Final report on

the updated assessment of the

Geographical BSE-Risk (GBR) of

SLOVENIA - 2002

13 September 2002

NOTE TO THE READER

Independent experts have produced this report, applying an innovative methodology by a complex process to data that were 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 and its update of 11 January 2002. These opinions are available at the following Internet address:

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

This report, and the opinion of the SSC based on it, are now serving as the risk assessment required by the TSE-Regulation (EC) 999/2001 for the categorisation of countries with regard to their BSE status. The final BSE status categorisation depends also on other conditions as stipulated in annex II to that TSE-Regulation.

1. DATA

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

Sources of data

- Country dossier (CD) consisting of information provided from the country's authorities for the first GBR assessment and additional information provided in 2001 and 2002.

Other sources:

- EUROSTAT data on exports of "live bovine animals" and of "flour, meal and pellets of meat or offal, unfit for human consumption; greaves" (customs code 230110), covering the period 1980 to 2001.
- UK-export data (UK) on "live bovine animals" (1980-1996) and on "Mammalian Flours, Meals and Pellets", 1988-1996. As it was illegal to export mammalian meat meal, bone meal and MBM from UK since 27/03/1996, exports indicated after that date under customs code 230110 should only have included non-mammalian MBM.
- Export data provided by Cyprus, the Czech Republic, Estonia, Hungary, Lithuania, Romania, Slovenia and Switzerland.

2. EXTERNAL CHALLENGES

Slovenia has been independent since 26 June 1991. According to CD, full control of the external borders was established in 1992. Slovenia was recognised on 15 January 1992 by the European Community. For the purposes of this assessment as indicated by the country experts, Slovenia is considered as fully independent since 1992.

2.1 Import of cattle from BSE-Risk[1] countries

Table 1 provides an overview of the exports of live cattle from BSE risk Member States into the former republic of Yugoslavia.

Table 2 provides data on the imports/exports of live cattle from BSE risk countries, i.e. countries already assessed as having GBR III or IV or that have notified at least one domestic BSE case:

- to the Slovenian part of the former republic of Yugoslavia for the period between 1980 and 1992 based on CD data, and
- to Slovenia for the time since 1992 based on CD data, Eurostat, UK export statistics and data submitted by other GBR III and IV countries.

[1] BSE-Risk countries are all countries already assessed as GBR III or IV or with at least one confirmed domestic BSE case.

Former Yugoslavia (from 1980 - 1991)

Eurostat does not provide a breakdown of exports to different parts of former Yugoslavia. According to Eurostat, no animals were exported from UK to Yugoslavia between 1980 and 1992 (this is confirmed by UK export data). On the other hand between 1980 and 1992 Yugoslavia received significant numbers of animals (31,000 cattle) exported from other BSE risk countries than UK, mainly from DE, CH, NL and FR.

Export of live cattle (n/year) to former YUGOSLAVIA
From EU-Member States and Switzerland

Period	**CH**	**UK**		**IT**	**DE**	**NL**	**DK**	**FR**	**SP**	**All BSE-risk countries**
Source	**CH**	**EU**	**UK**	**EU**	**EU**	**EU**	**EU**	**EU**	**EU**	
1980	32									32
1981	306				913					1,219
1982	328			(169)	1,137		(670)			1,465
1983	150				945	(36)		100		1,195
1984					700					700
1985				10	598			20		628
1986					106					106
1987					2,078					2,078
1988					688					688
1989	160			29	922			10		1,121
1990					5,177	269		245	64	5,755
1991				2	15,945			66		16,013
Total	**976**	**0**	**0**	**41**	**29,209**	**269**	**0**	**441**	**64**	**31,000**

Table 1: Live Cattle exports to former Yugoslavia from a number of the BSE risk countries. Values in brackets show imports outside the assumed BSE risk period. Sources: EU = Eurostat for former Yugoslavia, UK = Export data from UK, CH= Export data from Switzerland.

The data provided by the Slovenian authorities on imports of cattle from BSE risk countries to the Slovenian part of former Yugoslavia (before 1992) are included in table 2. It cannot be excluded that also part of other exports from BSE risk countries to former Yugoslavia entered the Slovenian part of the country, be it in contradiction to the official destination or due to internal trade in former Yugoslavia. The country experts commented on this indicating that there was no free trade between the six states of the former Federation of Yugoslavia. All animal movements between Yugoslavian states were subject to certification and payment of a veterinary fee (specific veterinary service and regulations for each state, but common custom services at external borders). Therefore, Slovenia considers that all cattle movements between Yugoslavian states were recorded and known.

Slovenia (since 1992)

According to the CD, no cattle have ever been imported from UK. This is confirmed by the UK and Eurostat export statistics.

According to Eurostat, since 1992, more than 3,200 animals were exported from non-UK Member States (AT, DE, DK, FR, IT and NL) to Slovenia. The CD indicates much higher imports of more than 490,000 animals from BSE risk countries, as it includes imports from some BSE risk countries outside the EU, mainly from HU, CZ, PL and SK.

