World Health Organization
Regional Office for Europe

Office of the Regional Director

14 May 1986

To: Chief Delegates of
European Member States

re: Nuclear Reactor Accident in
the USSR - Update Information

As you will know, the Regional Office is continuously collecting information on readiation levels and public health measures in countries.

... I hereby enclose our latest information on the subject.

J.E. Asvall, M.S.

... Enclosure: as mentioned above

cc: Ro/AMRO

CHERNOBYL REACTOR ACCIDENT

INFORMATION ON ADDITIONAL PUBLIC HEALTH MEASURES AS AT 12 MAY 1986

COMMISSION OF THE EUROPEAN COMMUNITIES

12.5.86 The texts of the Decision of the Commission on 7 May 1986 and of the drafts of proposals for a regulation for the ban of importations and the draft recommendation for the coordination of national measures in connection with the radioactive fallout are annexed.

The Decision is already effective as has been notified to the Member States. The two drafts are being discussed today.

In this respect, the Herald Tribune of 12 May reports that an agreement on the ban of imports of fresh food from Eastern Europe was erroneously announced Saturday night, 10 May 1986. Italy informed its EC partners later that it has been misunderstood and had not agreed to the proposal, according to a spokesman for the EC.

ISRAEL

12.5.86 Present measured levels in Israel do not require any measure of limiting consumption of locally grown vegetables and fruits.

Israel has not set up specific activity limits for the individual foodstuffs except for milk (2000 Bq/1).

SPAIN

12.5.86 Following the accident at Chernobyl a coordinating committee chaired by the Nuclear Safety Council (CSN) was established, composed by representatives from the Ministries responsible for Industry, Health and Consumer Affairs, food, civil defence and nuclear energy.

The Nuclear Safety Council has been issuing daily communications to the mass media about the actual situation all over the country.

CHERNOBYL REACTOR ACCIDENT

Information on additional public health measures as of 13 May 1986

BULGARIA

At present, the consumption of sheep milk has been banned because the concentration of iodine-131 was found to be above the normal level. Restrictions on consumption of some vegetables have been recommended. Vegetables produced in greenhouses are not affected by these measures as they are uncontaminated. There is no risk to health of the population.

CZECHOSLOVAKIA

Provisions have been made to stop direct consumption of sheep milk and fresh products made from it. An accepted limit value of 1000 Bq has been established for cows' milk introduced on to the market. No limit values have been set for other food products up to now. The monitoring of milk, milk products, fresh vegetables and some other food products in continuing with respect to iodine-131 and other radionuclides.

FINLAND

In addition to the previous measures, it is recommended that air conditioner filters be replaced earlier than usual.

FEDERAL REPUBLIC OF GERMANY

The Radiation Protection Commission recommends limit values of 250 Bq/k for green vegetables. These values have been exceeded in many cases and therefore such vegetables were withdrawn from the market.

In the south of FRG, cases have been found where the milk values of iodine-131 were above the limit values of 500 Bq/l.

Up to the present, inspection of other foodstuffs and drinking water has not shown activity values justifying restrictions.

SWITZERLAND

Imported foodstuffs are examined at the Swiss border but no import of foodstuffs has been stopped up to the present with relation to excessive radioactivity. This also applies to the import of meat.

As preventive measures, the following recommendations have been issued:

(a) for children under 2 years, pregnant women and nursing mothers, the use of dried or condensed milk, packed before 3 May 1986 is recommended. They should refrain from eating freeland vegetables, i.e. lettuce, spinach, rhubarb, etc.

(b) for the remaining population, free consumption of milk and milk products. For freeland vegetables such as lettuce, spinach, etc., it has been recommended that they be thoroughly washed before consumption:

(c) for the whole population, refrain from drinking sheep milk when the sheep have been grazing in the open. The milk can be used for the production of cheese which should be stored for at least three weeks.

Referring to advice to tourists travelling to Poland, the State Department is no longer recommending that women of child-bearing age and children defer travel to Poland. However, the US Public Health Service continues to encourage certain health precautions for travellers in the countries affected. Information on these precautions is available from US embassies and consulates.

On 8 May 1986, it was emphasized that persons in or around the affected region should avoid drinking fresh milk or eating other dairy products. The following should be used: canned milk, powdered milk, commercial infant formulas, imported fresh dairy products. Americans in these areas (especially pregnant women and young children) should contact the local US embassy for more specific information.

