Report on

the Assessment of

the Geographical BSE-Risk

(GBR) of the

SLOVAK REPUBLIC

MARCH 2001

NOTE TO THE READER

Independent experts have produced this report, applying an innovative methodology by a complex process to data that were voluntarily supplied by the responsible country authorities. Both, the methodology and the process are described in detail in the final opinion of the SSC on "the Geographical Risk of Bovine Spongiform Encephalopathy (GBR)", 6 July 2000. This opinion is available at the following Internet address:

<http://europa.eu.int/comm/food/fs/sc/ssc/outcome_en.html>

In order to understand the rationale of the report leading to its conclusions and the terminology used in the report, it is highly advisable to have read the opinion before reading the report. The opinion also provides an overview of the assessments for other countries.

FULL REPORT

1. DATA

- The available information was sufficient to carry out a qualitative assessment of the GBR.

Sources of data

Country Dossier consisting of:

- Country Dossier of 21 December 1998.
- Import statistics of Slovak Republic, received 30 June 1999.
- Basic questionnaire for the assessment of the geographical BSE risk, received 30 October 2000.
- Information provided by the competent authority of the Czech Republic (13 October 1998, 19 July 1999)
- Answer of the Slovak Republic to the initial draft report, received on 12 January 2001.
- Comments of the Slovak Republic on draft final report, received on 26 February 2001.
- Meeting with country expert on 20 March 2001.

Other sources:

- EUROSTAT Year Book on Candidate and South-East European countries 2000
- EUROSTAT data on export of "live bovine animals" and on "flour, meal and pellets of meat or offal, unfit for human consumption; greaves", covering the period 1988 to 1999.
- UK-export data on "live bovine animals" 1980-1998, and on "Mammalian Flours, Meals and Pellets", 1980-2000. As it was illegal to export mammalian meat meal, bone meal and MBM from UK since 27/03/1996, exports indicated after that date may have included non-mammalian MBM.

2. EXTERNAL CHALLENGES

The Slovak Republic is independent since 1993.

2.1 Import of cattle from BSE affected countries

Table 1 provides an overview of the import of live cattle into the Slovak Republic, as provided in the country dossier (CD) and compares this with the exports from BSE-affected countries, as indicated in Eurostat and UK export statistics.

Period before 1993 (Czechoslovakia)

- In 1981, three young breeding bulls were imported from UK into Czechoslovakia. All three have been slaughtered in 1987 and entered the food chain.

- Between 1988-1992 Eurostat recorded 6,459 live cattle exported to Czechoslovakia from BSE-affected countries other than UK, mostly DE (4,910 animals) and FR (927) but also DK (430), NL (189) and BE (3). The country import statistic indicated only 877 animals in total, claiming that these represent the part of all imported cattle that were imported to the Slovak part of former Czechoslovakia. However, it is noted that if added to data on cattle imported into the Czech part of former Czechoslovakia that were provided in the Czech

dossier (2,858), the imports jointly acknowledged by these two countries (3,735) do not add up to the exports registered in the Eurostat export statistics (6,459).

- Period since 1993 (Slovak Republic)

General Border Inspection Posts import (documentary, identification and physical checks) and quarantine (documentary, identification, physical and analytical checks) procedures were described in details but no reference to legal / regulatory basis for these procedures is made. It is not indicated since when they are enforced (only one reference to an instruction of December 2000 on sampling procedures is made).

Records of import controls are kept by border inspection posts and official inspectors in charge of controls at the place of destination.

Since 2 April 1996, all imports of cattle were banned as well as transit of cattle through the territory of the Slovak Republic of cattle originating from UK, IRE, PT, FR and CH. These measures were extended to other countries as follows: BE, NL, Lux, in 1997; Liechtenstein in 1998; DK, DE and SP in 2000; IT in 2001.

Since 9 July 1998, all imported animals from BSE affected countries are under official veterinary supervision, their progeny is identified and all movements are recorded. Since January 2001, lists of imported animals are established, as well as records of movements monitored since 98.

However, it is not clear why cattle were imported from FR after 1996 (around 320 in 1998-99) despite the Slovakian ban enforced since April 1996 for that country and from NL (in 2000, not shown in Table 1), despite the Slovakian ban enforced since 1997 for that country. No explanations were given.

It is also understood from the country dossier that the State Veterinary Service has decided from January 2001 to stop negotiating import conditions for animals coming from any BSE affected country. This corresponds to a full de facto ban for all the countries concerned (apparently before that date some imports were authorised from these countries on case by case basis despite the bans as described above but no indication on specific agreements were provided).

Different set of cattle import figures were provided by the country dossier, in decreasing order of magnitude they correspond to data coming from different sources as follows:

- an electronic database of all individual permissions for the import of cattle since 1995 kept by the State Veterinary Administration (setting of maximum number of animals which can be imported into the Slovak Republic, with information on animal origin);
- numbers of imported animals (as recorded and provided by the Slovakian Customs Services);
- numbers of cattle actually imported which were placed under import quarantine in the place of consignment destination and therefore controlled (as recorded and provided by the State Veterinary Administration). The quarantine of imported animals was and is under the direct control of the district veterinary administration that has the obligation to keep the logbooks of quarantines of imported animals.

The CD figures presented in Table 1 below correspond to the last data provided by the State Veterinary Administration of the Slovak Republic.