Imports to the Republic of Slovenia of bovine animals have been banned from GB, IE, FR, CH, PT, BE, NL, DK, ES, DE, IT when BSE has been detected in domestic animals:

- in 1996, from GB (it is assumed that it covered UK), IE, FR, CH, PT;
- in 1998, from BE and NL;
- in 2000, from DK, ES and DE;
- in 2001, from IT.

Since May 1996, on the basis of Article 28 of the Veterinary Practice Act, imports of bovine animals have been banned for all animals not fulfilling the following conditions:
- animals must originate from establishments where in the past 6 years BSE has not been detected,
- animals have not been fed with meat-and-bone meal or proteins of animal origin, and
- they should be aged less than 30 months.

- According to the CD, a total of 492,792 animals were imported from BSE risk countries to the Slovenian part of former Yugoslavia (before 1992) and to Slovenia since 1992. The data for the Slovenian part of former Yugoslavia during the period 1980-1991 were prepared by the Slovenian Customs Administration on the basis of final destination declared at the time of import and on veterinary fee collection data.
- In addition, more than 120,000 cattle have been imported from former Czechoslovakia until 1992. Other imports came from Bosnia and Hercegowina (129), Croatia (38,629), Former Yugoslavian Republic of Macedonia (90) and the Former Republic of Yugoslavia (2,825).
- Data provided in the CD on imported cattle give details on the respective animal categories (e.g. bulls for fattening, cows for breeding etc.). Of the total number of imported cattle (492,792) it is said that a large proportion (around 420,000 cattle) was imported for fattening or immediate slaughter at an age below 30 months. Detailed information on the imported cattle categories is available in the CD.
- The Slovenian authorities traced imported breeding cattle and found that more than 1,000 were still alive in May 2001.

Note: a large proportion of the live cattle imports that carried a risk of BSE could not be taken into account for the first GBR-assessment carried out in 2001 because the GBR-level of the exporting countries was not yet known.

Country	Data	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	0	1	Total
Austria	CD											81	51	1104	94	10	55	343	34	2	4			1778
	other																92	343	34	11	4	1		485
Czech Rep.	CD														23531	3004	3891	3010	18572	3088	2674	1348		59118
	other																	2580	6560	2625	2795	2228	122	16910
Denmark	CD												31	29							292	164		516
	other																				301	202		503
France	CD						21				40					36	175							272
	other															36	175							211
Germany	CD											764	647	4	118	128	120			26	361	319		2487
	other														69	76	131	2		26	279	264		847
Hungary	CD			72	9	79	186	239	157	505	7878	84816	6657	45930	8365	54639	21031	21002	18230	9130	11619	13065		303609
	other														7680	17989	15923	9475	5525	9145	10763	12060		88560
Italy	CD						10				78	205	2	66	46	68	96				4	10		585
	other														9	8			2		6	10		35
Netherlands	CD																453							453
	other																402			748				1150
Poland	CD								810	4837	4328	12969	232	74		1249	4716	2876	5697	14591	17639	17446		87464
	other																							0
Romania	CD												42	58	34	606								740
	other																							0
Slovak Rep.	CD														26098	3756	259	807	1384	1184	1167	1115		35770
	other																							0
UK	CD																							
	other																							
ALL TOTALS																								
non UK	CD	0	0	72	9	79	217	239	967	5342	12324	98835	7662	47265	58286	63496	30796	28038	43917	28021	33760	33467	0	492792
	other	0	0	0	0	0	0	0	0	0	0	0	0	0	7758	18109	16723	12400	12121	12555	14148	14765	122	108701
UK	CD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2: Cattle imports (CD) into Slovenia and corresponding cattle export data (other) from BSE risk countries. For EU Member States the "other" data source is Eurostat and export data from Third Countries. For UK the data are also confirmed against the UK's own export statistic. Data on imports before 1992 were provided by Slovenia in the CD and refer to the proportion of the imports to Former Yugoslavia, which remained in the territory of the Slovenian part of Former Yugoslavia. Different shading represents different BSE risk as defined in the SSC opinion of January 2002.

2.2 Import of MBM[2] or MBM-containing feedstuffs from BSE-Risk countries

Table 3 provides an overview of the MBM-exports from EU Member States affected by BSE to the former republic of Yugoslavia.

Table 4 provides data on the imports/exports of MBM from BSE risk countries, i.e. countries already assessed as having GBR III or IV or which have notified at least one domestic BSE case:

- to the Slovenian part of the former republic of Yugoslavia for the period between 1980 and 1992 based on CD data, and
- to Slovenia for the time since 1992 based on CD data, Eurostat, UK export statistics and data submitted by other GBR III and IV countries.

Former Yugoslavia (from 1980 - 1992)

Eurostat does not provide a breakdown of exports to different parts of former Yugoslavia but only global figures. According to Eurostat, no MBM was exported from UK to former Yugoslavia between 1980 and 1992 (this is confirmed by UK export figures). On the other hand, between 1980 and 1992 Yugoslavia received significant amounts of MBM (more than 27,000 tons) exported from other BSE risk Member States, mainly from IT and FR.