USA

9 May 1986 It has been noted by the Secretary for Agriculture that large inventories of non-fat dried milk could be made available or donated under certain circumstances to replace milk which is being discarded in countries affected by the Chernobyl nuclear accident.

Routine procedures have been established to monitor food from foreign countries. Particular attention is now being given to products originating from Austria, Czechoslovakia, Denmark, DDR, Finland, Hungary, Japan, Norway, Poland, USSR, Sweden and FRG after the nuclear accident. The FDA has increased monitoring and analysis of fresh dairy products, fresh fruit and vegetables and fresh fish from these countries. Countries exporting meat and poultry products to the US are being provided with special procedures requested by the national authorities for monitoring before shipment to the US.

UPDATED BACKGROUND INFORMATION ON THE
NUCLEAR REACTOR ACCIDENT, USSR

1746i
13 May 1986, at 10.00

Summary of data situation with regards to activity measurements

As of Tuesday evening, 13 May 1986, the following measurement data have been received on the situation in the following 25 countries:

Austria
Belgium
Bulgaria
Czechoslovakia
Denmark
Federal Republic of Germany
Finland
France
Hungary
Iceland
Ireland
Israel
Italy
Luxembourg
Malta
Monaco
The Netherlands
Norway
Poland
Portugal
Spain
Sweden
Switzerland
United Kingdom
USSR
Yugoslavia.

Not all data received are suitable for the particular needs of WHO for assessing the risk to human health. For that reason, a request of measurement data of specified types was telexed to radiation protection authorities and laboratories involved in measurements.

Variations within each country are large because of the substantially increased ground deposition of radioactive material where there has been rain to wash the material out from the air. It is therefore not yet easy to give representative average values for countries. What the data permit, at most, is to give an overall picture of the situation, to indicate maximum values, and to show general trends.

The following results are available, country by country:

AUSTRIA

Information has been received on the external exposure rate from nine locations for the period 30 April-4 May and for four different times of the day. In this period, the exposure rate varied from 12 to 150 μR/h, the highest value recorded in Salzburg at noon, 2 May, and the lowest in Vienna, in the morning of 30 April. The average daily values for Vienna and Salzburg (in μR/h) were:

	Vienna	Salzburg
30 April	14	55
1 May	32	142
2 May	28	143
3 May	25	115
4 May (morning)	25	102

On 29 April, 21.00 - 24.00 the activity of cesium-137 in air samples was about 1/5 of that of iodine-131.

From Salzburg, Professor Steinhäusler gave supplementary information. The exposure rate on 6 May was about 85 μR/h although higher local values had been measured, up to about 240 μR/h. On 3 May exposure rates exceeding 1000 μR/h had been measured above snow in the alpine region.

BELGIUM

Measurement results have been reported from Mol. The external exposure rate in the period 8-10 May were 11-13 μR/h. The deposition of iodine-131 was estimated at between 0.2 and 1.7 kBq/m2 on 7 May and had decreased to 0.33-0.95 kBq/m2 on 10 May. The cesium-137 deposition was estimated at between 0.1 and 0.37 kBq/m2 on 9 May.

Information was also received on the content of iodine-131 in milk. The iodine-131 concentration in some samples of farm milk on 7 May was between 60 and 280 Bq/l. 70 Bq/l was measured in dairy milk from northern Belgium on 9 May.

BULGARIA

It was officially reported that, on 8 May, "radiation levels are within normal values with the exception of several districts where they remain two or three times higher than normal".

Restrictions in the consumption of some types of vegetables have been recommended and the consumption of sheep milk has been banned.

CZECHOSLOVAKIA

The following outdoor exposure rates were reported:

6 May	50 - 70 μR/h
7 May	20 - 50 μR/h
8 May	
9 May	12 - 50 μR/h (median 22)
10 May	10 - 50 μR/h (median 21)

A peak value first reported as "a few μGy/h", i.e. a few times 100 μR/h was later corrected by a correction factor of 42 per cent; it might therefore have been about 200 μR/H. It soon decreased to 55 μR/h.

Iodine-131 concentrations in milk were first reported to be of the order of 500 Bq/l for dairy milk and up to 1000 Bq/l for farm milk in the period 4-5 May. Later, the following concentration ranges were reported for the Czech Socialist Republic (CSR) and the Slovak Socialist Republic (SSR):

iodine 131 in dairy milk (Bq/l)

	CSR	SSR
9 May	50-850	120- 930
11 May	88-530	190-1570

The median values were 230 and 193 for the CSR, and 500 and 530 for the SSR respectively.

