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# Engineering support and addressing the comments on radiation effects of the NNS in the context of EIA procedure

# Adding information on radiation effects of the NNS at the Dukovany Site on Austria

**For Amec Foster Wheeler s.r.o. under contract (order) no. C2314-17-Subcontract ABmerit**

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## Content:

# 1 Introduction

The subject of this technical report is the results of additional analyses of doses and soil contamination in the territory of Austria in the case of hypothetical severe accident - i.e. accidents which cause severe damage to the nuclear fuel and the irreversible loss of structure of the nuclear reactor core.

This document was created as a response to the request of the Austrian party in the context of the statement to the EIA documentation and the submitted document complements the information provided in the EIA documentation to the issue of the effect of DEC on Austria.

Additional analysis of the radiation impacts on the territory of Austria was carried out to a distance of 380 km from the New Nuclear Source at the Dukovany Site (NNS EDU), for the source term “DEC, severe accident, ground release”.

The values of effective dose for 2 days, for 7 days, for 30 days, for 365 days and equivalent dose to thyroid gland by inhalation of iodines for the age category “adults” and “children” (this case conservatively involves children aged 1-2 years) were calculated.

Effective and equivalent doses in the territory of Austria were determined to a distance of 380 km from the Dukovany NNS. The following is presented to each individual radiation parameter:

- average value,
- 95% and 99% quantile,
- maximum calculated value,
- and the probability of exceeding the value of 1 μSv or 10 μSv.

For events of DEC type, the mean levels of doses and contamination at a particular distance and 95% for modelling the worst case scenario are evaluated as standard. The Austrian request for the evaluation of doses for maximum values and 99% goes beyond the limit normal for modelling the effect of DEC-B and the results are presented on the basis of explicit request of the Austrian party.

The considered calculation areas for the analysis of impacts depending on the distance (activities of selected radionuclides and effective individual doses) for probabilistic calculations were always determined as the area defined as an annulus. For example, the statistical parameters “average” and “95% quantile” were determined on a statistical formula of 144 meteorological sequences randomly selected on formula of meteorological data measured in the Dukovany site in 2014 and the appropriate calculated radiation impacts, wherein in each case the maximum value of the radiation parameter in the annulus was found and the set of maximum values was then used to perform the statistical analyses.

The calculation areas for the analysis of food restrictions are generally characterized as an annulus (e.g. annulus of 20-30 km from the NNS EDU is the area bounded by a circle with a radius of 20 km and 30 km).

If the impacts on specific states (Austria) are analysed, the results are set for the penetration through the annulus and territory of the state. For example, the range of distances of 40-60 km from the NNS is stated in the chapter with the analysis of food restrictions in the territory of Austria, which means the impacts at a distance of 40-60 km only in the territory of Austria.

Another approach are the impacts calculated on the whole area (perimeter) of the annulus, i.e. independently of the state. This means that the results are determined on the whole area of the annulus around the NNS, independently of the particular state.

Some of the areas in the territory of Austria, which have been analysed in detail, are shown below. The specific position of Austria with respect to the NNS EDU shows that the next calculation area in the territory of Austria (the border with the Czech Republic to 40 km) covers a relatively small area of Austria and, at the same time, is not situated from the NNS EDU in the direction of the most common wind directions. Therefore, it is possible that the calculated radiation impacts (in the probabilistic assessment of impacts) in the area of 40-50 km in the territory of Austria (or even 50-60 km in the territory of Austria) are higher than in the area of border 40 km.

The probabilistic analysis involves the assessment of the maximum radiation parameter in the area. Therefore, for the annulus, the maximum radiation parameter for the annulus on the perimeter is greater than or equal to the maximum radiation parameter for this annulus limited to the territory of any state (e.g. Austria). Therefore, the value of the radiation parameter for a certain quantile across the annulus is always greater than or equal to the value of the radiation parameter for the quantile in the sub-region of the annulus.