Export of MBM, MM, BM or greaves (t/year) to former Yugoslavia from BSE risk countries						
Period	**UK**	**IT**	**FR**	**DE**	**NL**	**non-UK**
1980	0	(7,962)	1,500			1,500
1981	0	(5,878)	580	260		740
1982	0	(7,354)		77	(50)	77
1983	0	14,949				14,949
1984	0	6,014				6,014
1985	0	2,136				2,136
1986	0	464				464
1987	0	124				124
1988	0	623				623
1989	0	251				251
1990	0	239		3		242
1991		24		1		25
1980-1991		**24,824**	**2,080**	**341**	**(50)**	**27,245**

Table 3: MBM exports from BSE risk Member States to former Yugoslavia. Values in brackets show exports outside the assumed BSE risk period[3]. Sources: EU = Eurostat for former Yugoslavia, UK = Export data from UK.

The data provided by the Slovenian authorities on imports of MBM from BSE risk countries to the Slovenian part of former Yugoslavia (before 1992) are included in table 4. It cannot be excluded that also part of other exports from BSE risk countries to former Yugoslavia entered the Slovenian part of the country.

[2] For the purpose of the GBR assessment the abbreviation "MBM" refers to rendering products, in particular the commodities Meat and Bone Meal as such; Meat Meal; Bone Meal; and Greaves. With regard to imports it refers to the customs code 230110 "flours, meals and pellets, made from meat or offal, not fit for human consumption; greaves".

[3] As defined by the SSC opinion of January 2002.

- According to the CD, of the 27,245 tons of MBM imported into former Yugoslavia before 1992, 2,811 (representing 10,3 %) tons were imported into the Slovenian part of former Yugoslavia.
- Between 1980 and 2000, Slovenia imported, according to the CD, 5,027 tons of MBM from BSE risk countries other than UK (4,017 tons from AT), and no MBM from the UK itself. The corresponding Eurostat figures are much lower (total MBM imports 1,660 tons) mainly due to the fact that data on AT exports are only included since 1995 when AT joined the EU.
- The Slovenian authorities claim in their "Comments on the final draft report, (received by the Commission on 20 April 2001)", that most MBM from AT was in fact blood meal. They added in the annex to their comments photocopies of veterinary certificates showing that the imported "MBM" from AT in 1999 was blood meal (121,4 tons).
- According to the CD, most of the MBM imports from IT were fishmeal as concurrently the Slovenian poultry production was increasing and fishmeal was the type of animal proteins used by this industry. The poultry production then strongly decreased in 1993 by a factor of 21% due to events in former Yugoslavia (closure of markets for this production). Slovenia mentioned that the national customs category included also fishmeal before being put in line with Eurostat since 1992. However, fishmeal exports should anyway appear in a different Eurostat category than the one used for this assessment.

  Certificates relating to exports of fishmeal from IT to Slovenia were provided, however they relate to exports in 1997, 1998 and 1999. This confirms that fishmeal imports are not presented in table 4 above under Eurostat data as no MBM imports from IT are recorded since 1997.
- It was also indicated by the country experts that between 1982 and 1986, before the only Slovenian rendering plant was equipped with a second production line (in 1987), animal waste was exported to IT for rendering and the corresponding MBM (as certified by the IT authorities) was re-imported to Slovenia (no evidence thereof provided).
- It is also noted that according to the CD, a total of 677 tonnes of MBM were exported from Croatia to Slovenia since 1992. As the GBR for Croatia is not assessed yet, the corresponding figure is not taken into account for the time being.

In November 2000 the import of certain processed animal proteins was prohibited (e.g. MBM, BM, MM, rendered fats from animal waste or carcasses etc.).

In January 2001 (temporary Order, Official Gazette 115/00) import, export and feeding to animals kept for food production of the following processed animal proteins was prohibited:

Bone meal, meat meal, meat-and-bone meal, blood meal, dried plasma and other blood products, hydrolysed proteins of animal origin, hoof meal and horn meal, feather meal and poultry offal meal, dry greaves from animal waste, fishmeal, dicalcium phosphate from bones, gelatine, any other similar products which may possibly include animal proteins, any feedingstuffs obtained by the processing of animal waste and carcasses of any animal species, and any feedingstuff premixes and compound feedingstuffs containing any of the components under preceding indents. Derogation for the feeding of fishmeal is foreseen for non-ruminants.

Country	Data	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	0	1	Total
Austria	CD									1519	100	328		50	52	259	189	454	104	409	121	432		4017
	other																60	420	43	421	61	495		1499
Denmark	CD																							0
	other														23									23
Germany	CD											10	75		3			1						89
	other													0,2	0,5						14			15
Italy	CD				380	248						91	60	25			58	60						922
	other														6		58	60						123
UK	CD																							0
	other																							0
TOTAL																								
non UK	CD	0	0	0	380	248	0	0	0	1519	100	429	135	75	55	259	246	514	104	409	121	432	0	5027
	other	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	118	479	43	421	75	495	0	1660
UK	CD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4: MBM imports into Slovenia (CD) and corresponding MBM exports from BSE risk countries. Source for export data: Eurostat, Third countries and UK export statistics. Data on imports before 1992 were provided by Slovenia in the CD and refer to the proportion of the imports to Former Yugoslavia, which remained in the territory of the Slovenian part of Former Yugoslavia. Different shading represents different BSE risk as defined in the SSC opinion of January 2002.