DENMARK

A summary of data for the period 28 April-1 May was first received from the Danish Radiation Protection Institute, with some 50 results of various measurements. Most of these measurements, however, had been carried out for screening purposes (to find the most contaminated areas) and only 4 (on milk) can be used for our dose assessments. Milk taken 28 April showed only slight contamination.

A report from Riso on 5 May included a continuous registration of the external exposure rate. The increase occurred mid-day Sunday 27 April. The level was back to normal on 2 May but a new slight increase was noted on Sunday 4 May.

A map in the report shows the deposit of iodine-131 at various locations in Denmark. The values vary between 0.005 and 2.8 kBq/m^2; the highest value found on Bornholm. The deposit of cesium-137 varied from non-detectable to 0.29 kBq/m^2 (the highest value also on Bornholm).

Activity concentrations in "raw" milk were below the detection limit for both iodine-131 and cesium-137 until 5 May, when iodine-131 concentrations of 30 Bq/l were found in non-dairy milk.

FEDERAL REPUBLIC OF GERMANY

Data were first received over the telephone from the German Radiation Protection Institute in Neuherberg. These data were for Munich where the outdoor exposure rate on 30 April was between 50 and 100 micro-roentgen per hour, with a maximum of 250 uR/h. Rainfall brought a sudden deposition of radioactive material within five hours with the following values:

I-131	115 kBq/m^2
I-132	135 kBq/m^2
Cs-137	35 kBq/m^2
Ru-103	30 kBq/m^2

Milk from 1 May showed iodine-131 concentrations between 150 and 600 Bq/l with a peak value of 1200 Bq/l.

A telex from Bonn on 2 May 1986 gave some 160 measurement results on total beta activity in air. Such data serve screening purposes, but are not directly suitable for assessments of health risks. The highest value was for Munich on 1 May 1986 at 17.00 hours.

More information on the beta activity in air has been received up to 11 May. Some were summarized in a table for the WHO experts who met on 6 May. Measurements were commenced on 30 April and the first results indicated that the levels on the preceding days might have been higher. A maximum was then found in Munich at 17.00 hours on 1 May, and at Nordeney at 19.00 hours on 2 May. Levels in Schlesvig and Berlin were low the whole measurement period, except the first day in Berlin.

On 5 May, it was reported that the external exposure rate was decreasing but that the milk contamination was increasing somewhat.

The latest information shows low air contamination in the period 10-11 May, the highest activity concentrations (now in Regensburg) being only 10-15% of the peak values found on 1 May (in Darmstadt).

Additional information was received from Neuherberg on 6 May, including a map showing the geographical distribution of measured values on the external exposure rate in the southern parts of the Federal Republic of Germany. These measurements were carried out on 4 May and the values range from 30 μR/h to 200 μR/h, the highest values generally found in the southern parts.

Information was also received on the nuclide composition in the deposition that caused the high exposure rates in the Munich area on 30 April. There was a remarkably high contribution from the long-lived cesium-137, which showed a deposition of 35 kBq/m^2.

FINLAND

Data were first received over the telephone and by telefax, including some maps showing geographical distributions. The exposure rate from the ground on 29 April varied between insignificant increases and 200-400 μR/h, with a maximum value of 1400 uR/h at Tavastehus. All high values were in southern Finland.

The deposition of iodine-131 varied between 3 and 30 kBq/m^2 and that of cesium-137 between 100 and 1300 kBq/m^2.

The concentration of iodine-131 in milk on 30 April in southern Finland varied between 10 and 20 Bq/l, with a maximum of 40 Bq/l.

Later more elaborate reports were received, summarizing the same data but with more comments and including a thorough meteorological evaluation of the situation.

The situation as of 9 May was summarized in a further report. At that time the maximum exposure rates had decreased to 100 uR/h and were found in the most eastern part of the southern part of the country, near the Gulf of Finland. In other parts of the country, the levels did not exceed 20 μR/h.

The concentration of iodine-131 in milk had decreased and values in southern Finland were in the range of 12-78 Bq/l (on 9 May).

Estimates had been made of thyroid doses to persons coming from the Kiev area and from East European countries and the results were between 3 and 15 mSv.

The latest review received related to the situation on 13 May. Iodine-131 in milk in southern Finland had then decreased to 10-15 Bq/l and the external exposure rate in Helsinki was down at 18.5 uR/h.

