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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

29th meeting
Bern, 23-26 November 2009

**Follow-up of Recommendation No. 110 (2004) on
minimising adverse effects of above-ground electricity
transmission facilities (power lines) on birds**

**REPORT BY THE GOVERNMENTS
(Belgium, Croatia, Czech Republic, Germany,
Hungary, Iceland, Serbia, Slovakia, Sweden, United
Kingdom)**

*Document prepared by
the Directorate of Culture and Cultural and Natural Heritage*

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Rapport sur la mise en œuvre de la Recommandation n° 110 (2004) sur l'atténuation des nuisances des installations aériennes de transport d'électricité (lignes électriques) pour les oiseaux en Belgique

Présenté par la société ELIA, gestionnaire du réseau électrique en Belgique

"Éviter les victimes du fil"

Les lignes à haute tension peuvent provoquer des "victimes du fil". Il s'agit d'oiseaux qui se heurtent aux conducteurs. Toutefois, les lignes à haute tension provoquent moins de 0.5% des morts accidentelles de l'avifaune. Afin de réduire le taux de tels accidents, Elia place aux endroits sensibles des "queues de cochon" sur les câbles aériens afin de les rendre plus visibles.

En outre, un nouveau type de balise a été développé pour rendre la ligne plus visible. Ces balises sont placées sur le conducteur le plus haut. L'ensemble de la ligne est alors beaucoup plus visible pour les oiseaux.

Enfin, Elia a commandé une étude sur les espèces et les quantités d'oiseaux affectés par les lignes à haute tension traversant la zone ornithologique de la vallée de l'Yser. Ces informations permettront de prendre les mesures adéquates. "

Report on the implementation of Recommendation No. 110 (2004) on minimising adverse effects of above-ground electricity transmission facilities (power lines) on birds in Croatia

In regards to the follow-up of Recommendation No. 110 (2004) on minimising adverse effects of above-ground electricity transmission facilities (power lines) on birds, the Ministry of Culture, as the competent authority for nature conservation, would like to inform you on the status of implementation in Croatia as follows:

In the Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia (OG 143/08), there are 3 Action Plans addressing this issue:

- AP 6.10.1.2 Continue to incorporate nature protection requirements and measures, and ecological network conservation guidelines when planning locations of power supply/distribution facilities in spatial plans
- AP 6.10.1.3 Strengthen the principles of conservation of biological and landscape diversity in the course of development of the environmental impact study in relation to the potential impact of construction of power plants and other energy supply/distribution facilities on overall biological and landscape diversity, particularly in the ecological network area
- AP 6.10.1.9 Apply technical solutions in the course of construction of overhead power transmission lines and replacement of worn-out electricity poles and lines within the existing network in order to minimise bird mortality (collisions, electrocution).

According to the Article 88 of the Nature Protection Act (Official Gazette 70/05, 139/08), towers and technical components of medium-voltage transmission lines shall be constructed in such a manner as to protect birds from electric shock. On towers and technical components built prior to the entry into force of this Act and endangering birds to a high degree, measures necessary for protection of birds from electric shock shall be carried out within five years (June 2010).

In October 2007 the Ecological Network of the Republic of Croatia was proclaimed (Regulation on Proclamation of the Ecological Network, OG 109/07) on 47% of the land territory and 39% of the sea territory. The Ordinance on Nature Impact Assessment, adopted in July 2007 (OG 89/07), imposes the obligation to assess the impacts of plans or projects that, either alone or in combination with other projects or plans, may have the significant impact on species and habitats listed as sites' target features and impacts on overall site integrity.

The Ministry of Culture, as the competent authority for nature impact assessment (NIA), has requested that HEP-Operator distribucijskog sustava d.o.o. (HEP ODS), a distribution system operator company responsible for delivery of electricity in Croatia, conducts a NIA procedure for new towers and technical components of medium-voltage transmission lines that may have a significant impact on ecological network sites.

According to the Regulation on Environmental Impact Assessment (OG 64/08), for electricity transmission facilities of 220 kV or more the environmental impact assessment is obligatory.

The paper "Supplement to the standardization of technical solutions for bird and animal protection on medium voltage electrical power switchgears" (Bošnjak, J. and Vranić, M., 2005) in Croatian was presented at the 7th Conference of the Croatian Committee of International Council on Large Electric Systems (CIGRÉ) in 2005. It describes possible technical solutions to increase bird safety, including the ones presented in the NABU's "Electrocution: Suggested Practices for Bird Protection on Power Lines" (UNEP/CMS/Inf.7.21).

HEP ODS has reported that they developed a system for monitoring the interruptions and failures in electricity distribution network. According to their report, the analyses of these events in the medium-voltage network show that the incidents in which birds (mostly species with a large wing span) caused the failure occur rarely. The locations of these incidents mainly correspond with the areas of ecological network. HEP ODS is undertaking activities to develop appropriate technical solutions for

the protection of birds from electrocution. As an example they reported the technical solutions used at two different locations in Croatia.

At Lonjsko polje Nature Park measures for bird safety were applied on sections of two 10/20 kV electricity transmission lines going through the protected area:

a. 10/20 kV electricity transmission line Krapje – Vodovod Lončarica

- 2.672 m in length, aluminium-steel 3x50/8 mm² power line, 35 concrete power poles (11m high), built in 1994
- on the whole length of the transmission line, the insulating caps were installed on the insulators and the insulating hoods were placed on the conductors (1m in length on each side from the insulator) and fastened with PVC strings below the power line (Figure 1).



Figure 1 (Photo: HEP ODS)

b. 10/20 kV electricity transmission line Lipovljani – Novska, section Nova Subocka - Krapje

- 8.000 m in length, aluminium-steel 13x95/15 mm² power line, concrete 11m high power poles and steel lattice-type strain poles, built/reconstructed in 2004
- on the 500m long section of the transmission line (6 power poles) going through Lonjsko polje Nature Park, the insulators and conductors were insulated with 1-piece insulation protection fastened with PVC strings (Figures 2 and 3).



Figure 2 (Photo: HEP ODS)



Figure 3 (Photo: HEP ODS)

In Blato area in Zagreb, before the installation of bird protection, the bird-induced energy supply cut-offs happened often.

To protect birds from electrocution the insulated 10/20 kV conductors were installed on the tower transformer station, on the junction of the medium voltage lines with the transformer - power lines across the upright insulators and medium-voltage fuses, conducting transformer insulators (Figure 4).