2.3 Overall assessment of the external challenge

It has been noted that the external challenge faced by the former Yugoslavia prior to 1992 was always significant. Between 1980 and 1991 it was high, mainly due to imports of MBM or due to the combined imports of live cattle and MBM from BSE risk countries. The proportion of these imports that remained in Slovenia is not known and therefore as a realistic worst case assumption, it is assumed that the external challenge experienced by the territory of Slovenia before 1992 was high enough to make it possible that the BSE-agent could have been introduced.

The level of the external challenge that has to be met by the Slovenian BSE/cattle system since 1992 is estimated according to the guidance given by the SSC in its final opinion on the GBR of July 2000, as updated in January 2002.

- Live cattle imports: From 1992 to 2000, in total the country imported 492,792 live cattle from BSE risk countries, of which none came from the UK. Together these imports represent a high external challenge. Broken down to 5 year periods the resulting external challenge is as given in table 5. This assessment takes into account the different aspects discussed above that allow to assume that certain imported cattle (around 420,000) did not enter the domestic BSE/cattle system, i.e. were not rendered into feed.
- MBM imports: From 1992 to 2000, in total the country imported 5,027 tons MBM from BSE risk countries, of which nothing came from the UK. Together these imports represent a high external challenge. Broken down to 5 year periods the resulting external challenge is as given in table 5. This assessment takes into account the different aspects discussed above that allow to assume that certain imported MBM did not enter the domestic BSE/cattle system or did not represent an external challenge for other reasons.

External challenge experienced by SLOVENIA				
External challenge		**Reason for this external challenge**		
Period	**Overall Level**	**Cattle imports**	**MBM imports**	**Comment**
1992 to 1995	High	High	Moderate	
1996 to 2000		Moderate	High	

Table 5: External Challenge resulting from live cattle and/or MBM imports from BSE-Risk countries. The challenge level is determined according to the SSC-opinion on the GBR of July 2000 (as updated in January 2002).

On the basis of the available information the overall assessment of the external challenge is as given in the table above. Slovenia was exposed to a very high external challenge from 1992 to 2000, due to the accumulated external challenge resulting from importation of cattle and of MBM imports from non-UK BSE risk countries.

3. STABILITY

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

Feeding

Use of MBM in cattle feed

According to the CD, farming systems in Slovenia were and are still very extensive. Therefore, feeding of MBM to ruminants was never common practice. However, it was practised in intensive milk producing farming systems (approx. 3% of cattle are in large farms, see "Cattle population structure" below) from the beginning of 90's until the ban in 1996. Slovenia mentioned that in the period from 1993 to 1995, MBM was used for the production of feedingstuff mixtures for calves and dairy cows. It was included on average at a rate of 3% in calf starter feed (feed formula and figures on MBM use per feed plant were provided).

Feed bans

An official feed ban was adopted on 17 May 1996 through an Order banning the use of MBM for the feeding of ruminants (Official Gazette of SR 27/96 and 68/96). It was later amended (29 November 1996) in order to prohibit the use of mammalian tissues for the feeding of ruminants.

Since 29 November 2000, Slovenia has adopted a temporary Order (until 30 June 2001) on additional preventive measures in relation to TSEs (Official Gazette 115/00). This order is banning the use of processed animal proteins (fish meal and feather meals included) to feed all species intended for the production of food, as well as placing on the market, trade in, and import and export thereof. There is a derogation for fishmeal, which may be fed to non-ruminants. This temporary total ban replaces and repeals the MBM to ruminants ban of May 1996.

Potential for cross-contamination and measures taken to avoid it

Cross-contamination in feed-mills: In 1999, there were 17 feed mills in the country, of which 4 are large in their capacity. Total feed production: 469,000 tons compound feed, 8,000 tons mineral supplements, 7,500 tons protein concentrates. Approximately 16% of the total feed production is used for cattle. Among the 4 large feed mills, 2 are integrated exclusive poultry feed producers, one is producing feed mainly for pigs and one is a mixed species feed plant. The latter is using 2 production lines, of which one is dedicated to ruminant feed production since 1996, and the second line is used for the production of all types of feed. Two feed mills only produced vitamins and additives without using animal proteins during the reference period.

Detailed information was provided on the production of each feed plant. These data show that 5 plants out of 14 used some MBM for cattle feed production until 1996 at the latest for one of them.

Cross-contamination during transport: The share of bulk feed transports in total feedingstuffs circulation was over 75% in 1998, the remainder being sold in bags.