The exposure rate at Uusikaupunki for which the highest values have been reported for a series of days has changed as follows:

28 April	14 µR/h	
29	385	(Cs-137 contributed about 1.8%)
30	320	
1 May	264	
2	226	
3	193	
4	164	
- - -		
11	86	
12	79	

The iodine-31 concentration in dairy milk in the Helsinki area has shown the following time variation:

28 April	3 Bq/l
29	6
30	8
1 May	21
2	29
3	27
4	30
5	22
6	19
7	15
8	13

FRANCE

Professor Pellerin reported via telephone that the levels in France are low. The peak concentration of iodine-131 in air was about 4 Bq/m^3 but is now only 1/100 of this value. The highest values were found in southern France.

No further information has been received from France.

HUNGARY

Daily reports have provided the following data:

External exposure rate (μR/h)

1 May	33-43
2	35-43
3	30-35
4	27-30
5	24-26
6	24-26
7	22-24
8	21-26
9	20-23
10	22
11	21

Activity deposition (kBq/m^2)

1 May	80
2	150
3	150
4	300-500
5	200-300
6	250-300
7	-250
8	-270
9	-200
10	50
11	-180

Iodine-131 in dairy milk (Bq/l)

1 May	-
2	0- 40
3	- 50
4	-200
5	60-300
6	80-160
7	50-200
8	70-250
9	30-180
10	70-250
11	-200

Iodine-131 in farm milk (Bq/l)

	Cows not on pasture	Cows on pasture
1 May	-	100- 700
2	-	100- 700
3	100-200	-1250
4	200-800	-2600
5	-	50-1200
6	-	50-1000
7	-	80-1000
8	-	200-1500
9	-	50-1200
10	-	600- 800
11	-	- 600

ICELAND

Telex on 2 May informs that no increased activity levels have been found.

ISRAEL

Monitoring started May 3 but most findings were zero levels except for two (milk) samples; the highest concentration being about 0.7 Bq/l.

Daily reports have been received from 5 May. Data are given on the results of air dust analysis showing the nuclide composition. From 3 May, the concentration of cesium-137 is about the same or higher than that of iodine-131.

It is expected that the total dose contribution from the Chernobyl accident will be "at most a few per cent added to the annual average of about one hundred millirem".

There have been no detectable amounts of iodine-131 in cows' milk (cows in Israel are not usually fed on grass). Goat milk was found to have about 22 Bq/l.

ITALY

No official reports have been received, but mass media report iodine-131 concentrations in dairy milk for the period 2-8 May, with values of 55-300 Bq/l for northern Italy, 35-185 Bq/l for central Italy and 7-550 Bq/l for southern Italy.

LUXEMBOURG

By telex it was reported that the outdoor exposure rate was 7 μR/h above background (18 instead of 11) on 2 May. Measurements are carried out at a number of stations and more full reports will follow.

MALTA

From Malta some results on measurements on fresh milk were reported on 13 May. The levels were about 13 Bq/l for iodine-131 in dairy milk and about 140 Bq/l as the peak value from one producer.

The deposition of iodine-131 was only 0.02 kBq/m^2 but 0.0075 kBq/m^2 for cesium-137.

MONACO

By telex the information is that the iodine concentration in air was 1 Bq/m^3 on 30 April.

NETHERLANDS

Data were first received on 4 May on, for example, iodine -131 in air, external exposure rate and iodine-131 in milk. The iodine concentration in air decreased from 15-47 Bq/m^3 on May 2 to about 1 Bq/m^3 on May 4. The exposure rate on May 4 was about 10 μR/h above background. The concentration of iodine-131 in milk was 173 Bq/l in a sample measured on May 4.

Later reports show that the external exposure rate had almost decreased to normal values on 10 May, being 7 μR/h compared with the normal 5-6. The deposition of iodine that was about 1.5 kBq/m^2 up to 7 May had decreased to about 0.6 kBq/m^2 on 10 May. Concentrations of iodine-131 in dairy milk in the period 5-10 May were about 40 Bq/l or lower. The highest value reported for samples of farm milk was 173 Bq/l.

NORWAY

By telephone the Norwegian radiation protection institute early reported some preliminary data. The exposure rate at Oslo was about 6 μR/h above normal on 29 April. The activity concentration in air was 3 Bq/m^3 for iodine-131 and 1.1 Bq/m^3 for cesium-137. The concentration of iodine-131 in rainwater was 1.5 kBq/m^3.