From 1993 to 1999 cattle were imported from DE and from NL, DK, FR, BE, CH and IT. The total of imported cattle recorded in the country dossier was 6,636 animals, in Eurostat it was 6,242, which is in the same order of magnitude.

According to the country dossier, all imported animals were intended for breeding. The average age at slaughter of these imported animals varies between 59 and 90 months (approximately 5 and 7.5 years of age).

The CD provided very detailed information on final destination of all imported cattle (per farm of destination). Depending on countries of origin, on the basis of information provided by the country it appears that 20% (this is the case for animals imported from NL) to 60% (this is the case fore animals imported from FR) of animals imported since 1993 were still alive on March 2001 (around 2,600 animals in total). The rest was either recorded as dead on the farm (fallen stock) or slaughtered and therefore was rendered (around 5,000 animals in total).

It is concluded that even if one considers that only a third of all imported animals are still alive (this is the case for animals imported from DE, main country of origin of cattle imported into the Slovak Republic), this would not change the external challenge due to imports of live cattle faced by the Slovak Republic since 1993.

Import of live cattle (n/year) into SLOVAK REPUBLIC from BSE-affected countries																			
	Origin:	**UK**			**CH**	**FR**		**BE/Lux**		**NL**		**DK**		**DE**		**IT**		**Non-UK**	
	Source:	**CD**	**EU**	**UK**	**CD**	**CD**	**EU**	**CD**	**EU**	**CD**	**EU**	**CD**	**EU**	**CD**	**EU**	**CD**	**EU**	**CD**	**EU**
Former Czechoslovakia	**1980**				*Not addressed °*														
	1981	3		3															
	1982																		
	1983																		
	1984																		
	1985																		
	1986																		
	1987																		
	80-87°:	**3**	**0**	**3**	**0**	**0**		**0**		**111**		**9**						**120**	**0**
	1988										10		10		329				349
	1989						38				20		19		457				534
	1990												196	74	638			74	834
	1991						61				1		178		1,291				1,531
	1992						828		3	190	158		27	529	2,195			719	3,211
	88-92:	**0**	**0**	**0**	**4**	**1**	**927**		**3**	**190**	**189**	**67**	**430**	*** 615**	**4,910**			*** 877**	**6,459**
Slovak Republic	**1993**				4	24	28			178	309			249	205			455	542
	1994									87	269			116	571	2	4	205	844
	1995					187	177			1,718	574			470	303				1,054
	1996					110	120	104	104		306			603	367			3,192	897
	1997									223	212	186	186	1,187	1,289	74	73	1,670	1,760
	1998						268					234	235	199	188		285		976
	1999					320	54					35	35	62	52	264	28	1,114	169
	93-99:	**0**	**0**	**0**	**4**	**641**	**647**	**104**	**104**	**2,206**	**1,670**	**455**	**456**	**2,886**	**2,975**	**340**	**390**	**6,636**	**6,242**

Table 1: Live Cattle imports. Shading indicates period of different risk that UK-exports carried the agent, 1988-1993 being the period of highest risk. ° Indicates the numbers provided by the Czech Republic as covered in the Questionnaire of Oct. 2000. Sources: CD = Country Dossier, EU = Eurostat, UK = Export data from UK. The thick line indicates the division of Czechoslovakia into two countries. Bold lines for 1996 and 1997 rows indicate years of Slovakian cattle import ban for the countries concerned. / * = Total exceeding the corresponding column as some figures were not broken-down per year of import for the corresponding period. / ° *"Not addressed"* because different country and absence of complete data for the corresponding period.

2.2 Import of MBM or MBM-containing feedstuffs from BSE affected countries

Table 2 gives an overview about the MBM-imports into the Slovak Republic, as provided in the country dossier and compares it with the Eurostat and UK-export statistics.

Period before 1993 (Czechoslovakia)

- According to the country dossier (CD), no MBM imports have taken place from UK. It is stated that reasons for this were both economical and political. During the socialist regime, feed was, according to the planned economy, to be produced by national resources.

- Only feedstuffs from Belgium were imported since 1980 (several tens of tons, exact numbers are not available in the CD) for pig and poultry feed. According to CD, when BSE occurred in Belgium (1996), these imports were stopped. However, Eurostat figures show some exports from Belgium after that date and the Slovakian ban for Belgium occurred in 1997.

- According to the Slovak authorities, before 1993 the import company (in the Czech Republic) asked the Central Control and Testing Institute for Agriculture in Prague for the registration and the company could sell the imported MBM to the manufacturers of feed mixtures also in the Slovak Republic. Slovakia considers it is impossible to find out the exact import figures because the import companies from this period do not exist any more in the Czech Republic.
- According to Eurostat, 12,837 tons of MBM have been exported between 1980 and 1992 to Czechoslovakia (CSSR) from FR (7,850 t, 1988-92), DE (4,527 t; 1980-92) and BE (460 t; 91/92).

Period since 1993 (Slovak Republic)

Since 2 April 1996, all imports of MBM and feedingstuffs derived from ruminants originating from UK, IRE, POR, FR and Switzerland were banned. This was changed on 25 June 1996 and imports of all kind of MBM were banned. These measures were extended to other countries as follows:

- BE, NL, Lux, in 1997;
- Liechtenstein in 1998;
- DK, DE and SP in 2000;
- IT in 2001.

However, it is not clear why MBM were imported from BE/Lux after 1997 (around 900 tonnes in 1998-99) and NL (in 2000) despite the Slovakian ban enforced since 1997 for these countries. No explanation was given.

