found to have significant impact on Natura 2000, the next stage is assessment of alternative solutions (this stage corresponds to stage 3 from the EC Methodological guidance on the provisions of art. 6 (3) and (4) of the Habitats Directive).

2.3 Alternatives to be considered

JASPERS recommends that the following considerations are taken into account with regard to treating the different alternatives in the EIA process:

- the alternatives that were disregarded in the MCA taking into account the impact on Natura 2000 sites shall be briefly analysed and presented;
- the alternatives that have been found to be best under the MCA shall be analysed in detail and compared on equal basis;
- any other alternatives that would have an acceptable/lesser impact on Natura 2000 sites (e.g. those that satisfy the conditions imposed by Recommendation 98/2002 Bern Convention) must be reviewed, as this could contribute to avoiding major delays in the permitting process due to the potential comments from public, NGOs, etc.

3) Contents of the EIA ToR, EIA and AA Reports

3.1 Overview

During the discussions between JASPERS and NCSIP it was considered that it was essential to outline the contents of the main documents that are part of the EIA process. This section describes the changes that need to be made to the EIA ToR (the December 2015 version) in order to logically present the EIA process, as well as the contents of the various sections of the EIA and AA reports which are expected to address the sequence described at item 2.2 above.

3.2 EIA ToR

The ToR shall be amended to include a brief presentation of the sequence described at item 2.2 of this document and provide that this sequence is followed in the EIA report. The ToR shall describe in more detail the development of the various alternatives (and mostly the Long Dual Tunnel alternative and the Dual Carriageway alternatives) which lead to the specific scope of the EIA. Such descriptions shall be placed in the introductory sections of the document and ensure logical presentation of the work done since December 2014.

The descriptions of the alternatives shall be reviewed and proofread in order to ensure consistency of the presentation.

3.3 EIA Report

The minimum contents of the EIA report are specified by the Article 96 of the Environmental Protection Law. The EIA ToR follows these requirements and lists the contents of the EIA Report in section 6. The contents are shown below with additional considerations and clarifications are described below:

I. General Information

The section shall include information regarding the name and developer of the project, as well as for its purpose. The main physical parameters of the investment proposal shall be included.

The course of development of the Long Dual Tunnel alternative since the 2008 EIA decision and the development of the Dual Carriageway (2014 and 2015) alternatives shall be described.

A comprehensive comparison (with emphasis on the effects on Natura 2000) between the Long Dual Tunnel alternative and the Dual Carriageway (2014) alternative shall be included in the section. Depending on the conclusion from the comparison, one or all of the alternatives shall be excluded from further assessment in the report. The section shall clearly conclude what alternatives remain to be compared under the EIA.

Reference to the Non-Technical Summary of the information should be provided in accordance with the requirements of the EIA Directive and the Bulgarian legislation (Environmental Protection Law, Art.96, para. (1), item 9).

II. Annotation of the investment proposal for construction, activities and technologies

The section shall include an overview of the main parameters of the alternatives to be compared including the needed resources, materials, natural resources and energy sources planned to be used.

Where possible, reference shall be made to the properties of the Long Dual Tunnel regardless to whether it has been discarded at the preliminary environmental analysis (referenced at I.), or not.

III. Alternatives of location and/or alternative technologies as studied. Justification of the alternatives selected (including Do-nothing)

As introduction, a brief description of all alternatives identified prior 2008 shall be included (SPEA, KrasiBo, etc.) and the final version of the MCA report shall be included to complete this section. The results of the comparison in the MCA between the Long Dual Tunnel, Dual Carriageway, ECO A, ECO B, Western and Do-nothing/Do-minimum alternatives.

The text shall discuss the alternatives for different location and different technology for the project.

Each alternative's level of design (feasibility, preliminary, technical, etc. design) shall be presented. Description of the technology/organisation proposed for carrying out the construction works (e.g. the use of temporary roads or the additional access locations for works in the tunnel changes the environmental impact during construction) shall be included. This will provide indication about the scope of the information available to the consultant and could help assessing to what extent the comparison would be on an equal basis and how robust it is going to be.