On the power poles where the medium-voltage conductors transfer to cables, the insulating hoods, insulating caps and insulated conductors were installed for the protection of birds and other animals from electrocution (Figure 5).



Figure 4 (Photo: HEP ODS)



Figure 5 (Photo: HEP ODS)

In 2004, the Ministry of Culture and the Hrvatska Elektroprivreda d.d. (HEP), a national electricity company, concluded a memorandum of cooperation in implementing the measures to protect the White Storks (*Ciconia ciconia*). HEP took a commitment to ensure favourable nesting conditions for white storks at the locations that are in direct contact with the electricity distribution system. The specific procedures how to set up nest carriers and transfer nests have been determined in cooperation with the ornithologists, and since then the nest carriers are being installed in all white stork's habitats.

If the stork's nest is on the medium-voltage transmission facilities (10/20 kV electricity transmission power poles or the 10/20 kV tower stations), the additional pole with the nest carrier is installed in the close vicinity of the existing nest. Then the nest is transferred to the new pole with a crane, and on the old location the rejectors are installed (Figures 6 and 7).



Figure 6 (Photo: HEP ODS)



Figure 7 (Photo: HEP ODS)

If the nest is on the low-voltage transmission facilities, the higher pole with the nest carrier is installed and the nest is transferred to the vertical part of the pole (Figures 8 and 9).



Figure 8 (Photo: HEP ODS)



Figure 9 (Photo: HEP ODS)

For any additional inquiries, please feel free to address us again.

Prague, 10 August 2009

The Czech Republic Implementation of Recommendation No. 10/2004 of the Standing Committee on minimising adverse effects of above-ground electricity transmission facilities (power lines) on birds

There is more than 750 000 electric poles (conductor of voltage 22-35 kV and 110 kV, 220 kV, 400 kV) with overall length of 70 000 km in the Czech Republic. Most of the poles are very dangerous for birds, mainly due to use of wrong technologies.

There is an obligation (since 2004) arising out of the Act No. 114/1992 Coll., on protection of Nature and Landscape. The section 5a, §6 of this Act obliges anybody who constructs or reconstructs above-ground high-voltage line. He shall be obliged to furnish it with protective means, effectively preventing killing of birds by electric current.

While building, reconstructing or operation of electric poles of above-ground electricity transmission facilities which present the danger of death or harm of wildlife birds, the specific provisions of the above mentioned Act might be affected – mainly the section 5, § 1 and 3 on the protection of wildlife birds as well as provisions of section 50 of this Act which deals with the protection of specially protected birds – mainly provision of protection of these birds in all stages of their development and that provision that it shall be prohibited to harmfully intervene in the natural development of specially protected animals.

Act No. 114/1992 Coll.: “(1) All plant and animal species shall be protected from destruction, damage, collection or capture which leads or might lead to endangering of existence of these species or to their degeneration, to impairment of reproduction ability of the species, to extinction of the population of the species or to destruction of the ecosystem of which they form a part. In the case of violation of these conditions of protection, a nature protection authority shall be authorized to prohibit or limit the interfering activity.

(3) During effecting agricultural, forestry and construction works, during water-management alterations, in transport and the energy industry, natural and legal persons shall be obliged to proceed in a manner that will not cause an excessive destruction of plants and injury to or death of animals, or destruction of their biotopes, which can be prevented by technically and economically available means. If the liable person does not do it itself, the nature protection authority shall order provision or use of such means.”

In case when building or reconstructing of electric lines of above-ground facilities could cause damage in the protected areas or in the wider landscape, the nature conservation authority is obliged to specify the conditions of these activities or ban the building or construction at all.

Act No. 183/2009 Coll., on town and country planning and building code (Building Act) specifies that the electric lines might be an object of planning materials and planning documentation according to this Act. Nature conservation authorities take part during negotiation of these documentations and take, according to Act No. 114/1992 Coll. a stand. In case of building new lines or reconstruction of existing ones – there is a standard procedure of issuing of building permit (defined by this Act) by a competent authority during which the nature conservation authority takes a position.

The Act No. 100/2001 Coll., on the environmental impact assessment (EIA) specifies that intention for building or reconstruction of above-ground electric lines is assessed in the category as “impact” which falls under the conditions of this Act and therefore scoping, screening and assessment of impacts on environment (including announcement, documentation, expert opinion etc.) has to be carried out. The nature conservation authority takes a position during all phases in this procedure.

The Ministry of the Environment of the Czech Republic is currently developing guidelines for purposes of engaging the nature conservation authorities for taking stands and issuing an obligatory opinion. Every nature conservation authority should, according to these guidelines, when assessing the intention of a person, company to build or reconstruct the electric lines, assess the appropriateness of

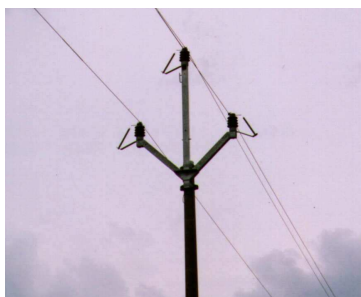
the intent in the landscape – in order to minimize the collision of birds and the wires and the technical specificities of such intent in order to minimize injuries of birds due to electric discharge. The guidelines contain also annexes with pictures of “safety power poles types” as described in the Annex to the Recommendation 110 (2004) – recommended technical standards for bird safety for new and retrofitted facilities. It also contains pictures of dangerous types of poles. Another annex will describe basic rules of placing of lines, list of special protected birds sensitive to collisions. In the Annex 3, the pictures of accessories/elements for avoiding the collisions with conductors will be added. Only with those types the project can be considered to be assessed in a second phase. There will be special conditions when placing new poles and lines into a special protected area as well.

There is a monitoring running which shows that tens of thousands of birds dies every year due to electric lines. First information that birds dies because of this comes from 70ties but since that time not much has been done. Some concrete examples against harm of birds started in 80ties, when one energetic company started to use “benches” – horizontal bars approx. 0.5m above the top of insulators. Since that time also plastic safety elements such as “racks” (on the picture on the right, or (see slide No. 9 in presentation of the Czech Republic in the European Parliament in 2009



<http://www.havlickubrod.ochranaprirody.cz/res/data/158/020700.pdf>); or other plastic covers on the insulators top (caps). The problem with those plastic elements is not only the limited lifetime but their problematic use in the Czech conditions.