Cross-feeding: Slovenia indicated that pig rearing (total pig population around 600,000 animals) was mostly intensive and carried out in 8 large farms (40,000 to 50,000 pigs each). No intensive farm carries out co-farming. "Back yard farms"

would have cattle and pigs but pigs are fed with left over and swill and according to the CD, no MBM is used by household farms or was likely to have been used.

Control of the feed ban and cross-contamination

Provisions of Art. 43 of the Veterinary Practice Act put feedingstuffs, feed mills and storage facilities under the supervision of official veterinarians. Since 1996, on average around 120 investigations are carried out each year on animal feed (119 in 1997, 124 in 2000) as to the content of mammalian tissues, all results being negative (the definition of a positive was specified as "any trace of bone tissue of mammalian or poultry origin"). Detailed documentation was provided on controls carried out by each regional veterinary office in the major feed mills. It is noted that more controls are carried out each year on microbiological quality of feed (839 in total in 1997).

In 1988, a suspicion that fish meal imported form IT was fraudulently contaminated with blood meal or feather meal was raised. 6 samples out of 14 were confirmed as fraudulent by microscopic examination.

Since then, only 2 to 3 samples were examined each year. The monitoring program was later increased to 10 samples each year due to BSE in the rest of Europe (year of increase not specified). In 2001, 11 samples have already been investigated on the basis of Directive 98/88/EC (laying down instructions on microscopic identification of components of animal origin). None were positive since the 1988 investigation.

It is concluded that cross-contamination was occurring before 1996 (at least at the feed production stage) in addition to the voluntary inclusion that is confirmed between 1993 and 1995. While voluntary inclusion is assumed to have stopped after the 1996 feed ban, cross-contamination cannot be excluded in view of small numbers of controls carried out, until 2001. It is not any more an issue since January 2001 as long as the stored MBM is under strict official supervision.

Available information available shows only relative small numbers of feed samples were checked for MBM presence in 2000 and 2001, all with negative results. Therefore, it is concluded that the enforcement of the feedban is not fully convincing. in addition, the fact that the Slovenian authorities claim that all samples examined for the presence of MBM in the last years were negative is surprising for a country where most feed mills are mono-line feedmills and where MBM is used for pig and poultry feed and where no clear instructions exist in order to clean/flush production lines before ruminant feed in produced.

Rendering

Bovine material including SRM, fallen stock and other waste material is and was rendered in the only establishment producing meat and bone meal.

According to the CD, the plant is operating in compliance with the requirements of EU legislation. Since 1982 (Regulations of December 1981), slaughterhouse waste and fallen stock have been processed at a temperature of 133 °C for 20 minutes, using 3 bar pressure and a particle size of less than 50 mm. This process was chosen because of its proven capacity to sterilise the Anthrax agent. This was necessary due to constant exposure of the cattle population to Anthrax in the country (convincing detailed information on anthrax epidemiological data of the country were provided).

In 1997, the rendering plant was approved for export and certified by the Slovenian veterinary services as being in full compliance with Directive 90/667/EEC. The plant

has also obtained a Quality Assurance Certificate certifying that its operations are carried out in compliance with ISO 14001:1996 standard.

The following products are obtained from rendering (data from 2000):

- tallow for animal feed (special line);
- MBM (two pressure cooking lines; second line since 1987);
- fat for technical use as by-product of MBM production, not used for feed production.

It is noted that in addition to the only "mixed species" rendering plant of the country, two major poultry companies have their own integrated rendering facilities processing poultry only (no input of raw material from other source than their own).

The national MBM production was below 10,000 tonnes before 1987 (varying between 4,800 t in 1981 to 9,400 tonnes in 1986) and was around 12,000 tonnes in 2000 (12,400 tonnes in 1987, peaking at 17,200 in 1990). The production increased in 1987 when the rendering plant started to use the second production line since.

The national use of domestic MBM varied between 285 t in 1980 and 571 t in 1992. It was around 5,000 tonnes in 2000 (1,200 tonnes in 1993, peaking at 5,200 tonnes in 1999). On the basis of available information, it is concluded that Slovenia was a net exporter of MBM.

A permanent official veterinary supervision is performed in the plant since May 1981 (legal basis of 21/04/81 provided). Thermographs are checked daily by supervising official veterinarians (copies of records of controls and corrective actions were provided) and computerised heat treatment parameter checks are in place since 1997 (printouts of records were provided).

Since January 2001, all MBM produced is bought by the state and stored under strict official supervision. However, it was explained that the market for MMBM from the only MMBM rendering plant already broke down in November 2000 when the EU decided to ban MBM for all farm animals. Research is currently carried out to develop the most appropriate incineration facilities to destroy that stock. Incineration is expected to start in June 2001.

It is concluded that rendering in Slovenia was throughout the reference period carried out at 133°C/20min/3bar. The correct application is reliable because of the Anthrax problematic and evidence for controls was provided. Since January 2001 all produced MBM is destined for incineration.

SRM and fallen stock

There was no SRM ban until November 2000 and also fallen stock was rendered for feed production.