It is also understood from the country dossier that the State Veterinary Service has decided from January 2001 to stop negotiating import conditions for MBM and feedingstuffs coming from any BSE affected country. That includes feedingstuffs for pet animals containing animal proteins (except milk and fishmeal). This corresponds to a de facto ban of export for the countries concerned.

- The import of any feedingstuffs in the Slovak Republic could and can only be realised when the feedingstuff is registered. Based on the data of the Central Control and Testing Institute for Agriculture and of the State Veterinary Administration of the Slovak Republic that keep

registers of feedingstuffs, Slovakia initially stated that no imported MBM was registered (no import licence delivered) from other countries than Austria. According to the initial country dossier, the only EU Member State exporter in the year 1993 - 1999 was Austria (no quantity specified) **"**not Belgium, Germany and France". According to the CD, no MBM was imported from these countries into the Slovak Republic.

- However, the State Veterinary Administration of the Slovak Republic confirmed later that according to the Customs Services of the Slovak Republic, some MBM had actually been imported into the Slovak Republic. The Slovakian Customs figures are presented in Table 2 below.

- For completeness of information, it is noted that in total, 9,476 tonnes of MBM were imported from Austria and 250 tonnes from the Czech Republic since 1993.

Import of MBM, MM, BM or greaves (t/year) into SLOVAK REPUBLIC from BSE-affected countries

	Origin:	UK			FR		BE/Lux		NL		DE		DK	Non-UK	
	Source:	CD	EU	UK	CD	EU	CD	EU	CD	EU	CD	EU	CD	CD	EU
Former Czechoslovakia	80-85:	*Not addressed °*													
	1986	No CD data			No CD data		No CD data		No CD data		No CD data		No CD data	No CD data	
	1987														
	1988					1,950									1,950
	1989					4,000									4,000
	1990														
	86-90:		**0**	**0**		**5,950**									**5,950**
	1991					1,060		460				260			1,780
	1992					840						4,267			5,107
	91-92:		**0**	**0**		**1,900**		**460**				**4,527**			**6,887**
Slovak Republic	**1993**								*	1	732	503	20	752	504
	1994				3				*	29	423	353	55	481	382
	1995								*		355	397	18	373	397
	1996						24		3		10	6	5	42	6
	1997						514	516		25	54	30		568	571
	1998						686	686			30	7		716	693
	1999						138	231			5	3		143	234
	94-99:	**0**	**0**	**0**	**3**	**0**	**1,362**	**1,433**	**3**	**55**	**1,609**	**1,299**	**98**	**3,075**	**2,787**
	2000								4		3	46	11		

Table 2: MBM-imports. Shading indicates period of different risk that exports carried the agent, 1986-1990 being the period of highest risk for UK imports while 1994-1999 UK-exports are assumed to have been safer than exports from other BSE-affected countries. Sources: CD = Country Dossier, EU = Eurostat, UK = UK-Export statistics. / * = Well below 1 tonne. / ° *"Not addressed"* because different country and absence of complete data for the corresponding period.
The thick line indicates the division of Czechoslovakia into two countries. Bold lines for 1996 and 1997 rows indicate year of Slovakian MBM import ban for the countries concerned

On the basis of the available information, it is concluded that even if it is assumed that exports from EU Member States to Czechoslovakia between 1988 and 1992 went mainly (two third according to the Slovakian authorities) to the Czech part of the country (where the importer was based), around 4,000 tonnes in total (one third of total imports for the corresponding period) went to the Slovak part of Czechoslovakia before 1993. In addition some significant MBM imports (around 3,000 tonnes) from BSE affected countries to the Slovak Republic are recorded after 1993.

2.3 Overall assessment of the external challenge

The level of the external challenge that has to be met by the BSE/cattle system is estimated according to the guidance given by the SSC in its final opinion on the GBR of July 2000.

It appears that the challenge resulting from live cattle imports has been moderate between 1988 and 1992 due to cattle imported from UK and from DE, FR, DK, IT and NL into Czechoslovakia and moderate since 1993 due to imports of cattle from BE, DE, DK, FR, IT, NL and CH by the Slovak Republic.

Between 1986 and 1992 a high external challenge resulted from imports into Czechoslovakia of MBM from non-UK BSE affected countries. Since 1993 the imports of MBM into Slovakia from BE, DE and NL posed a high external challenge due to exports to the Slovak Republic.

<table>
<tr><th colspan="6">External Challenge experienced by SLOVAK REPUBLIC</th></tr>
<tr><th colspan="3">External challenge</th><th colspan="3">Reason for this external challenge</th></tr>
<tr><th></th><th>Period</th><th>Level</th><th>Cattle imports</th><th>MBM imports</th><th>Comment</th></tr>
<tr><td rowspan="3">Former Czechoslovakia</td><td>1980 – 1985</td><td rowspan="2">Not addressed *</td><td rowspan="2">Not addressed *</td><td>Not addressed *</td><td rowspan="2"></td></tr>
<tr><td>1986 – 1987</td><td rowspan="2">High</td></tr>
<tr><td>1988 - 1992</td><td>High</td><td>Moderate</td><td>Mainly due to MBM-imports from non-UK BSE-affected countries</td></tr>
<tr><td>Slovak Republic</td><td>1993-1999</td><td>High</td><td>Moderate</td><td>High</td><td>Mainly due to MBM-imports from non-UK BSE-affected countries</td></tr>
</table>

Table 3: External Challenge resulting from live cattle and/or MBM imports from the UK and other BSE-affected countries. The Challenge level is determined according to the SSC-opinion on the GBR of July 2000. * *"Not addressed"* because incomplete data for the corresponding period

On the basis of the available information the overall assessment of the external challenge is as given in the table above. It is assessed that Slovakia was exposed to a high external challenge, and a high external challenge was also experienced by Czechoslovakia between 1988 and 1992, mainly due to MBM-imports of which a certain fraction ended-up in Slovakia, mainly due to MBM-imports from France, Germany, Belgium and NL.