Instructions for the interpretation of tables indicating the likelihood of prohibitions on agricultural commodities, such as Table 2.2.23 (milk):

a) basic information on the area and quantity of prohibited commodity is in column 0-100 km on the right side of the table (area and quantity). Specifically, Table 2.2.23 shows that in the entire 100 km surrounding of the NNS EDU in the territory of Austria, 7 days after the event:

- with a probability of 50%, the prohibition will be applied to 400 ha of grassland (and 30 tons of milk),

- with a probability of 5% (95% quantile), the prohibition will be applied to 9200 ha of grassland (rounded, in fact 9225 ha) and 700 tons of milk, i.e. with a probability of 5%, there were sequences of weather in 2014, which resulted in such contamination around the NNS in the territory of Austria that the limit level of specific activity in milk on the area (in the territory of 100 km from the NNS) of 9225 ha of grassland was exceeded and that is 720 tons of milk. We assume that milk-producing cattle graze on the areas of grassland, which makes that daily feedstuffs consumption on the grassland.

# 2 Additional analysis of radiation impacts in the territory of Austria to a distance of 380 km from the NNS

## 2.1. Table: Probability of doses and contamination (Austria)

Interpretive note:

At a distance of 80-100 km from the NNS at the Dukovany site in the territory of Austria, the effective dose for 2 days will be on an average = 19 µSv.

Explanation:

In the case of hypothetical severe accident, there could be an effective dose for 2 days in the territory of Austria in the range of 80-100 km from the NNS. The maximum value of the effective dose for 2 days on this affected area would be on an average 19 µSv (average of all sequences of meteorological situations).

In 1% of cases of all analysed sequences of meteorological data (99% quantile), the effective dose for 2 days somewhere on this affected area would be = 100 µSv.

The maximum calculated effective dose at a distance of 80-100 km from the NNS in the territory of Austria would be in this case also 100 µSv. The probability that somewhere in the territory of Austria, at a distance of 80-100 km from the NNS, in the case of this event at the NNS, the effective dose for 2 days would be higher as 1 µSv, is = 86%.

The annual effective dose from exposure to natural background to be received by an average population of the Central Europe is typically between 2000-4000 µSv.