Fallen stock is collected on farms, examined in 9 local necropsy plants (collection centres) and only sent to the rendering plant after determination of cause of death (the fallen stock collection and examination is free of charge for the farmers).

Since 30 November 2000 (Order 4604/00), an SRM ban has been in place. It covers the following bovine tissues: entire head excluding the tongue, entire spinal cord, spleen, thymus, intestines from the duodenum to the rectum, and visible lymphoid tissue. The vertebral column of bovines is not covered. SRMs have to be collected at

slaughterhouses in separate containers marked with "SRM". The SRM collected daily has to be stained with a dye.

Since January 2001, all SRM, fallen stock, and animal waste is collected and transported to the single rendering plant to be pre-processed before incineration. The corresponding MBM is stored under official supervision (see "Rendering" above). The use of MBM is prohibited in Slovenia since that date.

Conclusion on the ability to avoid recycling

On the basis of the available information, it is concluded that should BSE have entered the Slovenian system it would have been recycled and amplified until 1996. Thereafter, recycling became somewhat less likely but could still not be excluded. Since 30 November 2000 until January 2001 SRM and fallen stock are excluded from rendering. Since January 2001, all MBM is excluded from any feed for farm animals. All domestically produced MBM is bought by the government and stored for subsequent incineration. Therefore recycling of the BSE-agent should not any more be possible.

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

The cattle population of the Slovenian part of former Yugoslavia (about 500,000 cattle) corresponded approximately to 10% of the cattle population of former Yugoslavia. At current Slovenia has a cattle population of around 500,000 animals, of which about 200,000 are dairy cattle.

Total number of bovine animals, of which:	**499,786**
Young bovine animals (up to 1 year)	138,865
Young bovine animals (aged 1 to 2 years)	
– pure bred breeding heifers	45,287
– heifers for fattening	12,739
– bulls, oxen	70,697
Bovine animals aged over 2 years	
– pure bred breeding heifers (pregnant)	18,934
– dairy cows	141,883
– other cows	54,515
– pure bred breeding bulls	1,140
Other bovine animals aged over 2 years	15,726

Table 6: Population of bovine animals in the Republic of Slovenia in 2000 (Source: Statistical Office of the Republic of Slovenia, 2000).

It is estimated by the Slovenian authorities that the population of bovine animals aged over 30 months amounts to 200,000 animals, while approximately 60,000 are over 60 months.

Regarding the number of bovines older than 24 months, the country provided the following data:

Year	Number of bovines above 24 months
1996	239,000
1997	245,000
1998	239,000
1999	202,000
2000	219,000
2001	218,000

Table 7: Number of bovine animals above 24 months in the Republic of Slovenia.

For the cattle population over 24 months also another detailed breakdown was provided:

		Total (all ages)	Over 24 months old						
			Male			Female			
Period			Meat	Breeding	Work	Meat	Dairy	Breeding	Work
2000	N°	499,000	5,000	25	880	10,000	196,398	18,934	0
	Age*		24 / 26 m	6 y		28 m		7 / 8 y	

Table 8: Cattle population structure (age*: average age at slaughter).

Two third of the dairy cattle population is reared in mountain areas. In 2000, more than 70% of family farms had less than 10 cattle and more than 20% of cattle were in family farms of more than 50 heads. One third of dairy cattle is in farms of 20 to 30 cows. 3% of cattle are in large industrial farms.

At current, the average milk yield is 4,323 litres/dairy cow per year. In 1996, this varied between 2,800 litres/cow per year in small size family farms (around 124,000 dairy cows in total) and 6,300 litres/cow per year in large farms (around 6,300 dairy cows in total).

BSE surveillance

BSE has been notifiable since 1995. It is mentioned that BSE was part of differential diagnosis procedures of CNS notifiable diseases (rabies and listeriosis) since 1992. While a rabies-positive brain is not further analysed, a listeriosis-positive one will be systematically checked for BSE.

Rules on the classification of contagious animal diseases, the determination of the method and procedure of notification and the determination of laboratory tests and methods were adopted in 1996 (Official Gazette of SR 34/96, 54/96).

With the Order on the carrying out of preventive vaccination and other diagnostic investigations on animals (Ur. l. RS 6/02) it is determined that the brain of all bovines showing clinical signs of diseased central nervous system have to be examined for BSE by one of the approved laboratory tests. Moreover, all emergency slaughtered animals, sick animals dispatched for slaughter on the basis of a veterinary referral form and dead animals over 24 months of age have to be examined, too. Since 1 February 2002 all animals older than 24 months which are intended for slaughter but have not been tested are banned from human consumption.

According to the CD, compensation at market value has been in place since 1992 (Initial Act on contagious diseases). The legal basis specific to BSE was adopted in 1996 as instructions on the measures for the detection, prevention and eradication of the BSE, adopted by the Republic of Slovenia in 1996 (Official Gazette of SR 71/96) stipulate, *inter alia*, that the cost of diagnostic investigations, compensations for the animals, items and raw materials, and the eradication programme would be reimbursed from the national budget.