IV. Description and analysis of the environmental media and factors and the cultural heritage that will be affected by the investment proposal

The section shall include a detailed analysis of the properties of the alternatives and namely in terms of ambient air & climate, surface water, groundwater, geology, lands and soils, flora & fauna, waste, hazardous substances, noise, landscape, cultural heritage, etc.

Where possible, reference shall be made to the properties of the Long Dual Tunnel regardless to whether it has been discarded at the preliminary environmental analysis (referenced at I.), or not.

V. Description, analysis and assessment of the potential effects on the population and the environment

The section shall include an assessment of the properties of the alternatives during construction and operation, and namely in terms of ambient air & climate, surface water, groundwater, geology, lands and soils, flora & fauna, waste, hazardous substances, noise, landscape, cultural heritage, etc.

The assessment shall consider the cumulative impact of other investment proposals in the area and more specifically, in a holistic way the construction and operation of Lots 3.1 and 3.3.

Where possible, reference shall be made to the properties of the Long Dual Tunnel regardless to whether it has been discarded at the preliminary environmental analysis (referenced at I.), or not.

Human health, security and safety issues are key factor and must be presented. These are of particular importance mainly for the assessment of Long Dual Tunnel alternative.

VI. Information about the methods used to assess the effects on the environment

Methodological description, reference to design materials, legislation, and other sources. Indication of any technical deficiencies in compiling the required information (according to the EU EIA Directive, Annex IV, point 8 and the Bulgarian Environmental Protection Law, Art. 96, para. (1), item 10).

VII. Description of the measures envisaged to avoid, reduce and, if possible, remedy significant adverse effects on the environment. Plan for implementation of these measures

Description of mitigation measures and mitigation plan.

VIII. Statements by the public and competent authorities

Statements made as a result of the consultations held.

IX. Comparative table for selection of alternative

A comparative table summarising the conclusions from sections IV. And V.

X. Conclusion in conformity with the requirements of Art. 83, para 5 of the Environmental Protection Law

Conclusion from the assessment.

3.4 AA Report

Under the Bulgarian legislation the AA Report is an appendix to the EIA Report. Its minimum contents are specified in Article 23 (2) of the Regulation on the terms and conditions of compatibility assessment of plans, programs, projects and investment proposals with the scope and purpose of conservation of protected areaslegislation. It must, however, be considered that the AA Report will be reviewed by a separate unit in MoEW and independently from the EIA report. Hence, the AA Report shall be drafted as a standalone document.

It is proposed that the AA Report follows the same approach in presenting the various alternatives as the EIA Report.

I. General Information

The section shall include information regarding the name and developer of the project, as well as for its purpose.

The course of development of the Long Dual Tunnel alternative since the 2008 EIA decision and the development of the Dual Carriageway (2014 and 2015) alternatives shall be described.

A comprehensive comparison (with emphasis on the effects on Natura 2000) between the Long Dual Tunnel alternative and the Dual Carriageway (2014) alternative shall be included in the section. Depending on the conclusion from the comparison, one or all of the alternatives shall be excluded from further assessment in the report. The section shall clearly conclude what alternatives remain to be compared under the AA.

II. Annotation of the investment proposal

The section shall include an overview of the main parameters of the alternatives to be compared.

III. Description of other plans, projects and programmes

The section details all known plans, investment proposals (projects) and programmes which together with the investment proposal subject to the AA may cause negative cumulative and/or synergic effect on Natura 2000. The technical and other properties of such initiatives shall be described in detail.

IV. Description of the elements of the investment proposal and their impact

A detailed description of the technical properties of the alternatives (left after the preliminary assessment at I.) being assessed shall be presented. This shall also include data regarding utilities, permanent and temporary areas affected by construction, bridges, viaducts and tunnels, affected rivers and water basins, etc. The focus of the description shall be on the potential direct and indirect impacts of the construction and operation of the alternatives proposed on the protected areas and their elements.