During 1998-2001, in some parts of the Czech Republic, 8000 poles together more then 700 km of lines were retrofitted from the Landscape Management Programme (Programme of the Ministry of the Environment). Mainly areas of *Falco peregrinus* and *Falco cherrug* – mostly in southern Moravia, eastern, southern and northern Bohemia – the important wintering sites, were retrofitted.

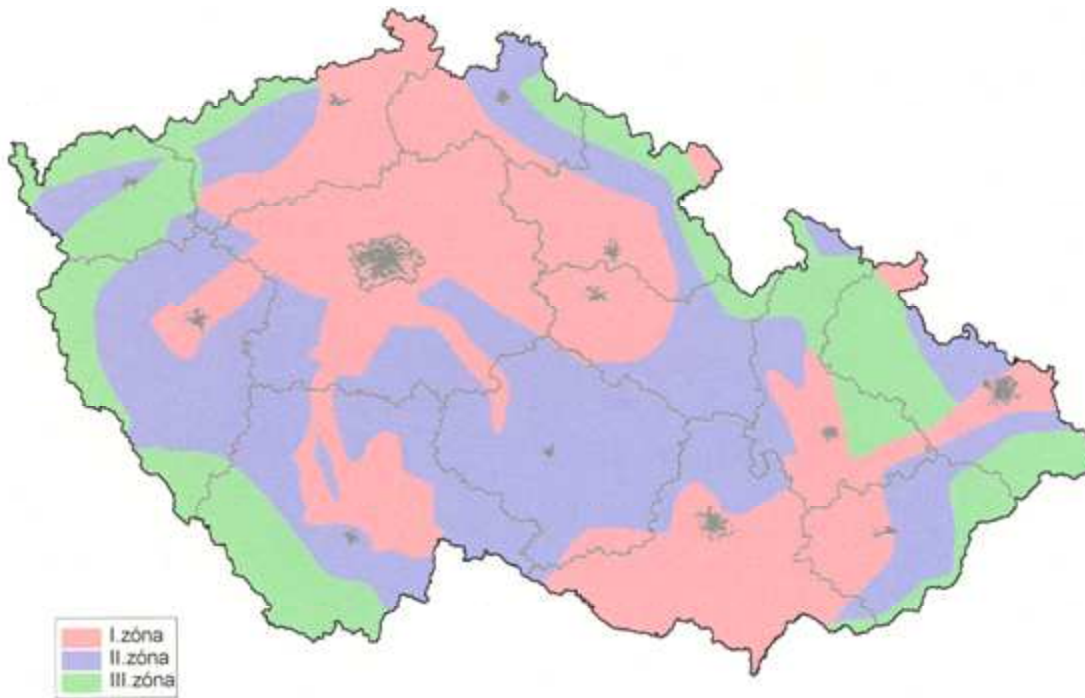


The best way is to use a special type of consoles which practically exclude the injury – such as the console type “hook” as on the picture on the left and poles with suspended insulators and according to latest development also another type of console was approved by the nature conservation authority – the Agency for Nature Conservation and Landscape protection as another possibility (Delta Variant console type). The Czech Energetic Companies consult with the nature conservancy the most problematic areas with high bird density.

In 2003, the Research Project (VaV/610/7/02) divided the Czech Republic into 3 zones according to birds' density and lines density.

- The first zone – those areas of the country with high birds density, important migratory routes, important wintering sites, areas with occurrence of special protected birds which are under highest threat caused by electric lines, mostly in lowlands (red colour).
- The Second Zone - areas of middle land or submontane areas which are indented, mostly with wintering sites only of regional importance, the bird density not so high (blue colour in the map)

- The Third Zone – mostly border mountain areas. Low birds as well as electric density (green



colour).

Source of information: The Research Project (VaV/610/7/02), map and pictures taken from:
http://chm.nature.cz/network/fo1766749/souhrn_sloupy_CHMCBD.doc/

According to the study and the Bird Areas in the Natura 2000 network, most of 40 Birds Areas in the Czech Republic are in the First Zone. 23 of 40 Areas were chosen as priority areas with highest risk.

From the latest news, the Czech Energetic Company (CEZ, a.s.) as the biggest energy and heat supplier in the Czech Republic, has already started the positive shift. It has agreed that till 2013, it will retrofit all conductors in the Birds Areas in the Natura 2000 network and also in other parts of the Czech Republic – mainly there with high density of birds like in Beskydy mountains. There are 40 Birds Areas in the Czech Republic, CEZ is assessing 26 of them – approx. 3.3 thous km of wires/lines. CEZ will do this not only when building new conductors but will adjust also old lines.

Dr. Petr Roth, Ph.D.

Director of the Department for Biodiversity Conservation

Ministry of the Environment of the Czech Republic

Report on the Implementation of Recommendation No. 110 (2004) of the Bern Convention

In order to avoid mortality due to electrocution, a directive was added to the National Nature Conservation Law (“Bundesnaturschutzgesetz/BNatSchG”) in 2002. § 41 of this law states, „To help protect bird species, new poles and other parts of medium voltage transmission lines are to be installed in a way that allows bird species to be protected from electrocution. High risk poles and other parts of mid-voltage transmission lines which are already in place, have until December 31, 2012 to undergo the necessary changes to protect bird species from receiving an electric shock. Sentence 2 is not applicable to those transmission lines used in the railway infrastructure. Therefore, since 2002 only poles for mid-voltage transmission lines can be built, if they are constructed in such a way, as to not lead to electrocution. § 41 Sentence 3 was only recently improved. Now it applies to transmission lines associated with the railway infrastructure as well, so that the newly built parts need to be made in such a way as to protect bird species from electric shock.

The medium level power lines that are considered very dangerous to birds, are to be retrofitted by 2012. The power supply companies in Germany are working to achieve this commitment and have, to some extent, made some agreements with the individual states.

The retrofitting is based on a measures catalogue published in 1991. Since then, new findings have been made in particular retrofitting technologies. Bird protection and power supply organizations are currently working on updating the catalogue, under the moderation of the Federal Ministry for the Environment (BMU).

The recommendations to avoid collisions between birds and overhead electricity transmission lines and to avoid the reduction of habitat availability will be within the provision of the intervention within natural and landscape areas (§§ 13 ff. BNatSchG), specifically through the installation and the management of protected areas by the individual states.

Already in 1995, in a technical guideline (DIN VDE 0210 Section 8.10), an ordinance to protect birds from the risks of high voltages lines was established.