3. STABILITY

3.1 Overall appreciation of the ability to avoid recycling of BSE infectivity, should it enter processing.

Feeding:

In the former Czechoslovak Socialist Republic -CSSR- (-1993)

A commission for prescription of feedingstuffs balanced during 1980-1992 sources of feeding raw materials with needs of planned agricultural production. Because of the financial disadvantage, animal proteins were not included into compound feed for ruminants. These raw materials were only included in pig and poultry feed. The composition of compound feedingstuffs prescriptions that was issued by the Ministry of Agriculture was binding for all producers of compound feeds and it was not allowed to modify them. No information on feed controls during the period 1980-1992 is provided.

A feed ban, prohibiting feeding of ruminant and mink MBM to ruminants, was established on 4/6/1991 on the basis of an Order of the Director General of the State Veterinary Service of the CSSR. According to the dossier of the Slovak Republic this ban was issued by the State Veterinary Administration of the Czech Republic and it was valid only in the current Czech Republic part of the country. This tends to indicate that this ban might not have been enforced nor complied with throughout Czechoslovakia (notably in the Slovak part of the country) between 1991 and 1993.

Detailed figures were provided on the level of production of feedingstuffs by the Czech Republic dossier. It demonstrates that important quantities of cattle compound feed were (1,7 million tonnes i.e. 32% of total production of feedingstuffs in 1980, 1,8 millions tonnes i.e. 36% of total in 1985) and are still produced (10% of total production since 1991, i.e. 420,000 tonnes per year in average).

Slovak Republic (1993-):

It was stated that proteins of animal origin were never used in prescriptions of compound feedingstuffs intended for cattle in the Slovak Republic. According to the country dossier, all imported MBM was exclusively used in feed mixtures for pigs, poultry or pet food. Limited financial means were earmarked for the import of feedingstuffs and were intended for buying raw materials which were not manufactured in the Slovak Republic (extracted soybean and peanut oil meal, fish meal and feed additives - vitamins, aminoacids for manufacture of premixes).

The Slovakian authorities consider that this de facto ban was binding and has always been binding. It was corresponding to National Codex standards that where valid in the Czechoslovakia and is considered in the Slovakian National Feed Legislation since 1993.

According to the Slovak dossier, because of a relative low milk efficiency of dairy cows in the Slovak Republic (3.973 litres / year / cow in 1989 to 4.101 in 1999 with a fall to 2.861 in 1992) it was not necessary to add animal proteins into feed rations of milk cows. The feed ration of milk cows consisted of roughage (silage, haylage, hay, straw) and from the addition of feed mixtures portioned according to the efficiency and reproduction cycle.

The sources of feedingstuffs were from home production and from the import of above mentioned raw materials.

All feed mixture formulas have to be registered in the control office (Central and Control Testing Institute for Agriculture.

Some feed mills are specialised in poultry and piglets feed production, others are alternating pig feed production and cattle feed production. Cleaning and brushing of equipment take place between productions, no reference to flushing was made.

According to the country experts, between 1985 and 1990, a permanent veterinary control checking quality and compliance of final feed products was in place. After 1990, (privatisation of feed mills), regular controls of feed mills by official veterinarians and inspectors of the Plant Institute were in place.

Since 2 August 1994 a feed ban for ruminant MBM to ruminants is added to the Veterinary legislative corpus of the Slovak Republic. The controls were mainly of administrative nature.

A Decree of the Ministry of Agriculture of the Slovak Republic 7 October 1997, forbids to use any animal meal for the production of feed for cattle (MBM ban to ruminants).

The content of new measures on rendering of by-products for the production of feedstuffs for carnivores (pets and fur animals) and monogastric animals announced for July 2001 is not clear.

Results of controls:

Controls were carried out by the inspectors of the state veterinary administration and the Central Control and Testing Institute for Agriculture who did not find out any faults nor any documentary trace of incorporation of MBM in feed mixtures formulae for calves, young cattle, cattle fattening or dairy cows for the period 1996-2000 (no figures provided on number of controls).

Since 1998, ELISA based feed analyses have been carried out for identification of animal proteins in imported animal feedingstuffs. Up to 2001, 4 samples (out of 156) were found positive (presence of ruminant proteins in feedingstuffs which were not allowed for import). These controls have started on domestic MBM only in January 2001 (see chapter on “Cross contamination” below).

In January and February 2001, 65 controls have been carried out on cattle farms. In some cases MBM and fish meals used for poultry mixture manufacturing were found but the controls did not reveal any faults relating to incorporation of animal meal in feed mixtures for ruminants. This confirms that there is some co-farming in the country and a risk of cross-feeding exists.

On the basis of the information available it has to be assumed that feeding cattle with MBM, BM, MM or greaves was possible before 1998 and was still possible until 2001 (beginning of controls on domestic production). It has to be assumed that feeding cattle with MBM cannot be excluded before 2001 when analytical controls on domestic feed started.