**A) Dose load:**

| distance | For 2 days, effective dose, [Sv] | | | For 7 days, effective dose, [Sv] | | | For 30 days, effective dose, [Sv] | | | For 365 days, effective dose, [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (adults), [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (children), [Sv] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* |
| **30 - 40 km** | 4.5E-05 | 2.2E-04 | 3.2E-04 | 5.7E-05 | 2.5E-04 | 3.6E-04 | 6.4E-05 | 3.2E-04 | 4.0E-04 | 8.1E-05 | 3.9E-04 | 5.9E-04 | 5.1E-04 | 2.2E-03 | 3.3E-03 | 1.1E-03 | 4.6E-03 | 6.9E-03 |
| probability > 1E-6 Sv = 0.72<br>max [Sv] =3.8E-04 | | | | > 1E-6 Sv = 0.84<br>max [Sv] = 4.2E-04 | | | > 1E-5 Sv = 0.69<br>max [Sv] = 4.6E-04 | | | > 1E-5 Sv = 0.72<br>max [Sv] = 7.2E-04 | | | > 1E-5 Sv = 0.84<br>max [Sv] = 3.7E-03 | | | > 1E-5 Sv = 0.85<br>max [Sv] = 7.8E-03 | | |
| **40 - 50 km** | 5.9E-05 | 2.1E-04 | 3.0E-04 | 7.4E-05 | 2.6E-04 | 3.4E-04 | 8.3E-05 | 2.9E-04 | 3.7E-04 | 1.1E-04 | 3.9E-04 | 5.6E-04 | 6.6E-04 | 2.4E-03 | 3.0E-03 | 1.4E-03 | 4.9E-03 | 6.4E-03 |
| probability > 1E-6 Sv = 0.81<br>max [Sv] = 3.6E-04 | | | | > 1E-6 Sv = 0.94<br>max [Sv] = 3.9E-04 | | | > 1E-5 Sv = 0.83<br>max [Sv] = 4.3E-04 | | | > 1E-5 Sv = 0.83<br>max [Sv] = 6.4E-04 | | | > 1E-5 Sv = 0.93<br>max [Sv] = 3.5E-03 | | | > 1E-5 Sv = 0.93<br>max [Sv] = 7.3E-03 | | |
| **50 - 60 km** | 3.8E-05 | 1.3E-04 | 1.9E-04 | 4.7E-05 | 1.4E-04 | 2.1E-04 | 5.3E-05 | 1.6E-04 | 2.4E-04 | 7.0E-05 | 2.3E-04 | 3.3E-04 | 4.1E-04 | 1.3E-03 | 1.9E-03 | 8.6E-04 | 2.8E-03 | 4.0E-03 |
| probability > 1E-6 Sv = 0.86<br>max [Sv] = 2.2E-04 | | | | > 1E-6 Sv = 0.95<br>max [Sv] = 2.3E-04 | | | > 1E-5 Sv = 0.84<br>max [Sv] = 2.6E-04 | | | > 1E-5 Sv = 0.85<br>max [Sv] = 3.4E-04 | | | > 1E-5 Sv = 0.95<br>max [Sv] = 2.1E-03 | | | > 1E-5 Sv = 0.95<br>max [Sv] = 4.3E-03 | | |
| **60 - 80 km** | 2.8E-05 | 9.0E-05 | 1.6E-04 | 3.4E-05 | 1.1E-04 | 1.7E-04 | 3.9E-05 | 1.2E-04 | 1.9E-04 | 5.3E-05 | 1.6E-04 | 2.5E-04 | 3.0E-04 | 9.8E-04 | 1.5E-03 | 6.3E-04 | 2.0E-03 | 3.2E-03 |
| probability > 1E-6 Sv = 0.87<br>max [Sv] = 1.6E-04 | | | | > 1E-6 Sv = 0.96<br>max [Sv] = 1.7E-04 | | | > 1E-5 Sv = 0.79<br>max [Sv] = 1.9E-04 | | | > 1E-5 Sv = 0.81<br>max [Sv] = 2.6E-04 | | | > 1E-5 Sv = 0.96<br>max [Sv] = 1.5E-03 | | | > 1E-5 Sv = 0.96<br>max [Sv] = 3.2E-03 | | |
| **80 - 100 km** | 1.9E-05 | 6.4E-05 | 1.0E-04 | 2.3E-05 | 6.9E-05 | 1.1E-04 | 2.6E-05 | 8.6E-05 | 1.2E-04 | 3.6E-05 | 1.1E-04 | 1.7E-04 | 2.0E-04 | 6.3E-04 | 9.7E-04 | 4.2E-04 | 1.3E-03 | 2.0E-03 |
| probability > 1E-6 Sv = 0.86<br>max [Sv] = 1.0E-04 | | | | > 1E-6 Sv = 0.96<br>max [Sv] = 1.1E-04 | | | > 1E-5 Sv = 0.68<br>max [Sv] = 1.3E-04 | | | > 1E-5 Sv = 0.73<br>max [Sv] = 2.1E-04 | | | > 1E-5 Sv = 0.97<br>max [Sv] = 1.0E-03 | | | > 1E-5 Sv = 0.97<br>max [Sv] = 2.1E-03 | | |