Furthermore in 2004/2005, the German Federal Ministry for the Environment co-financed the translation of the brochure “Attention –electrocution” , created by the German NGO “Naturschutzbund (NABU) Deutschland” into different languages. Current information about the respective NABU group: cf. www.birdsandpowerlines.org .

Hungarian national report on the implementation of Recommendation 110 (2004) "on minimising adverse effects of above- ground electricity transmission facilities (power lines) on birds"

Accessible Sky agreement for bird-friendly transformation of high,
medium and low voltage power lines on a national scale

Timescale: 2008-2020

Aerial power lines pose a serious threat to wild bird populations due to electrocution and collision. In several endangered species, power lines are among the most important causes of mortality (for example, White Stork and raptors because of electrocution, Great Bustard and Northern Crane because of collision). State nature conservation bodies and BirdLife Hungary have actively co-operated with distribution companies since the early 1980s to minimise this problem. At the initiative of Mr. Péter Olajos, then MP in the European Parliament, an agreement was prepared and signed in February 2008 on collaboration among all distribution companies, governmental and non-governmental conservation organisations to minimise bird mortality along power lines. Funding is provided mainly through the Structural Funds (Environment and Energy Operational Programme), LIFE Nature and LIFE+, but thanks to the improving co-operation, distribution companies also co-finance the projects. Most prominent recent examples are the burial of 80 km of medium-voltage power lines in the Hortobágy National Park (Structural Funds), the burial of 11 km of medium voltage power lines in the Borsodi Mezőség Landscape Protection Area (LIFE Nature) and the fitting of bird diverters on 45 km of medium and high voltage power lines in some of the most important Great Bustard sites in Hungary to avoid collision (LIFE Nature). Presently running projects include two LIFE Nature projects (focussing on Saker Falcon and Red-footed Falcon) aiming at the insulation of a total of 910 km of medium voltage power lines. There is an important, self-financed initiative by the Hungarian high-voltage electricity distribution company to fit high-voltage power lines with markers where in conflict with the most important bird habitats.

Under the agreement, BirdLife Hungary, commissioned by the Ministry of Environment and Water, produced a conflict map in late 2008 to prioritise all power lines in Hungary as to the urgency of bird-friendly conversion. The total length of top priority power lines is 21,700 km. Based on this figure, the funding needed to convert all top priority power lines is in the order of 60 million euros. The plan is to eliminate most of this threat by 2020.

Under the agreement, and based on regular consultations with all partners concerned, distribution companies have also prepared and constantly update BAT (best available technology) for the creation of bird-friendly power lines where new power lines are set up. The BAT documentation is available in Hungarian. BirdLife Hungary has set up a national database of all observed bird casualties and runs yearly surveys to monitor certain power lines. The Act on Nature Conservation No. 53 of 1996 was also amended in December 2008 to only allow bird-friendly technologies in new or fully renewed power lines.

Locations of particular importance to birds are carefully considered in the planning phase, especially since Hungary's accession to the European Union, as the requirement of an appropriate assessment is compulsory also in Special Protection Areas under the Birds Directive.

Government of Iceland
Report 2009 on
Recommendation No. 110 (2004) of the Standing Committee on minimising
adverse effects of above-ground electricity transmission facilities (power
lines) on birds

(adopted by the Standing Committee on 3 December 2004)

Introduction

In December 2004, the Bern Convention Standing Committee adopted recommendation No. 110, concerning adverse effects of above-ground electricity transmission facilities (power lines) on birds.

Recommendation No. 110 lists 5 specific recommendations for implementation by the Government of Iceland.

This report details Government actions addressing these recommendations

Recommends that Contracting Parties to the Convention:

1. take appropriate cost-effective measures to reduce bird mortality from electric transmission facilities taking into account Resolution 7.4 of the Seventh meeting of the Parties of the Convention on Migratory Species of Wild Animals (Appendix 2), applying those cautions to cases where non-migratory species may be affected;

Iceland has not taken any cost-effective measures at this moment to reduce bird mortality from electric transmission facilities. In connection with environmental impact assessments, of new above-ground electricity transmission facilities, the problem of adverse effect of above-ground power lines has been recognized. All the same there are no new research on this matter since 1998 (Ólafur Einarsson, Náttúrufræðistofnun Íslands 1998, (study on 33 kv power lines)). The problem has been acknowledged and some private monitoring has been made (<http://www.efla.is/lisalib/getfile.aspx?itemid=5173>, report for Landsnet a public company that owns and runs the electrical transmission system in Iceland). The Icelandic National Planning Agency has in earlier deciding on environmental impact assessment pointed out the necessity for monitoring the above problem. ([http://www.skipulag.is/focal/webguard.nsf/97d38f91a078e52b00256c76004705e7/4b3d10fd26ab91f000256e2a00410eff/\\$FILE/2002120022.PDF](http://www.skipulag.is/focal/webguard.nsf/97d38f91a078e52b00256c76004705e7/4b3d10fd26ab91f000256e2a00410eff/$FILE/2002120022.PDF))

2. apply as far as possible the measures for bird safety suggested in the report mentioned in the *consideranda* above, and in particular those suggested in the enclosed Appendix 1, taking into account that, to ensure appropriately located and safe constructions, the following measures need to be considered:

To avoid electrocution

a) banning of the most dangerous types of pole

No decision on this matter has been taken at this moment.

b) use of state-of-the-art recommended technical standards for bird safety for new and retrofitted facilities

To avoid collisions and reduction of habitat availability, while improving air safety

No decision on this matter has been taken at this moment.

c) encouraging underground location of cables where possible in technical and financial terms; or

Governmental institutions and NGO's have proposed in many cases the use of underground location of cables in some areas. This has been accepted for some parts of electrical power lines but not necessarily because of effects on birds.

d) in locations of particular importance to birds, and where birds may be vulnerable to collision, consents should be conditional upon examination of different routing alternatives prior to and during the planning phase, involving a minimum of one year of ornithological investigations including of bird movements during both day and night ;

Investigations suggested above have not been made in Iceland.

e) constructions should obstruct only a minimum of air space in a vertical direction i.e. single-level arrangement of conductor cables with no neutral cable above or clearly visible black-and-white markers should be attached to high-risk cables;

As there is a lack of investigations, monitoring and regulations this has not been carried out in Iceland.

3. consider replacing underground overhead powerlines in areas of exceptional high interest for birds, particularly in protected areas and in areas designated for the Natura 2000 and Emerald Networks for their bird interest.