Rendering:

CSSR (before 1993):

Bovine raw materials (including bovine brains, spinal cords and fallen stock) as well as other materials (pigs, sheep, goats, poultry and other animal species, cadavers and waste from the agri-food industry processing raw materials of animal origin) have always been rendered for feed production in Czechoslovakia and are still rendered in the Slovak Republic.

The MBM production of the current Slovak Republic territory of former CSSR is at an average of 21,500 tons per year since 1988, increasing from 19,500 tonnes in 1988 to 26,700 tons in 1999. According to CD, all the production is used for pigs and poultry feed production.

Since 1962, legislation (Decree n° 154/1961) provided that condemned material of animal origin had to be processed for 30 minutes at a temperature of 130-140°C, at a pressure of 3 bars.

The plant operator had to keep records of this. The high-risk cattle material was always processed at a rendering plant together with the animal waste originating from other animal species in Czechoslovakia.

According to the country dossier, the rendering processes applied were and are suitable for reducing BSE-infectivity i.e. the 133°C / 20 min / 3 bar standard is respected from 1980 onwards. It is mentioned that in all rendering plants there is an independent registration system, and records are checked and kept by the official veterinarians.

Slovak Republic (1993-):

In the Slovak Republic, two rendering plants closed down in the last three years, there are only three plants at current (two are five / six years old and run a continuous process, one is recent (2 years old) and run a batch process).

According to the country dossier of Slovakia, a great proportion of bones was used in a separate equipment for production of bone glue and gelatine (at present only for gelatine) and a smaller proportion of bones produced at slaughterhouses is processed with other animal wastes in rendering plants. A great proportion of other animal wastes is processed in rendering plants, a small proportion of low risk materials is used for production of pet foods.

The State Veterinary Administration ordered on 15 April 1996 to carry out controls in all rendering plants for the compliance with heat treatment requirements (controls carried out between 19 and 23 April 1996).

Independent recording equipment was introduced that recorded data on the sterilisation process on millimetre paper, then equipment was installed in all rendering plants which records all the monitored values (133°C / 20 min / 3bar) in a computer and evaluates in a graphic and numeric form.

The competent veterinary inspectors carry out controls of records (records are kept and are always available). In all rendering plants since the beginning of operation the official veterinary inspectors carry out the controls and supervision. No data on number of controls carried out and / or on results were provided by the country dossier.

According to CD, on the basis of provisions of "Act N° 337/1998**"** rendering plants must carry out heat treatment of "dangerous special waste" (high risk and low risk material) at 133°C, 3 bar for 20 minutes. An instruction of 1 June 1998 ordered an audit of all 5 rendering plants; it was carried out in June 1998. In total 1,919 samples were taken and tested for the presence of Salmonella and Clostridium perfringens. One sample of meat and bone gruel was positive for Clostridium perfringens. According to CD, all rendering plants were operating at 135 to 140°C for 20 to 25 minutes (no indication on pressure applied).

On the basis of the available information, it has to be assumed that the rendering conditions defined in the 1962 legislation were not controlled and therefore could have been inadequately respected before the strengthening of BSE measures and controls in 1998.

SRM and fallen stock

There is no SRM-ban and SRM and fallen stock have been included in the material rendered for feed production throughout the reference period.

A SRM and fallen stock ban is foreseen for July 2001. Therefore, this information has not been assessed in this report. It is planed to adopt emergency measures in relation to BSE for slaughterhouse operators. The definition of SRM will include the spinal cord, head, including brain, eyes and tonsils, thymus of cattle over 12 months and spleen and bovine intestines of all cattle. Defined SRM collection procedures are foreseen.

Cross-contamination:

According to the CD, before 1993 the control of cross-contamination was not performed at all. Control procedures are detailed in the CD from 1998 onwards only. They began with imported MBM and feedingstuffs and were widened to domestic MBM and feeds in January 2001**.**

According to the country dossier, MBM manufactured in the Slovak Republic (approximately 20 000 tons) were only included in feedingstuffs intended for pigs and poultry and in petfood. In pig feed the average content of animal protein is 2-4%, in poultry feed it varies between 0.5-3%, whereas in petfood it varies between 4-6%. Moreover, composition of compound feedingstuffs prescriptions, issued by the Ministry of Agriculture, was binding for all producers of compound feedingstuffs and it was not allowed to modify them because of the central planning feedingstuffs sources exploitation.

Systematic controls on contamination with ruminant MBM are in place for imported MBM since 1998. The analyses for identification of animal proteins in animal feedingstuffs have been carried out with an ELISA method (sensitivity of 1% according to the Slovak authorities). In 1998 and 2000, 54 and 22 samples respectively have been analysed but no results are mentioned. In 1999, 80 samples were taken of which 4 were positive for ruminant proteins: import of these was not allowed. Since 2001, PCR is also used to detect and identify animal proteins.

The instructions for control of domestic feed mixtures for ruminants for the presence of animal proteins and the measures to prevent cross-contamination during transport of feedstuffs, and on farms have been issued by letter of Order of the Chief Veterinary Officer on 16 January 2001. Samples are taken in all feed mills where also feed mixtures for ruminants are made**.**
It has been specifically ordered to take samples of feed for cattle in feed mills where MBM is used in feed mixtures for pigs and poultry. Up till now no positive results have been found. The

examinations are performed by the test « Q CORTECS Cooked Meat Species Identification Beef/Pork/Poultry/Sheep ».