According to the Veterinary practice act Ur.l. 33/01, compensation is provided when the disease has been immediately reported, and the compulsory preventive measures have been implemented.

BSE confirmation criteria (by histopathology examination) are described in detail in the CD and are assessed as being in accordance with international references. It is indicated that if a sample were identified as positive or inconclusive, it would be addressed to Weybridge (UK) or to another reference laboratory for confirmation.

Training:

According to the CD, awareness training has been in place since 1990 via professional publications. Since 1995, by law, in Slovenia, animal owners must undergo training session on contagious diseases. 117 sessions were carried out between 1995 and 1999.

The two laboratory staff carrying out the investigations for BSE have been trained in Great Britain (CVL Weybridge, in 1992 and in 1997), in Switzerland (in 2000) and in France with the manufacturers of rapid tests for the investigations of diseases.

Surveillance:

Since 1996 all bovine brains (domestic or imported) have been examined by specific BSE histopathology (method described in details) when CNS symptoms were recorded, as part of routine necropsy depending on lesions found or in monitoring programs in which animal over 20 months were randomly selected. Until 2000, a total of 296 brains of domestic bovines showing central nervous symptoms or examined in routine necropsies were tested in Slovenia. All results were negative for BSE.

The official monitoring and investigations for BSE, in addition to the routine investigations of animals showing clinical sings, were established in the Republic of Slovenia in 1996, on animals aged over 36 months that were selected at random prior to slaughter.

Since January 2001, the Republic of Slovenia has adopted an Order on the additional preventive measures in relation to TSE (Official Gazette 115/00) establishing a new system of monitoring for BSE.

The new monitoring system is laying down that all healthy and emergency slaughtered and fallen bovines aged over 30 months shall be investigated, as well as all other bovines showing clinical signs of CNS diseases. Until end of January 2001, the classical histopathological method was used, but since 1 February 2001, routine testing is performed using a rapid post mortem test (Prionics).

Results:

Results of routine necropsies and random surveillance of non-BSE suspect animals (“active surveillance”, since 1995) were provided. In total 655 animals have been

examined since 1990. It is noted that amongst the differential diagnoses recorded, a high proportion of results is classified as *"Insignificant or no lesions"*:

- 147 of 183 routine necropsies on domestic non-BSE suspects (80%);
- 451 of 472 healthy animals monitored in slaughterhouses (95%, which would be more or less expected for this category of animals fit for human consumption), and
- 54 out of 113 domestic BSE suspects (48%).

A specific differential diagnosis was indicated for all other brains examined.

It is concluded that these results are consistent, and in line with BSE risk countries' experience in this field. All results were negative for BSE.

No specific data on examination of animals imported from BSE risk countries were provided but Slovenia explained that all cattle with CNS symptoms have been examined since 1996 and that the surveillance program was addressing all animals (domestic and imported).

In 2001, 63 cattle with clinical signs were investigated and in 2002 until 29 May 2002 45 cattle were investigated. For the diagnosis of BSE heads of suspect cases are sent to the National Veterinary Laboratory whereas the rest of the body is processed to MBM in a rendering plant and destroyed by incineration.

Active surveillance using rapid tests (Prionics)

In 2001, a total of 32,616 cattle brains were examined with fast test and 63 with whole brain histopathology. Of the tested cattle, 32,385 were 24 months of age or over and 30 under 24 months of age. All but one were negative.

Until 29 May 2002, 26,602 cattle brains were examined with fast post mortem tests and 45 cattle with whole brain histopathology. 26,560 cattle were 24 months or older and 42 cattle were under 24 months of age. Again all but one were negative. Since February 2002, the age limit for obligatory testing was reduced to 24 months of age. Also the age limit for emergency slaughtered and fallen cattle was reduced to 24 months. In addition to this all ruminants older than 18 months showing chronic wasting have to be tested for BSE as well.

Conclusion

It is concluded that some passive surveillance has been carried out since 1992. In 1996 surveillance was intensified, targeted to "risk" cattle populations. BSE surveillance was significantly strengthened in January 2001 when active surveillance on large number of cattle was introduced using a rapid test.

On 16 November 2001, Slovenia reported its first case of BSE. The animal was a 5-year-old cow from a small farm in the mountain area. The rapid test result was confirmed using histopathology and immunohistochemistry in the Slovenian National Reference Laboratory and at the Swiss National Reference Laboratory. The offspring of the cow was culled.

A second case was confirmed on 8 January 2002 in a 6-year-old cow. The offspring of the cow was culled.

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 factor, surveillance, has to be estimated. Again, the guidance provided by the SSC in its opinion on the GBR of July 2000 is applied.

Feeding: Until 1996, it was legally possible to feed MBM to cattle and a certain fraction of cattle feed (for calves and dairy cattle) is assumed to have contained MBM. Therefore feeding is not OK until the end of 1996 (first feed ban introduced in May 1996) because controls were insufficient in 1996. Since 1997 feeding has been **"reasonably OK"**. As the total feed ban has been enforced since January 2001, but enforcement activities (controls) are still not convincing feeding remains **"reasonably OK"**.