The legal framework in Iceland such as law on nature conservation, planning and environmental impact assessment makes it possible to reject overhead power lines in areas that are protected or of exceptional high interest for birds. At this moment there are no Natura 2000 or Emerald Networks sites in Iceland. The decision is on the case by case level. In some areas the power companies are replacing 33kv over-ground lines with underground lines. This will in some cases benefit bird areas.

4. systematically collect information with respect to collisions and electrocutions on electricity transmission lines;

There is almost a total lack of collecting information / data with respect to collisions and electrocutions of birds on power lines except for the monitoring mentioned in part 1.

5. communicate to the Standing Committee the relevant steps that have been adopted or envisaged concerning the implementation of this recommendation as well as information on the outcome of measures adopted;

See above answers for steps and outcome of measures adopted. The Ministry of Environment is preparing revision of the law on nature conservation. One of the objectives is to make the law more efficient in nature conservation matters concerning different type of projects. The government of Iceland has already applied for EU membership. It is therefore most likely that laws and regulations in Iceland will in near future be more and more adapted to EU legislation and practises.

Report on the implementation of the Recommendation no 110 (2004) of the standing committee on minimising adverse effects of above-ground electricity transmission facilities (power lines) on birds in Serbia

Regarding the Implementation of the Recommendation No 110 (2004) on minimizing adverse effects of above ground electricity transmission facilities (Power Lines) on Birds and CMS Resolution 7.4 – Electrocution of Migratory Birds, Republic of Serbia has been developed several projects, strategies and policy documents.

In this context, Republic of Serbia has signed and ratified in 2007 several international agreements focusing on the treatment of the species and habitats conservation,

- The Born Convention,
- The Bern Convention
- The Law on Endorsing the United Nations Framework Convention on Climate Change,
- Kyoto Protocol, and
- the Combat on Desertification Convention

1. Legal Framework Improvement of Energy and Environment

- Elaboration of the National Strategy on Sustainable Development-2008.
- *Energy Development Strategy (2005- 2015)*

Energy Efficiency increase and wider use of renewable energy sources (RES) – prioritized objectives

- *Law on Energy (2004)*

Privileged electricity producers

Privileged heat producers

Entitled to facilities/should be defined by other legislation

- *Programmes Implementation Strategy (2007-1 2012) including Energy Efficiency and RES*
- *Law on Environmental Protection 2004, amended 2009*
- *Law on Nature Protection 2009.*
- Treaty establishing the *Energy Community between the EU and South-Eastern Europe has been signed in Athens 2005.* by Albania, Bulgaria, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Romania, Serbia and Montenegro and and the Special Representative of the Secretary General on behalf of the United Nations Interim Mission in Kosovo have therefore take a step towards full integration of their energy markets into the EU energy market.

In addition, Article 16. of this Treaty regulates that The “acquis communautaire on environment”, for the purpose of this Treaty, shall mean (i) Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, as amended by Council Directive 97/11/EC of 3 March 1997 and Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003, (ii) Council Directive 1999/32/EC of 26 April 1999 relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC, (iii) Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants, and (iv) Article 4(2) of Directive 79/409/EEC of the Council of 2 April 1979 on the conservation of wild birds.

2. National observation and research activities as fundamental base for monitoring of effects of above ground electricity transmission facilities (Power Lines) on Birds

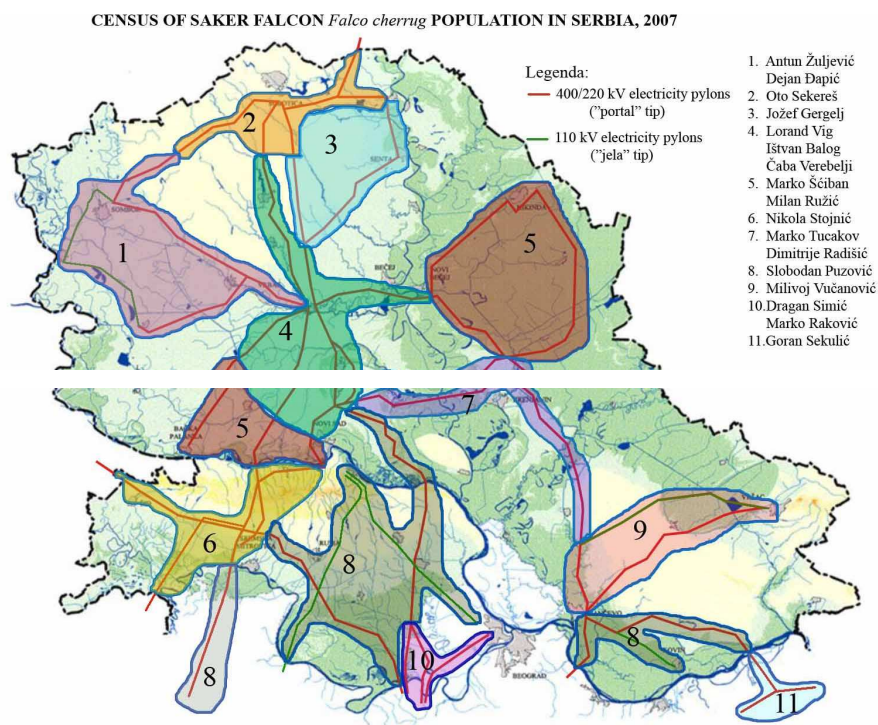
2.1. Project “Mapping of the nests of birds at electricity pylons”

Survey of the Saker Falcon *Falco cherrug* population in Serbia in 2007”, has been realised by the Bird Protection and the Study Society of Vojvodina and MME-Bird Life Hungary. Partners in this project are League of Ornithological Actions, Provincial Secretariat for Environmental protection and Sustainable development and Institute of Nature Conservation of Serbia.

The main activity was to survey all areas where the reproduction of this species is potentially possible, focused on the power lines, steppe and saline habitats, forests beside larger rivers and localities around nearby settlements. All of *portal* type and great number of *jela* type of electric power pylons were covered during the project (2000 km of lines). Electricity pylons were observed in Macva and in northern part of Pomoravlje.

The special attention was concerned to the localities where the successful pair of Saker Falcon known from earlier years.