Measurement results on iodine-131 and cesium-137 in rainwater have been reported for the period 30 April-9 May, showing that the cesium-137 deposition is of the same order of magnitude as that from the nuclear weapons test explosions.

POLAND

Information from Poland shows the external exposure rates at various places. The values for Bialystok (where the highest values were reported) and Olsztyn showed the following variation with time (values in μR/h):

	Bialystok	Olsztyn
29 April	1000	-
30	800	-
1 May	500	-
2	450	-
3	300	-
4	175	300
5	40	175
6	40	150
7	40	150
8	30	150
9	25	75
10	20	50

The deposition of iodine-131 (in kBq/m^2) in Warsaw varied with time in the following way:

29 April	5.6
30	20.6
1 May	18.8
2	-
3	16.2
4	-
5	15.0
6	-
7	-
8	14.0
9	12.3
10	-
11	6.6

For iodine-131 in dairy milk, the following values have been reported (Bq/l):

	Lodz	Slupsk
2 May	16.2	-
3	18.1	15
4	125	51
5	111	-
6	-	-
7	145	-
8	149	11
9	177	10
10	127	8
11	118	80
12	80	11

For 29-30 April, values between 30 and 2000 Bq/l were reported for milk in various areas of Poland.

The first increase of the radioactivity in air was detected on 27 April at 21.00 local time in north-eastern Poland by one of the permanent stations of the Polish service of radiation monitoring.

PORTUGAL

On 4 May, it was reported that no activity concentration could be detected in ground-level air and that the external exposure rate was normal (15 μR/h). No milk contamination had been detected.

SPAIN

Extensive data were received from Spain on 12 May. The external exposure rate had been low and varied between 8 and 18 uR/h during the period 29 April-8 May. Levels of iodine-131 in dairy milk were also low, between 0.3 and 1.8 Bq/l in the period 5-7 May. Levels between 2 and 65 Bq/l were found in local farm milk.

SWEDEN

Extensive information was made available by telephone and telefax. This includes the nuclide composition of activity in air and deposition. Twenty-four automatic stations for measurements of the gamma radiation at ground give continuous registration of the levels.

Very large variations have been found due to local rainfall. The exposure rates vary between 2 and 500 μR/h above normal, on the average perhaps a doubling of the normal background.

The deposition of iodine-131 varied between 6 and 170 kBq/m^2, the higher values being found in northern Sweden. The deposition of cesium-137 varied between 0.3 and 33 kBq/m^2.

Activity concentrations in rainwater, milk and drinking water were reported. The concentration of iodine-131 in milk varies between 2 and 70 Bq/l except on the island of Gotland, where values up to 700 Bq/l have been found.

Information on 5 May indicated that the concentration of iodine-131 in milk the last days had varied between 2 and 60 Bq/l in dairy milk and fresh milk on the Swedish Mainland. In "raw" milk from the island of Gotland, a value as high as 2900 Bq/l was found. In that sample, the concentration of cesium-137 was 44 Bq/l. On the island of Öland, iodine-131 concentrations of 1000-1500 Bq/l were found in "raw" milk. Measurements on the thyroid of adult persons in Stockholm showed iodine-131 contents of between 10 and 200 Bq.

Later reports from Sweden give details of the geographical distribution of measured values of external exposure rate and iodine-131 in milk. The highest exposure rates are found in the south-eastern parts of the northern half of Sweden, where there had been rain when the radioactive cloud passed.

Deposition values varied over the country, for example:

	Iodine-131 (kBq/m^2)	Cesium-137 (kBq/m^2)
Tärnsjö	170	33
Hudiksvall	27	5.7
Hallstahammar	50	8.2
Stockholm	5.5	0.3

During the period 28 April-10 May, the levels of iodine-131 in dairy milk were between 2 and 56 Bq/l, mainly because the cows were not on pastures and were also kept from pastures where the deposition was high. For the island of Gotland, however, higher values were found. Dairy milk from Visby (Gotland) varied with time in the following way:

29 April	195 Bq/l
30	221
1 May	210
2	123
3	125
4	73
5	-
6	60
7	36
8	34

SWITZERLAND

Preliminary values were reported early over the telephone. The outdoor exposure rate in eastern Switzerland were 20-100 μR/h above background. Iodine dominated in the deposition with cesium-137 being 5-10% of the iodine. The highest iodine-131 concentrations in milk were reported as 7 nCi/l (250 Bq/l). The deposition of iodine-131 was reported as 200 pCi/m2 (7 Bq/m^2).

More full information was received on 4 May, including maps showing geographical distributions.