Where possible, reference shall be made to the properties of the Long Dual Tunnel regardless to whether it has been discarded at the preliminary environmental analysis (referenced at I.), or not.

V. Description of the protected areas

The chapter shall include a description of the protected areas, their conservation goals and subjects.

VI. Assessment of the impact of the investment proposal on the protected areas

The chapter shall include a detailed description and analysis of the alternatives being compared on equal basis in terms of their impact on habitats and protected species both during construction and operation of the alternatives. Also included shall be assessment and comparison regarding the whole of the protected areas – their structure, functions and goals, in terms of loss of habitats, fragmentation, nuisance, hydrogeological and geological impact, etc.

Where possible, reference shall be made to the properties of the Long Dual Tunnel regardless to whether it has been discarded at the preliminary environmental analysis (referenced at I.), or not.

VII. Mitigation measures

Based on the assessment at VI., specific measures for mitigating the impact of the alternatives shall be proposed. An assessment of the level of impact of these mitigation measures shall also be included in this chapter.

VIII. Alternatives studied and their impact on the protected areas (including Do-nothing)

As introduction, a brief description of all alternatives identified prior 2008 shall be included (SPEA, KrasiBo, etc.) and the final version of the MCA report shall be included to complete this

section. The results of the comparison in the MCA between the Long Dual Tunnel, Dual Carriageway, ECO A, ECO B, Western and Do-nothing/Do-minimum alternatives shall be presented in detail.

Each alternative's level of design (feasibility, preliminary, technical, etc. design) shall be indicated. Description of the technology/organisation proposed for carrying out the construction works (e.g. the use of temporary roads or the additional access locations for works in the tunnel changes the environmental impact during construction). This will provide indication about the scope of the information available to the consultant and could help assessing to what extent the comparison would be on an equal basis and how robust it is going to be.

Detailed comparison, as per the requirements of the Regulation on the terms and conditions of compatibility assessment of plans, programs, projects and investment proposals with the scope and purpose of conservation of protected areas, shall be made only between the alternatives left after the preliminary environmental assessment at I. and the Do-nothing alternative.

IX. Maps

The chapter shall include detailed maps of the investment proposal (the alternatives being assessed), as well as other visual materials (as appropriate) and maps of all alternatives reviewed at VIII.

X. Conclusion

The chapter shall include a summary of the assessment of the alternatives (without and with application of mitigation measures) and a conclusion in accordance with Article 22 of the Regulation on the terms and conditions of compatibility assessment of plans, programs, projects and investment proposals with the scope and purpose of conservation of protected areas.

XI. Information regarding the data collection, modelling and assessment methods

Methodological description, reference to design materials, legislation, and other sources. Description of the timing and sequence of field research and studies, methods for forecasting and assessment of the impact of the elements of the investment proposal, bibliography, etc. Indication of any technical deficiencies in compiling the required information shall also be included.

4) Other Aspects

4.1 General Recommendations to the EIA ToR

The following general recommendations have been made by JASPERS:

Ensure the consistency of all documents: MCA, ToR, reports to the Bern Convention, etc;

The EIA ToR shall mention how cumulative impact must be treated and explain that the *cumulative impact* refers also to the cumulative impact due to Lots 3.1 and 3.3 and current conditions and status of these lots;

Ensure consistency of the text, tables and numerical data of the ToR.

4.2 Consultations with the Public

The following steps shall be taken to ensure awareness of the public regarding the course of the project, as well as to allow feedback from parties concerned:

The ToR for the MCA has been made subject to consultations with NGOs in 2015. Once finalized the MCA report itself shall be presented to the public (NGO's, authorities, EC, JASPERS, etc.).

Once finalized, the EIA ToR, together with up to date information regarding he project, shall be forwarded to the Bureau of the Standing Committee of the Bern Convention.

The non-technical summary of the EIA report shall be forwarded to the Bureau of the Standing Committee of the Bern Convention, once the EIA report has been prepared.

Make as much as possible information regarding the project and the EIA procedure available at developer's web-site at http://www.ncsip.bg