Project “Mapping of the nests of birds at electricity pylons” financial supported by IWC-UK *International Wildlife Consultants Ltd)



2.2. Project “Installation of the Nest-supporting Platforms. for snuggling of rarity species of birds at the electric power pylons “

The Bird Protection and Study Society of Vojvodina has realized complex activities of Saker falcon Conservation. This species is the most important bird species breeding in Serbia, having a look at European context, having in mind that 13-15% of its entire breeding population breeds in Serbia currently. The most recent estimate, from 2002 is 52-64 breeding pairs, but in most recent years population is lower. This species is classified as SPEC 1, the highest conservation category for Species of European Conservation Concern, and it is listed as Endangered on European IUCN Red List.

In Serbia Saker Falcon breeds almost exclusively on high-voltage electro pylons in Vojvodina, dispersed, but not far from the human settlements. This habitat element was inhabited by Saker Falcons in late 1970. In recent years the most serious conservation problem was lack of stability of nests - Saker does not build its own nests but occupies nests of other species, in most cases Raven *Corvus corax* or Carrion Crow *Corvus corone cornix*. These nests, built very high on the pylon can be disintegrated during the breeding season (from March to July) due to strong winds or heavy rain. Additional threat to the whole population is unsuitable management of high-voltage pylon by Elektromreza Srbije, public electro company, who owns the whole high- and mid-voltage network in the country. Their workers have in some cases completely devastated even active Saker nests, as they pose potential problem for the maintenance of nests.

The Bird Protection and Study Society of Vojvodina together with partners from Hungarian Ornithological and Nature Conservation Society, League of Ornithological Action, Provincial Secretariat for Environmental Protection and Sustainable Development and Institute of Nature Conservation of Serbia has mapped all the pairs of this species breeding on pylons in Vojvodina and installed 87 nest-supporting platforms. Each (wooden) platform is designed in order to support nest and prevent its destruction by any mean. Therefore, Sakers will have long-term stable nests, suitable for breeding throughout the period of its maintenance. Using Hungarian experience, platforms are installed close to favorable feeding sites, not closer than 1 km from the settlement and on the places where territorial pairs without the nests were spotted before. Monitoring of occupation of these platforms, from which other species will benefit as well: Common Kestrel *Falco tinnunculus* and Hobby *Falco subbuteo*, is currently underway.

Alongside these activities, the Bird Protection and Study Society of Vojvodina organizes educational seminar for members of Elektromreza Srbije once per year, where international experts and the whole management of this company are trying to find the most suitable solutions and harmonize power supply and birds conservation in Vojvodina

2.3. Project „Safe nests for white storks” realized by the Bird Protection and Study Society of Vojvodina, Provincial Secretariat for Environmental Protection and Sustainable Development and Institute of Nature Conservation of Serbia and Public Enterprise „Elektrovojvodina“.

Follow up activities

Towards harmonisation of the regulations in the area of the nature protection and biodiversity, as well as towards the implementation of the Recommendation No 110 (2004), several important international projects have been started and are in progress in this field.

- Elaboration of the National Environmental Action Plan of the Republic of Serbia
- Elaboration of the National Strategy for Sustainable Use of Natural Resources and Goods
- Elaboration of the National Strategy of Biodiversity Conservation and Action Plan

Report on State of Environment in the Republic of Serbia-2008.

National report of Serbia on the implementation of the Convention on the conservation of migratory species of wild animals (SMC)

<http://www.energy-community.org/>

<http://www.ruffordsmallgrants.org/rsg/Projects/MarkoTucakov>

Tucakov, M. (2005): Safe nests for white storks. Danube Watch 4/2005:

Project report: Survey of the Saker Falcon *Falco cherrug* population in Serbia in 2007

Project report: Conservation of Saker Falcon *Falco cherrug* in Serbia in 2007 and 2008

Prepared by Snezana Prokic,

Focal Point for Bern Co

Bern Convention national report on implementation of the Recommendation 110/2004 during 2005-2009 in the Slovak Republic

Prepared by Mr Michal Adamec and Mrs Michaela Mrázová, State Nature Conservancy of Slovak Republic and Mrs Jana Durkošová, Ministry of the Environment of Slovak Republic

Introduction:

Implementation of this recommendation in Slovakia is based on the existing legal tools, guidance for respective nature protection bodies and practical measures executed both by governmental and non-governmental institutions. The cooperation among the State Nature Conservancy of Slovak Republic and all 3 relevant electricity companies is of very high importance.

Legal tool:

The Act No 543/2002 Coll. on Nature and Landscape Protection provides for the following measures mainly via it §4.4 and §4.5:

§ 4

General Plant and Animal Protection

(1) Everyone during conducting any activity that may endanger, damage or destroy plants and animals or their habitats is obliged to avoid their needless killing or damage and destruction.

(2) If the activity described in Section (1) results in the endangerment or degeneration of plant and animal species, in damage to their reproductive capabilities or threatens the extinction of their population, the state body of nature and landscape protection (hereinafter referred to as the "nature protection body") may following the prior notice restrict or prohibit this activity.

(3) Capture and killing of animals in places of their natural occurrence is prohibited. This prohibition does not apply in cases when capture and killing is carried out in relation to scientific research or immediate threat or damage to human lives or health, or property damage or if provided in special regulations 17) or Part Three of this Act.

(4) Everyone who constructs or carries out scheduled reconstruction of overhead electricity lines is obliged to use such technical solutions that prevent from killing birds.

(5) If killing birds on electricity lines or telecommunication facilities is verifiable, the nature protection body may rule that an administrator of electricity lines or telecommunication facilities has to adopt measures to prevent killing birds.

According to the Act the district/regional environmental offices give opinion for each territorial decision or building permits (including those for the electricity network) that is the opportunity to request for considering the issue of negative effects of 22 kV lines on birds. Environmental offices have been asked to thoroughly check all the plans and request (in all the new facilities) to install the appropriate models of construction and in sites of high importance for birds (with verified damages) to insist on underground powerlines.

In 2007 the Ministry of the Environment of SR (in close cooperation with the State Nature Conservancy of SR, expert body of the Ministry of the Environment of Slovak Republic) prepared the more detail guidance for district environmental offices to improve situation with the bird mortality on 22 kV electric powerlines. This guidance (in Slovak) is attached. It includes the description of appropriate technical solutions both for mountainous and plain sites, summary and short analysis of the relevant provisions of the Act and suggestions for further solution (such as not legally binding meetings with the energy companies before the decision is made) in order to find the most appropriate solution in the concrete site.

In addition the Act provides for the obligation to report when finding killed or hurt protected species. If this relates to the damages at the electric poles/powerlines, the nature protection institutions

submit to the relevant district environmental office an proposal to make measures at the problematic section of the electric powerlines.