| distance | For 2 days, effective dose, [Sv] | | | For 7 days, effective dose, [Sv] | | | For 30 days, effective dose, [Sv] | | | For 365 days, effective dose, [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (adults), [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (children), [Sv] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* |
| **100 - 120 km** | 1.0E-05 | 4.1E-05 | 6.7E-05 | 1.3E-05 | 4.4E-05 | 7.4E-05 | 1.5E-05 | 5.1E-05 | 8.3E-05 | 2.1E-05 | 7.5E-05 | 1.1E-04 | 1.2E-04 | 4.0E-04 | 6.4E-04 | 2.5E-04 | 8.2E-04 | 1.4E-03 |
| probability > 1E-6 Sv = 0.72<br>max [Sv] = 7.1E-05 | | | | > 1E-6 Sv = 0.85<br>max [Sv] = 7.6E-05 | | | > 1E-5 Sv = 0.49<br>max [Sv] = 8.6E-05 | | | > 1E-5 Sv = 0.53<br>max [Sv] = 1.2E-04 | | | > 1E-5 Sv = 0.85<br>max [Sv] = 6.6E-04 | | | > 1E-5 Sv = 0.88<br>max [Sv] = 1.4E-03 | | |
| **120 - 140 km** | 7.7E-06 | 3.3E-05 | 5.2E-05 | 9.8E-06 | 3.7E-05 | 5.7E-05 | 1.1E-05 | 4.5E-05 | 6.4E-05 | 1.6E-05 | 6.8E-05 | 9.5E-05 | 8.9E-05 | 3.3E-04 | 5.1E-04 | 1.8E-04 | 6.8E-04 | 1.1E-03 |
| probability > 1E-6 Sv = 0.65<br>max [Sv] = 5.6E-05 | | | | > 1E-6 Sv = 0.78<br>max [Sv] = 6.0E-05 | | | > 1E-5 Sv = 0.38<br>max [Sv] = 6.9E-05 | | | > 1E-5 Sv = 0.47<br>max [Sv] = 1.2E-04 | | | > 1E-5 Sv = 0.78<br>max [Sv] = 5.1E-04 | | | > 1E-5 Sv = 0.83<br>max [Sv] = 1.1E-03 | | |
| **140 - 160 km** | 5.2E-06 | 2.4E-05 | 3.5E-05 | 6.8E-06 | 2.7E-05 | 3.9E-05 | 7.9E-06 | 3.0E-05 | 4.4E-05 | 1.1E-05 | 4.9E-05 | 7.2E-05 | 6.2E-05 | 2.3E-04 | 3.5E-04 | 1.3E-04 | 4.8E-04 | 7.3E-04 |
| probability > 1E-6 Sv = 0.58<br>max [Sv] = 4.1E-05 | | | | > 1E-6 Sv = 0.76<br>max [Sv] = 4.4E-05 | | | > 1E-5 Sv = 0.29<br>max [Sv] = 5.1E-05 | | | > 1E-5 Sv = 0.36<br>max [Sv] = 7.6E-05 | | | > 1E-5 Sv = 0.76<br>max [Sv] = 3.7E-04 | | | > 1E-5 Sv = 0.81<br>max [Sv] = 7.8E-04 | | |
| **160 - 180 km** | 3.6E-06 | 1.4E-05 | 3.0E-05 | 4.7E-06 | 1.5E-05 | 3.3E-05 | 5.5E-06 | 1.8E-05 | 3.8E-05 | 8.0E-06 | 2.8E-05 | 6.5E-05 | 4.3E-05 | 1.4E-04 | 3.0E-04 | 8.9E-05 | 3.0E-04 | 6.2E-04 |
| probability > 1E-6 Sv = 0.53<br>max [Sv] = 3.6E-05 | | | | > 1E-6 Sv = 0.69<br>max [Sv] = 3.9E-05 | | | > 1E-5 Sv = 0.16<br>max [Sv] = 4.5E-05 | | | > 1E-5 Sv = 0.29<br>max [Sv] = 9.4E-05 | | | > 1E-5 Sv = 0.69<br>max [Sv] = 3.2E-04 | | | > 1E-5 Sv = 0.80<br>max [Sv] = 6.8E-04 | | |
| **180 - 200 km** | 2.2E-06 | 9.6E-06 | 2.3E-05 | 3.0E-06 | 1.2E-05 | 2.5E-05 | 3.5E-06 | 1.3E-05 | 2.9E-05 | 4.9E-06 | 1.9E-05 | 5.3E-05 | 2.8E-05 | 1.1E-04 | 2.3E-04 | 5.7E-05 | 2.2E-04 | 4.8E-04 |
| probability > 1E-6 Sv = 0.37<br>max [Sv] = 2.9E-05 | | | | > 1E-6 Sv = 0.53<br>max [Sv] = 3.1E-05 | | | > 1E-5 Sv = 0.10<br>max [Sv] = 3.6E-05 | | | > 1E-5 Sv = 0.15<br>max [Sv] = 5.9E-05 | | | > 1E-5 Sv = 0.51<br>max [Sv] = 2.6E-04 | | | > 1E-5 Sv = 0.61<br>max [Sv] = 5.5E-04 | | |
| **200 - 220 km** | 1.8E-06 | 8.6E-06 | 2.0E-05 | 2.5E-06 | 9.7E-06 | 2.2E-05 | 2.9E-06 | 1.2E-05 | 2.5E-05 | 4.1E-06 | 1.6E-05 | 4.9E-05 | 2.3E-05 | 9.1E-05 | 2.0E-04 | 4.7E-05 | 1.9E-04 | 4.1E-04 |
| probability > 1E-6 Sv = 0.33<br>max [Sv] = 2.6E-05 | | | | > 1E-6 Sv = 0.47<br>max [Sv] = 2.9E-05 | | | > 1E-5 Sv = 0.06<br>max [Sv] = 3.3E-05 | | | > 1E-5 Sv = 0.11<br>max [Sv] = 6.3E-05 | | | > 1E-5 Sv = 0.47<br>max [Sv] = 2.4E-04 | | | > 1E-5 Sv = 0.54<br>max [Sv] = 5.0E-04 | | |