The map showing the geographical distribution of measured values of the external exposure rate was updated on 13 May, when the maximum value had decreased to 100 uR/h (in southern Switzerland, in the Lugano area).

Activity concentrations in milk from sheep were also reported on 13 May and were then as low as 20-50 Bq/l (the values measured on 3 May were 5800 Bq/l for sheep milk and 550 Bq/l for goat milk).

UNITED KINGDOM

It was reported that in the period 2-3 May, the concentrations in the air were:

2-15 Bq/m^3 for iodine-131
2- 5 Bq/m^3 for cesium-137

The external exposure rates were commonly 1-5 μR/h above background, with about 50 uR/h where there had been rainfall.

In addition to preliminary reports received directly from laboratories making measurements, a summary report from the National Radiological Protection Board was received on 13 May. It contained a compilation of all raw data received by the Board until 6 May.

The new data showed that the deposition of iodine-131 on 2-4 May was between 0.1 and 2.7 kBq/m^2 except for Scotland where values were between 2.7 and 8 kBq/m^2. The deposition of cesium-137 in Scotland was between 1 and 2.5 kBq/m^2 and in the rest of the country between 0.002 and 0.05 kBq/m^2.

The content of iodine-131 in dairy milk varied between 3 and 240 Bq/l during the period 2-5 May. In farm milk somewhat higher levels were found, up to 370 Bq/l.

The integrated iodine-131 concentration in ground-level air at Chilton was estimated on 5 May to be 1.6 10^5 Bq s/m^3, which is about 50 pCi $days/m^3$. This is about equal to the highest value that was reported on the European continent after the Windscale accident in 1957.

USA

Reports have been received from the US FDA and also copies of statements released by the interagency task force that is coordinating the US response to the Chernobyl accident. Traces of radioactive material from Chernobyl have been detected in the United States and in Canada, in air and in rainwater. The levels are considered very low in relation to any action level. The US FDA preventive action guide for deposition of iodine-131 which would cause public health officials to take action to withhold food products from the market is 130 000 pCi/m^2, which is about 5 kBq/m^2. The highest value yet reported in the United States from the accident is 440 pCi/m^2 at Idaho Falls (this is about 0.016 kBq/m^2).

Milk monitoring during the period 4-7 May had not shown any detected activity in any sample. Both the FDA and the Department of Acriculture's Food Safety and Inspection Service have routine procedures in place to monitor food from foreign countries. The agencies are now giving particular attention to products originating in Austria, Czechoslovakia, Denmark, East Germany, Finland, Hungary, Japan, Norway, Poland, the Soviet Union, Sweden and West Germany.

It is stated in the US reports that the releases from Chernobyl have now become so dispersed that exact forecasting about the location of the radioactive cloud is no longer possible.

The State Department is no longer recommending that women of childbearing age and children defer travels to Poland. US EPA experts have concluded that the air contamination is now so low that it does "currently pose no health hazard".

USSR

Measurement data from the USSR have been received via the IAEA.

The IAEA report after Mr Blix' visit to the USSR says "Although no systematic data on radiation levels were made available, some values were given. Maximum radiation level within the 30 km zone has been 10-15 millirem/hour. By 5 May, it had decreased to 2-3 millirem/hour. On 8 May, it had dropped to a maximum of 0.15 at the perimeter of the zone".

Considering that values of about 1 mrem/hour were measured in Poland and half that value in Sweden, the low reported values can only be explained by high plume rise, high wind velocity and lack of precipitation near the site.

Daily reports have later given values for the external exposure rate at some locations (the following values are in μR/h, 10 millirem/hour (cf. above) is 10 000 uR/h):

	10 May	11 May	12 May
Oster (north of Kiev)	360	220	240
Leningrad	10	10	10
Riga	10	10	10
Vilnyus	10	10	10
Brest	10	25	25
Rakhov	25	24	25
Kishinev (near Romanian border	50	60	30

A normal background is usually 7-10 uR/h.

YUGOSLAVIA

By telex it was reported that the maximum air concentration was found on 1 May (in Belgrade) with an iodine-131 concentration of 15 Bq/m^3.

The external dose rate in the period 30 April-2 May varied between 0 to about 150 μR/h above background. In milk, the iodine-131 concentration varied between 50 to 150 Bq/l.

It was later reported that some milk values had exceeded 1000 Bq/l, and that an iodine-131 deposition of the order of between 2.5 and 5 kBq/m^2 had been measured.