Practical measures:

Activities to minimize negative impacts of the 22 kV powerlines are included in the annual work plan of the State Nature Conservancy of SR. They consist of identification of the most dangerous facilities (both constructions and powerlines) via systematical and ad hoc monitoring of killed/hurt birds, compilation and processing of data, supervision on practical application of nature protection decisions and of improvement of identified problematic facilities. For instance in 2008 there following activities were undertaken:

- several negotiations with all 3 energy companies and with the Slovak energy transmission network resulting in signing agreements on data exchange and common approach and in preparation of a long-term strategy;
- common control days (energy companies/nature protection bodies) organized with presentation of the appropriate technical solutions;
- mortality monitoring at selected sections which - where needed - followed by negotiations (for instance in the section Žilina-Porúbka-Rajecké Teplice-Rajec);
- supervision of taken measures within the Malá Fatra National Park;
- requests to district environmental office (Zvolen, Banská Bystrica) to ask for preventive installation on 22 kV electric lines (between Sliach and Badín, Iviny and Víglaš) and within the Záhorie Protected Landscape Area;
- more detail monitoring at the 22 kV lines in Čierny Balog, Víglaš – Rohy, Detva, Piešť, Holcov majer (Poľana Protected Landscape Area), sections Jesenské – Rimavská Seč, Rimavská Seč – Bátka (Cerová vrchovina protected Landscape Area), in Veľká Fatra National Park and Slovenský Kras National Park;
- mapping in other selected places – electricity towers and 10 sites with artificial nests for *Falco chernug*; collection and processing of data and implementation of further elimination measures.

Similar activities are executed by NGO. For instance Raptors Protection in Slovakia via several project implemented both public awareness activities (leaflet on Poles of Death, exhibitions, negotiations...) and practical measures for monitoring of the most problematic sections (based on data compiled from the field mapping on 1850 km electric powerlines). Insulation of poles (within the LIFE project totally 851 km of dangerous powerlines were protected/improved) as well as construction of artificial nests for concerned birds. In 2006 new technical solutions have been suggested – currently implemented partially. In selected sections other measures have been implemented – to mark electric lines to be more visible (for species such as *Otis tarda*). These activities were coordinated with the State Nature Conservancy of Slovak Republic.

Cooperation between the nature protection institution and energy generating companies.

There are 3 main electricity companies operating at the territory of Slovakia (in Central, Eastern and Western Slovakia) and official forms of cooperation have been established with respect to the issue of 22 kV electricity powerlines. The State Nature Conservancy of the Slovak Republic has signed the agreement on cooperation with the Eastern Slovakia Energy Company, the Central Slovakia Energy Company as well as the Strategy to eliminate threats of the 22 kV electricity powerlines on birds (including the time table of activities in respective years – tackling the priority sections; cooperation in new methods, etc.). The Western Slovakia Energy Company has been partner in the LIFE project Conservation of *Aquila heliaca* in the Slovak Part of the Carpathian Basin (LIFE2003NAT/SK/000098) dealing among others with concreate measures on 22 kV lines (namely action promoting modification of electric poles by creating pressure on the Ministry of Economy).

August, 2009

Report on the implementation of Bern Convention

Recommendation 110 (2004) on minimising adverse effects of power lines on birds - SWEDEN

Background

The Bern Convention Bureau has decided to include the issue of birds versus power lines on the upcoming Standing Committee meeting. For that reason the Bureau has asked for a report on the implementation of the Convention Recommendation 110 (2004) found on http://www.coe.int/t/dg4/cultureheritage/conventions/Bern/Recommendations/Rec110_2004_en.pdf

The Swedish Environmental Protection Agency hereby submits the Swedish report.

The request from the Bureau has been circulated to a number of national bodies which are concerned by this issue. These bodies include the Swedish Energy Agency which has forwarded the request to the Energy Market Inspectorate (a governmental authority that works for efficient energy markets), the Swedish Rail Administration (a governmental authority that has overall responsibility for the rail transport system in Sweden), Vattenfall (governmental authority that produces, distributes and sells energy), the Swedish Museum of Natural History (responsible for collecting information about the impact on birds caused by power lines) and the Swedish Ornithological Society. All bodies except Vattenfall have submitted written statements. The following paragraphs constitute extracts from these statements and the report is concluded by some comments from the Swedish Environmental Protection Agency.

The Energy Market Inspectorate recognises different means to reduce the risk for birds being killed by power lines or by electrocution. An application for concession to establish a power line has to include an environmental impact assessment. In cases where the issue of bird collision are relevant, the Inspectorate discusses the application with the County Administrative Board. In cases where the interests of bird conservation are found to be significant, the most frequently used methods for mitigation include the installation of insulated hoods to prevent electrocution and coloured globes attached to the lines to prevent collisions.

So far the Inspectorate has not demanded a comprehensive report on the possible risk for collision or electrocution along the whole extension of a new power line, rather are critical parts of the extension identified and discussed. The Inspectorate underlines the need to take economic factors into account when deciding the extent of mitigating measures to be taken and also the impact on other interests when alternative extensions are discussed. However, when protected areas and sites for birds are affected by applications for new concessions, it is likely that the Inspectorate gives great weight to the mitigation aspect. The authority then may include conditions about mitigation measures as part of the concession permit.

It is not clear from the Inspectorate's statement whether the Bern Convention Recommendation 110 is known and considered in the daily work.

In its comments, the Swedish Rail Administration gives a description of actions taken to minimize lethal impact on birds in connection with building railway. In 2005 a document was published where different mitigation measures for animals, including those favourable for birds, were presented. These included some of the measures that later became part of the Bern Convention Recommendation.

The Rail Administration also refers to a specific case where consideration to the protection of birds has been a major issue, namely the building of a new railway across the delta of Ume river, a Natura 2000 and Ramsar site in northern Sweden. Following court proceedings, a set of compensatory measures were included as conditions of the permit, issued for the reason of overriding public interest. These conditions also included mitigation measures along the railway extension across the delta itself and adjacent areas. The implementation of all these measures was made after lengthy discussion with i.a. ornithological bodies and the following main problems areas were identified:

- the risk for birds being hit by train along the railway (for instance raptors feeding on carcasses)

- the risk for birds to fly into the power lines
- the risk for electrocution.