| distance | For 2 days, effective dose, [Sv] | | | For 7 days, effective dose, [Sv] | | | For 30 days, effective dose, [Sv] | | | For 365 days, effective dose, [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (adults), [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (children), [Sv] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* |
| **220 - 240 km** | 1.3E-06 | 7.3E-06 | 1.5E-05 | 1.8E-06 | 8.7E-06 | 1.7E-05 | 2.1E-06 | 1.0E-05 | 1.9E-05 | 3.1E-06 | 1.7E-05 | 4.1E-05 | 1.7E-05 | 8.0E-05 | 1.5E-04 | 3.5E-05 | 1.6E-04 | 3.2E-04 |
| probability > 1E-6 Sv = 0.26<br>max [Sv] = 2.2E-05 | | | | > 1E-6 Sv = 0.37<br>max [Sv] = 2.4E-05 | | | > 1E-5 Sv = 0.05<br>max [Sv] = 2.8E-05 | | | > 1E-5 Sv = 0.10<br>max [Sv] = 4.5E-05 | | | > 1E-5 Sv = 0.37<br>max [Sv] = 2.0E-04 | | | > 1E-5 Sv = 0.48<br>max [Sv] = 4.2E-04 | | |
| **240 - 260 km** | 1.1E-06 | 7.2E-06 | 1.4E-05 | 1.5E-06 | 8.1E-06 | 1.5E-05 | 1.7E-06 | 9.6E-06 | 1.8E-05 | 2.5E-06 | 1.5E-05 | 2.5E-05 | 1.4E-05 | 7.2E-05 | 1.4E-04 | 2.9E-05 | 1.5E-04 | 2.9E-04 |
| probability > 1E-6 Sv = 0.21<br>max [Sv] = 2.0E-05 | | | | > 1E-6 Sv = 0.32<br>max [Sv] = 2.2E-05 | | | > 1E-5 Sv = 0.03<br>max [Sv] = 2.6E-05 | | | > 1E-5 Sv = 0.08<br>max [Sv] = 3.8E-05 | | | > 1E-5 Sv = 0.33<br>max [Sv] = 1.8E-04 | | | > 1E-5 Sv = 0.39<br>max [Sv] = 3.8E-04 | | |
| **260 - 280 km** | 3.4E-07 | 2.4E-06 | 4.4E-06 | 5.3E-07 | 2.8E-06 | 4.8E-06 | 6.3E-07 | 3.3E-06 | 5.9E-06 | 9.3E-07 | 5.4E-06 | 1.1E-05 | 5.0E-06 | 2.0E-05 | 3.9E-05 | 1.0E-05 | 4.1E-05 | 8.1E-05 |
| probability > 1E-6 Sv = 0.11<br>max [Sv] = 5.7E-06 | | | | > 1E-6 Sv = 0.19<br>max [Sv] = 8.3E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 9.8E-06 | | | > 1E-5 Sv = 0.02<br>max [Sv] = 1.4E-05 | | | > 1E-5 Sv = 0.19<br>max [Sv] = 8.1E-05 | | | > 1E-5 Sv = 0.29<br>max [Sv] = 1.7E-04 | | |
| **280 - 300 km** | 1.2E-07 | 8.7E-07 | 2.9E-06 | 2.1E-07 | 1.2E-06 | 3.3E-06 | 2.4E-07 | 1.3E-06 | 4.2E-06 | 3.4E-07 | 2.1E-06 | 7.7E-06 | 1.9E-06 | 1.2E-05 | 2.4E-05 | 3.9E-06 | 2.5E-05 | 4.9E-05 |
| probability > 1E-6 Sv = 0.03<br>max [Sv] = 3.3E-06 | | | | > 1E-6 Sv = 0.07<br>max [Sv] = 3.6E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 4.5E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 7.7E-06 | | | > 1E-5 Sv = 0.06<br>max [Sv] = 2.8E-05 | | | > 1E-5 Sv = 0.13<br>max [Sv] = 5.8E-05 | | |
| **300 - 320 km** | 8.8E-08 | 5.9E-07 | 2.3E-06 | 1.5E-07 | 1.0E-06 | 2.6E-06 | 1.8E-07 | 1.2E-06 | 3.3E-06 | 2.6E-07 | 1.4E-06 | 6.2E-06 | 1.4E-06 | 1.1E-05 | 1.9E-05 | 2.8E-06 | 2.2E-05 | 3.8E-05 |
| probability > 1E-6 Sv = 0.03<br>max [Sv] = 3.1E-06 | | | | > 1E-6 Sv = 0.05<br>max [Sv] = 3.4E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 4.2E-06 | | | > 1E-5 Sv =<br>max [Sv] = 7.2E-06 | | | > 1E-5 Sv = 0.06<br>max [Sv] = 2.6E-05 | | | > 1E-5 Sv = 0.08<br>max [Sv] = 5.4E-05 | | |
| **320 - 340 km** | 5.6E-08 | 3.6E-07 | 1.7E-06 | 1.0E-07 | 8.2E-07 | 1.9E-06 | 1.2E-07 | 9.0E-07 | 2.4E-06 | 1.7E-07 | 1.1E-06 | 4.2E-06 | 9.5E-07 | 8.4E-06 | 1.3E-05 | 1.9E-06 | 1.7E-05 | 2.6E-05 |
| probability > 1E-6 Sv = 0.02<br>max [Sv] = 1.8E-06 | | | | > 1E-6 Sv = 0.03<br>max [Sv] = 2.0E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 2.5E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 4.5E-06 | | | > 1E-5 Sv = 0.03<br>max [Sv] = 1.6E-05 | | | > 1E-5 Sv = 0.06<br>max [Sv] = 3.3E-05 | | |