The State Veterinary Administration of the Slovak Republic has issued instruction to secure specialisation in feedingstuffs manufacturing, separation of transport means for transportation of feedingstuffs for monogastric animals and for ruminants. Labelling of transported feedingstuffs is performed on bags or in accompanying documents for each consignment.

In light of the above-mentioned findings it has to be assumed that cross-contamination of cattle feed, in particular with domestic ruminant proteins, could occur in the former CSSR and later in the Slovak Republic, at least until 2001, mainly due to unsatisfactory preventive measures and lack of sufficient controls.

Conclusion on the ability to avoid recycling

In light of the above-discussed information it has to be assumed that the BSE agent, should it have entered the territory of Slovak Republic would have been recycled and potentially amplified.

3.2 Overall appreciation of the ability to identify BSE-cases and to eliminate animals at risk of being infected before they are processed.

Cattle population structure

In Czechoslovakia data concerning agriculture were kept separately as there were two ministries of agriculture (Czech and Slovakian). The recorded cattle population was as follows:

It is concluded that these two sets of figures are consistent and show approximately (calculation with different sources of information) that the total Slovak cattle population has dropped by 55% between 1990 and 1998, when the total cow population was reduced by 48% during the same period. The sharp drop after 1989 is explained by the fact that central planning was cancelled and state farms were privatised. The state ceased to regulate prices, the milk production was not any more profitable in most farms and farmers decreased the number of cattle reared.

Year	Czech Republic		Slovak Republic	
	Cattle	Cows	Cattle	Cows
1990	3,360,000	1,195,000	1,563,000	549,000
1991	2,950,000	1,036,000	1,396,000	501,000
1992	2,512,000	932,000	1,182,000	429,000

Table 4: Cattle population in Czechoslovakia according to the Czech Statistical office and the Slovak Statistical office (provided in the CZ country dossier)

Year	Slovak Republic	
	Cattle	Cows
1994	916,000	359,000
1995	929,000	355,000
1996	892,000	335,000
1997	803,000	310,000
1998	705,000	284,000

Table 5: Cattle population (94-98) for the Slovak Republic (Eurostat Statistical YearBook 2000)

		Total (all ages)	Over 24 months old				
			Male		Female		
Period			**Meat**	**breeding**	**meat**	**dairy**	**breeding**
1995-1999	N°	747,429	10,890	484	9,768	291,135	39,678
	age*		24-26	48-120	24-26	48-72	36-72
Current	N°	654,232	10,530	460	8,871	270,710	38,960
	age*		24-26	48-120	24-26	48-72	36-72

Table 6: Key data on the cattle population for the Slovak Republic (Source: Country dossier SK; age*: average age at slaughter)

According to the CD, farms of co-operatives and state-owned properties only partially specialised in rearing of individual farm animal species. In 1989, 96% of Slovak cattle and of dairy cows were in state farms, i.e. around 63,000 cattle, of which 25,000 dairy cows were not in state farms (private sector) before the split of Czechoslovakia.

The majority of the cattle population is dairy cattle, which is slaughtered at an age between 4 and 6 years.

A dominant breed reared in the Slovak Republic is the "Slovak Pied cattle" with combined efficiency. Since 1995 the share of Holstein breeds is increasing, mainly in south regions of Slovakia. The Holstein breed is reared in « technologies » (interpreted by the assessors as being "farm units") with a year-long housing (loose and tied), whereas the Slovak Pied and mainly Pinzgau cattle is reared in sub-mountainous and mountain regions in « technologies » using grazing grounds near farms where cattle spend a part of day and milking is performed on farms.

Surveillance and culling

Notification of BSE is compulsory in the Slovak Republic since 23 November 1993 and was already compulsory in the CSSR since May 91. A satisfactory description is given in the country dossier of the criteria for a BSE-suspect. BSE is also presented as part of differential diagnostics of all adult animals with nervous symptoms.

Since 1993 compensation is covering only 20% of "proved loss" of confirmed cases, of BSE-suspects and culled "at risk" material (« proved loss » being defined as the value of an « evaluated animal »).

Awareness and training measures are apparently in place since 1993. Although, the regulation quoted is Act No. 337/1998 Coll. on veterinary care, which sets out the obligation for everybody who in contact with animals has a suspicion of BSE to inform immediately the

competent veterinary authority and according to his/her possibilities to take all the necessary measures to prevent the spread of the disease.

In 1995 an inter-laboratory test was organised by the laboratory of pathology and histology of the State Veterinary Institute in Presov to carry out and to evaluate histology. In 1996, a one-day seminar of the workers of laboratory diagnostics and workers of the Central Laboratory of Neuromedicine of the Slovak Academy of Sciences in histochemistry took place. In 1998 two laboratory workers participated in a seminar on BSE diagnostics in Adleston, UK.

The State Veterinary Institute carries out BSE examination by histological examination. The doubtful and positive results are sent to the Central Laboratory of Veterinary Biomedicine in Bratislava for confirmation.

The examination of BSE is said to be part of a yearly issued plan of veterinary prevention and protection of the state territory of the Slovak Republic since 1996. In this plan all prophylactic and diagnostic actions that shall be done during a year, are included. It is issued by the State Veterinary Administration of the Slovak Republic.