To reduce or eliminate the risk, *i.a.* the following actions have been taken:

- Some of the cables have been buried in the ground instead of being suspended between the poles
- Further to prevent collisions; reflectors moving in the wind have been attached to thin lines
- To prevent (large) birds from perching on top of the poles, these have been equipped with perch rejectors ("Chinese hat" or a number of spikes)
- Different measures have been taken to isolate elements that could cause electrocution, depending on the situation
- Measures have also been taken to prevent birds from entering into substations and similar constructions where there is a risk for electrocution
- Two rows of trees (each 200 metres in length) have been planted along the railway to force birds to fly high enough to avoid collision with power lines or cables when crossing the railway during the flight between different staging sites.

The Rail Administration has not been aware of the Recommendation, but is prepared to give more systematic attention to the issue of collision and electrocution in the future. By including more information about this issue in internal guidance document and also monitoring the effect of different measures, the Administration intends to take its responsibility and more systematically include bird protection measures as part of the daily work.

The Swedish Ornithological Society has submitted a large number of documents and appendices to illustrate the efforts that have been made over the years to persuade energy producers and other to take action against the unintentional killing of birds along power lines. From its statement it is clear that the ambition to mitigate the problems differ significantly between bodies. The Society, both centrally or through its regional bodies, has produced and distributed leaflets about the problem already in the 1980's. Whereas some of these efforts seem to have been successful, there are other examples which demonstrates that economic consideration often is given priority over bird conservation aspects.

As for successful examples of cooperation, the Society refers to the measures taken by the Rail Administration at Ume River delta as mentioned above. In this case the information and ambition expressed by the Society have been well received by the Administration and the result may serve as an example of what can be done in terms of mitigation measures along railways, but also other types of power lines. This cooperation has resulted in some new ideas in the area of mitigation which will be tested in this site. At the same time the Society regrets that proposals for greater consideration to bird protection in other areas have been rejected. In some cases, it is the feeling of the Society that it was easier in the 1980's to reach agreements on mitigation measures than it is today.

The Swedish Museum of Natural History continuously collects information about birds that have suffered from collisions with lines or have been electrocuted. Studies show that during 1960-1989, the frequency of such accidents increased during the period. This trend, however, seems to be broken during the 1990's, where no significant increase or decrease was found. In general, (large) owl species, raptors and to certain extent also swans seem to be most vulnerable. For eagle owl (*Bubo bubo*) and ural owl (*Strix uralensis*) about 25 % and 20%, respectively, of the birds found dead seem to have suffered from collision with power lines or from electrocution.

During 2007 and 2008, the species most frequently reported dead by these reasons were eagle owl (*Bubo bubo*) 17 records, white-tailed eagle (*Haliaeetus albicilla*) 10, golden eagle (*Aquila chrysaetos*) 8 and ural owl (*Strix uralensis*) 7. Analyses show that the problem is found throughout the country and there is still a need to continue collection of data to monitor changes in the frequency of accidents.

The Swedish Environmental Protection Agency would like to make the following comments concerning the implementation of Recommendation 110. Experiences show that above-ground

electricity transmission facilities still constitute a risk to birds and particularly raptors and owls. The efforts to reduce this risk therefore have to continue. The Swedish EPA notes that information about the Bern Convention Recommendation 110 is not widely known. In the absence of legislation or clear guidelines with a purpose to minimize threats to birds from electricity transmissions facilities, it is likely that the implementation of such measures very much depend on the interest of an individual person in the authority and company concerned. The EPA will consider the best way of making the content of the document more known, and means to have a more efficient implementation in relevant authorities, companies and other bodies.

For the Swedish Environmental Protection Agency

Follow-up of Recommendation 110 (2004) of the Bern Convention Standing Committee in United Kingdom

Summary

1. The UK takes a number of steps to reduce the risks to birds from power lines. In specific areas for example where bird populations are large or where a particular species is present, consideration is given to taking mitigating action, having regard to the need to maintain power supplies and the need to ensure that the cost of that activity is proportionate.
2. UK power lines are not designed specifically with birds in mind, but the vast majority of lines cause no problems to birds at all. The measures the UK currently takes to minimise the adverse effects of power lines are described in detail below and are believed to be cost-effective and proportionate.

To avoid electrocution

3. Electricity companies have responsibility for power line design, including supporting poles, however it is believed that many of the most dangerous types are not used in the UK.
4. Planning applications and/or proposals from power companies to modify or upgrade power lines are considered by Government and its scientific advisers. This provides an opportunity for comments to be made on the implications for birds (and for any other potential issues).
5. There is some evidence that birds can be electrocuted if they perch or attempt to land on the structures supporting power lines. Small birds are at less risk as they are not large enough to come into contact with two lines simultaneously. Larger birds are at greater risk as they can bridge the gap (typically between 1m and 1.4m) between two lines. Measures to reduce the risk of electrocution have included deterring birds from using the cross-arm as a perch or by the application of shrouding. Another option is to provide a more attractive perch to encourage the bird away from the power lines. These solutions have been used in specific sites and in relation to particular species.

To avoid collisions and reduction of habitat availability while improving air safety

6. Placing new power lines underground is considered where this is appropriate, having regard to the cost and the possible habitat damage which might result compared to the benefits to issues such as the landscape and the probability of collisions.
7. Work is underway in Scotland to develop guidance for power line surveys which is designed to ensure that lines avoid significant areas of bird interest. This guidance, along with common protocols are recommended to companies considering new or upgraded power lines.
8. Where collisions are occurring in the UK, steps are often taken to prevent this by increasing the visibility of the lines to birds. This includes attaching marker discs and balls and other flight diverters to the lines; the size, shape, design and colour of the markers are generally determined by the species concerned. If these measures do not sufficiently reduce the number of collisions, the electrical risk can be reduced by insulating the line. This can be achieved by the application of shrouding, or by replacing the bare wires with insulated wires, depending on the loading on the line itself and on the particular voltage being transmitted.

Considering replacing underground overhead power-lines in areas of exceptional high interest for birds

9. Where lines require upgrading or replacement, placing them underground is considered as an option. As well as the financial implications however, there may be issues of habitat damage or loss which may militate against undergrounding, including lines that pass through protected areas.

Systematically collect information with respect to collisions and electrocutions

10. UK electricity companies generally maintain coded information to record evidence of bird strikes in general (and swan strikes specifically). Faults on the lines resulting from bird strikes are also

recorded. These reports generally relate to the power lines rather than the birds themselves; information about individual birds may however be held informally and locally in some cases.

Christine Rumble

UK Representative to Bern