| distance | For 2 days, effective dose, [Sv] | | | For 7 days, effective dose, [Sv] | | | For 30 days, effective dose, [Sv] | | | For 365 days, effective dose, [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (adults), [Sv] | | | Equivalent dose to thyroid gland by inhalation of iodines (children), [Sv] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* | *Average* | *95%* | *99%* |
| **340 - 360 km** | 3.4E-08 | 1.5E-07 | 8.6E-07 | 6.0E-08 | 4.7E-07 | 9.4E-07 | 6.9E-08 | 5.9E-07 | 1.1E-06 | 9.8E-08 | 9.7E-07 | 1.7E-06 | 5.6E-07 | 3.6E-06 | 9.6E-06 | 1.1E-06 | 7.3E-06 | 1.9E-05 |
| probability > 1E-6 Sv = 0.01<br>max [Sv] =1.0E-06 | | | | > 1E-6 Sv = 0.01<br>max [Sv] = 1.2E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 1.5E-06 | | | > 1E-5 Sv = 0.00<br>max [Sv] = 2.7E-06 | | | > 1E-5 Sv = 0.01<br>max [Sv] = 1.0E-05 | | | > 1E-5 Sv = 0.04<br>max [Sv] = 2.0E-05 | | |
| **360 - 380 km** | 1.5E-08 | 5.3E-08 | 4.4E-07 | 2.7E-08 | 1.2E-07 | 5.0E-07 | 3.1E-08 | 1.4E-07 | 6.4E-07 | 4.3E-08 | 1.7E-07 | 1.2E-06 | 2.6E-07 | 1.3E-06 | 4.7E-06 | 5.2E-07 | 2.6E-06 | 9.3E-06 |
| probability > 1E-6 Sv = 0.00<br>max [Sv] =7.85E-07 | | | | > 1E-6 Sv = 0.00<br>max = 8.9E-07 | | | > 1E-5 Sv = 0.00<br>max = 9.9E-07 | | | > 1E-5 Sv = 0.00<br>max = 1.2E-06 | | | > 1E-5 Sv = 0.00<br>max = 9.7E-06 | | | > 1E-5 Sv = 0.01<br>max = 2.0E-05 | | |