Since 1996 a total of 27 domestic BSE-suspects have been examined, of which 23 were cattle over 24 months of age, 4 were younger than two years. None were found positive for BSE, in all but 4 cases the differential diagnosis was rabies.

Since 1993 the number of CNS- suspects that were analysed annually for BSE are below the OIE requirements. Before 1996 no BSE examinations are reported, as is the case in the Czech Republic.

Year	1993	1994	1995	1996	1997	1998	1999	2000 (until Oct)
Passive surveillance (CNS suspects), All > 24 months	0	0	0	2	* 6	5	8	6
of which, positive for rabies :				2	2	5	8	6
Active surveillance (see text) all > 36 months	0	0	0	37	222	60	41	21

Table 7: Number of CNS suspects annually analysed for BSE + number of non-suspect domestic cattle examined for BSE. * = In 1997, 4 of the 6 CNS suspects were more than 36 months old

In addition to this limited passive surveillance that depends on the notification of BSE or at least CNS-suspects (apparently rabies or listeriosis suspects), “active surveillance” is carried out since 1996 as a consequence of decisions taken within EU.

The strengthening of surveillance in 1996 led to a greater number of examinations in 1997. The monitoring was strengthened mainly in breeding farms into which cattle from "West Europe" were imported. For this purpose imported animals over 3 years of age from countries with BSE occurrence or suspicion were monitored, also animals over 4 years of age with signs of chronic diseases were examined.

At present, the monitoring is aimed at the examination of animals over 24 months imported from BSE-affected countries and of animals over 24 months with CNS and behavioural changes lasting at least 15 days and resistant to treatment. The breakdown of samples of thereof for the period February – 19 March 2001 is presented in Table 8 below. All tests were negative.

Animals	Histological examination of bovine brains							WB
	Up to 30 months			Over 30 months			Total	
	Domestic	Imported	**Total**	Domestic	Imported	**Total**		Imported
Suspicions	0	0	**0**	1	0	**1**	**1**	66
Fallen stock	1	0	**1**	1	4	**5**	**6**	0
Emergency slaughtered	5	0	**5**	3	21	**24**	**29**	0
"Normal" Slaughtering	4	0	**4**	22	24	**46**	**50**	0
Total	**10**	**0**	**10**	**27**	**49**	**76**	**86**	**66**

Table 8: Breakdown of cattle brains examined between February 2001 and 19 March 2001-03-21. / WB = Western-blot.

The monitoring, surveillance and control of BSE in the Slovak Republic in the second half-year of 2001 will be carried out in pursuance of the Commission Decision 2000/374/EC, amending Decision 98/272/EC on epidemiological surveillance for BSE. It is planned to examine 1,890 domestic cattle and around 2,000 imported cattle plus fallen stock, in total according to the country experts, 4,000 tests should be carried out with ELISA tests (ENFER).

The animal "at risk" to be examined are described as follows by the CD:

- imported from BSE affected countries,
- fed with animal meal,
- born from BSE infected dams,
- with suspect clinical signs.

The newly established (January 2001) section of BSE laboratory diagnostics (State Veterinary Institute in Zvolen) will carry out the examination by immunochemical methods after 1st July 2001.

It is concluded that before 2001, immunochemistry testing was not available and BSE examinations were solely based on histology. Surveillance is assessed as not sufficient before 2001.

3.3 Overall assessment of the stability

For the overall assessment of the stability the impact of the three main stability factors and of the additional stability factors, mainly cross-contamination and surveillance plus culling, has to be estimated. Again the guidance provided by the SSC in its opinion on the GBR of July 2000 are applied.

Feeding: The efficiency of the *de facto* Czechoslovakian MBM-ban of 1991 cannot be fully judged but in general including MBM into cattle feed was not allowed, due to feed standards, both in the CSSR and subsequently in the Slovak Republic. Specific Veterinary regulations adopted in Slovakia in 1994 reaffirmed this, however it was limited to an R-MBM ban. Veterinary regulation of 1997 enlarged this to a MBM-ban, making feeding of cattle with any kind of MBM illegal. Analytical controls of imported feed started in 1998, but with very small numbers of samples. In 2001 analytical control of domestic feed started. It was concluded that voluntary feeding was unlikely while cross-contamination was possible until 2001. Therefore feeding is considered "not OK" until 1998 and "reasonably OK" since then.

Rendering is apparently done under conditions that are able to reduce BSE-infectivity but no evidence is provided concerning controls. Accordingly rendering is assessed as "reasonably OK" until 1998 and “OK “ since controls were strengthened in 1998.

SRM-removal: There is no SRM ban and SRM is normally rendered. Therefore SRM removal was "not OK" throughout the reference period.

Other stability factors: Cross contamination is reducing the efficiency of the feed-ban and BSE surveillance is found to be inefficient until 2001 when active BSE-surveillance was put in place. The other stability factors therefore reduced the stability until 2001.

Stability of the BSE/cattle system in SLOVAK REPUBLIC over time						
Stability			**Reasons**			
	Period	**Level**	**Feeding**	**Rendering**	**SRM**	**Other**
Former Czechoslovakia	**1980-1992**	**Very Unstable**	Not OK	Reasonably OK	Not OK	
Slovak Republic	**1993- 1997**	**Very Unstable**	Not OK	Reasonably OK	Not OK	
	1998 - At current	**Neutrally Stable**	Reasonably OK	OK		

Table 9: Stability resulting from the interaction of the three main stability factors and the other stability factors. The Stability level is determined according to the SSC-opinion on the GBR of July 2000.