Rendering: Rendering is not assessed before 1992 (insufficient information available on the situation in former Yugoslavia). The heat treatment used since 1992 is known to reduce BSE infectivity. It was convincingly applied because of the high Anthrax prevalence in the country, requiring these severe rendering conditions. It is therefore assessed as **"OK"** since 1992.

SRM-removal: There was no SRM ban before 30 November 2000 and SRM and fallen stock was rendered. Therefore SRM-removal is assessed as **"not OK"** throughout the reference period, including, as no information is provided on control procedures, even the period 30 November 2000 to January 2001. Since January 2001, SRM and fallen stock is rendered but all MBM is stored under control waiting for incineration, therefore SRM-removal is regarded **"OK"** since then.

BSE surveillance: Passive BSE surveillance is in place in small scale since 1992 and was intensified in 1996. Since January 2001, active surveillance is carried out on a similar level as laid down in the TSE-Regulation of the EU. This targeted active surveillance has substantially improved the ability to find BSE-infected animals, as demonstrated by the first two cases found in November 2001 and January 2002. It is concluded that the impact of surveillance on the stability was neutral since 1996 and is enhancing the stability since 2001.

Stability of the BSE/cattle system in SLOVENIA over time					
Stability		**Reasons**			
Period	**Level**	**Feeding**	**Rendering**	**SRM removal**	**BSE surveillance**
1992-1996	Neutrally stable	Not OK	OK	Not OK	↓
1997–2000		Reasonably OK			→
2001	Very stable			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. * *Not addressed* *as insufficient data were available on stability factors for former Yugoslavia*

On the basis of the available information it has to be concluded that the country's BSE/cattle system was neutrally stable from 1992 to 2000, and is very stable since 2001, i.e. it would have not recycled and amplified BSE infectivity, should it have entered the system.
The system became "very stable" in 2001 when rules on the removal of SRMs were introduced.

4. CONCLUSION ON THE RESULTING RISKS

4.1 Interaction of stability and challenges

In conclusion, the stability of the Slovenian BSE/cattle system in the past and the external challenges the system has coped 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 had to be met by the system, in addition to external challenges that occurred.

INTERACTION OF STABILITY AND EXTERNAL CHALLENGE IN SLOVENIA			
Period	**Stability**	**External Challenge**	**Internal challenge**
1980-1991	**Not addressed***	**Always significant****	**Not addressed***
1992-2000	**Neutrally stable**	**Very high**	**Likely to be present**
2001-	**Very stable**	***No data***	**Present but declining**

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* *as insufficient data were available on stability factors for former Yugoslavia; **based on imports for former Yugoslavia.*

Since 1992, while the system was neutrally stable until 2000, and very stable since 2001, Slovenia faced a continuous very high external challenge mainly due to imports of live cattle from BSE risk countries and due to MBM imports. Should indeed infected cattle have been imported since 1992, they could have been slaughtered relatively young, if imported young for fattening. They also might have been already older at slaughter if imported for immediate slaughter at higher age, or, if imported as breeding animals and being slaughtered several years after import. In any case they would have ended-up in a rendering process able to significantly reduce BSE infectivity. Since 1997 also the feeding was reasonably OK, indicating that the risk that MBM reached domestic cattle was somewhat reduced. Accordingly, an internal challenge was present but the neutrally stable system kept it at the level at which it has been introduced. Since 1995, the year of birth of the second Slovenian BSE-case, BSE was apparently present in the country, albeit at a very low level of prevalence.

Since 2001 the system is very stable. It can be expected that the internal challenge declines at the rate at which cattle born before the system reached the very stable situation leave the system.

4.2. Risk that BSE infectivity entered processing

The BSE-agent was potentially imported into the country via infected MBM in the mid 90s when MBM imports peaked. This MBM reached cattle via feed. It can be expected that the 1997 birth cohort had a much lower chance to be infected because MBM imports decreased dramatically and the first feed ban was introduced.

4.3. Risk that BSE infectivity was recycled and propagated

Although the rendering system was able to reduce BSE infectivity since 1992, some recycling and propagation may have occurred because SRM were not removed and therefore rendered. The scale of this scenario is depending of the amount of SRMs having entered rendering originating from cattle having been slaughtered at the end of the incubation period.

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: it is confirmed that domestic cattle are (clinically or pre-clinically) infected with the BSE-agent at a low incidence.

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

- Assuming that measures in place continue to be appropriately implemented the GBR will decrease over time at the rate at which already infected animals leave the system. However, this does not exclude that animals infected in the past may be discovered as clinical cases in the future.
- If the measures in place are effectively implemented import of live animals cannot increase the risk because the infectivity that could theoretically be harboured by them would not reach domestic cattle.

5.3. Recommendations for influencing the future GBR

- To enforce national legislation as regards the prohibition of certain processed animal proteins for the production of feed by establishing more convincing controls. Based on the outcome of these controls feeding could then be assessed as “OK”, which would improve the stability from very stable to optimally stable.