**Summary:**

The intervention levels of doses for urgent protective measures under Austrian (or Czech) law or regulations (INTV 2017) are not reached anywhere in the territory of Austria.

**B) Contamination:**

| distance | TIC I-131 [Bq*s/m³] | | Deposit I-131 [Bq/m²] | | TIC Cs-137 [Bq*s/m³] | | Deposit Cs-137 [Bq/m²] | | TIC Cs-134 [Bq*s/m³] | | Deposit Cs-134 [Bq/m²] | | TIC Sr-90 [Bq*s/m³] | | Deposit Sr-90 [Bq/m²] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* |
| **30 - 40 km** | 8.1E+06 | 3.4E+07 | 4.6E+04 | 1.9E+05 | 3.6E+05 | 1.7E+06 | 8.7E+02 | 3.6E+03 | 5.0E+05 | 2.3E+06 | 1.2E+03 | 5.0E+03 | 6.5E+04 | 3.0E+05 | 1.6E+02 | 6.5E+02 |
| | probability > 700 Bq/m² = 0.84<br>probability > 6000 Bq/m² = 0.76<br>max [Bq/m²] = 3.3E+05 | | | | probability > 650 Bq/m² = 0.34<br>max [Bq/m²] = 1.8E+04 | | | | | | | | | | | |
| **40 - 50 km** | 1.0E+07 | 3.7E+07 | 6.2E+04 | 2.2E+05 | 5.0E+05 | 1.9E+06 | 1.2E+03 | 4.7E+03 | 7.0E+05 | 2.7E+06 | 1.7E+03 | 6.6E+03 | 9.0E+04 | 3.4E+05 | 2.2E+02 | 8.5E+02 |
| | probability > 700 Bq/m² = 0.94<br>probability > 6000 Bq/m² =0.86<br>max [Bq/m²] = 2.9E+05 | | | | probability > 650 Bq/m² = 0.46<br>max [Bq/m²] = 1.5E+04 | | | | | | | | | | | |
| **50 - 60 km** | 6.4E+06 | 2.1E+07 | 3.8E+04 | 1.3E+05 | 3.5E+05 | 1.0E+06 | 8.6E+02 | 3.3E+03 | 4.9E+05 | 1.5E+06 | 1.2E+03 | 4.6E+03 | 6.3E+04 | 1.9E+05 | 1.6E+02 | 6.0E+02 |
| | probability > 700 Bq/m² = 0.95<br>probability > 6000 Bq/m² = 0.88<br>max [Bq/m²] = 1.7E+05 | | | | probability > 650 Bq/m² = 0.42<br>max [Bq/m²] =8.1E+03 | | | | | | | | | | | |
| **60 - 80 km** | 4.7E+06 | 1.5E+07 | 2.9E+04 | 9.2E+04 | 2.7E+05 | 8.9E+05 | 6.8E+02 | 2.7E+03 | 3.8E+05 | 1.2E+06 | 9.5E+02 | 3.8E+03 | 5.0E+04 | 1.6E+05 | 1.2E+02 | 4.9E+02 |
| | probability > 700 Bq/m² = 0.96<br>probability > 6000 Bq/m² = 0.84<br>max [Bq/m²] = 1.2E+05 | | | | probability > 650 Bq/m² = 0.39<br>max [Bq/m²] = 7.0E+03 | | | | | | | | | | | |
| **80 - 100 km** | 3.2E+06 | 1.0E+07 | 2.0E+04 | 6.6E+04 | 1.9E+05 | 5.9E+05 | 4.8E+02 | 1.5E+03 | 2.7E+05 | 8.2E+05 | 6.7E+02 | 2.2E+03 | 3.5E+04 | 1.1E+05 | 8.7E+01 | 2.8E+02 |
| | probability > 700 Bq/m² = 0.97<br>probability > 6000 Bq/m² = 0.78<br>max [Bq/m²] = 1.0E+05 | | | | probability > 650 Bq/m² = 0.26<br>max [Bq/m²] = 5.4E+03 | | | | | | | | | | | |