On the basis of the available information it has to be concluded that the country's BSE/cattle system was very unstable until 1997 and is neutrally stable since 1998.

4. Conclusion on the resulting risks

4.1 Interaction of stability and challenges

The conclusion on the stability of the Slovak Republic BSE/cattle system over time and on the external challenges the system had to cope with, are summarised in the table below. From the interaction of the two parameters "stability" and "external challenge" a conclusion is drawn on the level of "internal challenge" that emerged and that had to be met by the system, in addition to external challenges that occurred.

When the high external challenge that occurred between 1988-92 in Czechoslovakia met the very unstable system an internal challenge became likely.

After 1993 the BSE/cattle system of Slovak Republic was again exposed to a high external challenge while being very unstable until 1997 and neutrally stable after 1998.

This led again to an internal challenge when domestic cattle were exposed to the imported BSE-agent. At the same time, the very unstable system would have recycled and amplified the

BSE agent that was presumably already in the country, due to external challenges experienced before 1993.

The continuing external challenges supported this development.

INTERACTION OF STABILITY AND EXTERNAL CHALLENGE IN SLOVAK REPUBLIC				
Stability			**External Challenge**	**Internal Challenge**
	Period	**Level**	**Level**	
Former Czechoslovakia	**1980-1987**	**Very unstable**	***Not addressed ****	***Not addressed ****
	1988-1992		**High**	**Likely present and growing**
Slovak Republic	**1993-1997**	**Very unstable**	**High**	**Likely present and growing**
	1998 - At current	**Neutrally stable**		

Table 10: Internal challenge resulting from the interaction of the external challenge and stability. The internal challenge level is determined according to guidance given in the SSC-opinion on the GBR of July 2000. * *"Not addressed"* because different country and absence of complete data for the corresponding period.

When the high external challenge that occurred between 1988-92 in Czechoslovakia met the very unstable system an internal challenge became likely. This would have been recycled and amplified by the system that, also after the end of the CSSR, remained very unstable until 1997. The resulting increase of the internal challenge was further supported by the continuously high external challenge experienced by the Slovak Republic, resulting from both live cattle and MBM imports from BSE-affected countries.

An external challenge resulting from cattle import could only lead to an internal challenge once imported infected cattle were rendered for feed and this contaminated feed reached domestic cattle. Cattle imported for slaughter would normally be slaughtered at an age too young to harbour large amounts of BSE-infectivity or to show signs, even if infected prior to import. Breeding cattle, however, would normally live for 10 years or more. Only animals having problems would be slaughtered younger. If being at an age of 4-6 years when slaughtered, they could approach the end of the BSE-incubation period and harbour, while being pre-clinical, as much infectivity as a clinical BSE-case. Hence the date when cattle imports could have led to an internal challenge is about 3 years after the import of breeding cattle that could have been infected prior to import. In the case of the Slovak Republic this could have happened in the early 90s. Special measures taken to avoid processing of imported cattle into feed could reduce the risk of this happening but were only taken recently.

Imports of contaminated MBM, MM, BM or Greaves would lead to an internal challenge in the same year of import, if fed to cattle. Contaminated MBM could have been imported in the late 80s (88/89) into the CSSR. This would have led to an internal challenge shortly after import, most likely in both parts of the Czechoslovakia, the Czech and the Slovak territory.

4.2 Risk that BSE infectivity entered processing

Given the fact that the potentially BSE-incubating cattle were imported since 1988, a risk that BSE infectivity entered processing first existed about 3 years after the import of breeding cattle that were potentially infected, i.e. from 1991 onwards. At that time some animals might have been prematurely slaughtered on the Slovak territory because of productivity loss, unclear diseases etc. Being about 5 years old they could have been approaching the end of the incubation time.

If cattle were exposed to infective imported feed stuff of MBM, infected domestic cattle approaching the end of the incubation period could have reached processing about 4-6 years after the critical imports, i.e. from 1993 onwards.

Given the instability of the system before 1998 and the continuing imports, this risk grew over time.

4.3 Risk that BSE infectivity was recycled and propagated

Given that the BSE-agent probably reached processing in the early 90s, and that the system was and is unstable, a risk that BSE infectivity was recycled and amplified exists since the early 90s.

Given the instability of the system, this risk grew over time.

5. CONCLUSION ON THE GEOGRAPHICAL BSE-RISK

5.1 The current GBR as function of the past stability and challenge

- The current geographical BSE-risk (GBR) level is III, *i.e. it is likely but not confirmed* that domestic cattle are (clinically or pre-clinically) infected with the BSE-agent**.**

5.2 The expected development of the GBR as a function of the past and present stability and challenge

- As long as the system remains neutrally stable, the probability of cattle to be (pre-clinically or clinically) infected with the BSE-agent will remain as it is, as long as no further external challenge occurs.
- Any further external challenge would again increase the GBR.
- If the stability is improved and this improvement is confirmed by favourable control results on feeding, rendering and SRMs, the GBR will decrease over time.

5.3 Recommendations for influencing the future GBR

- Improving the stability of the system will, overtime, reduce the GBR. Of particular importance is to avoid any MBM being fed to cattle. The planned exclusion of SRM and fallen stock from entering the feed cycle will, together with better feed controls and improved controls on rendering that have already been initiated, make the system stable.

- Improved surveillance, as already started, will provide a better basis for assessing the GBR and of the efficiency of measures taken.