| distance | TIC I-131 [Bq*s/m³] | | Deposit I-131 [Bq/m²] | | TIC Cs-137 [Bq*s/m³] | | Deposit Cs-137 [Bq/m²] | | TIC Cs-134 [Bq*s/m³] | | Deposit Cs-134 [Bq/m²] | | TIC Sr-90 [Bq*s/m³] | | Deposit Sr-90 [Bq/m²] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* |
| **100 - 120 km** | 1.9E+06 | 6.4E+06 | 1.2E+04 | 4.6E+04 | 1.1E+05 | 4.4E+05 | 2.8E+02 | 1.2E+03 | 1.6E+05 | 6.2E+05 | 3.9E+02 | 1.6E+03 | 2.0E+04 | 8.0E+04 | 5.1E+01 | 2.1E+02 |
| probability > 700 Bq/m² = 0.88<br>probability > 6000 Bq/m² = 0.56<br>max [Bq/m²] = 7.0E+04 | | | | | probability > 650 Bq/m² = 0.12<br>max [Bq/m²] = 2.9E+03 | | | | | | | | | | | |
| **120 - 140 km** | 1.4E+06 | 4.9E+06 | 9.0E+03 | 3.5E+04 | 8.4E+04 | 3.8E+05 | 2.2E+02 | 9.9E+02 | 1.2E+05 | 5.3E+05 | 3.1E+02 | 1.4E+03 | 1.5E+04 | 6.9E+04 | 4.1E+01 | 1.8E+02 |
| probability > 700 Bq/m² = 0.83<br>probability > 6000 Bq/m² = 0.50<br>max [Bq/m²] = 5.6E+04 | | | | | probability > 650 Bq/m² = 0.08<br>max [Bq/m²] = 3.3E+03 | | | | | | | | | | | |
| **140 - 160 km** | 9.9E+05 | 3.4E+06 | 6.2E+03 | 2.5E+04 | 6.1E+04 | 2.8E+05 | 1.6E+02 | 6.6E+02 | 8.6E+04 | 3.9E+05 | 2.2E+02 | 9.2E+02 | 1.1E+04 | 5.1E+04 | 2.9E+01 | 1.2E+02 |
| probability > 700 Bq/m² = 0.80<br>probability > 6000 Bq/m² = 0.40<br>max [Bq/m²] = 4.2E+04 | | | | | probability > 650 Bq/m² = 0.05<br>max [Bq/m²] = 2.2E+03 | | | | | | | | | | | |
| **160 - 180 km** | 6.9E+05 | 2.2E+06 | 4.3E+03 | 1.4E+04 | 4.5E+04 | 1.7E+05 | 1.2E+02 | 4.5E+02 | 6.3E+04 | 2.5E+05 | 1.7E+02 | 6.2E+02 | 8.1E+03 | 3.2E+04 | 2.2E+01 | 8.1E+01 |
| probability > 700 Bq/m² = 0.77<br>probability > 6000 Bq/m² = 0.22<br>max [Bq/m²] = 3.9E+04 | | | | | probability > 650 Bq/m² = 0.02<br>max [Bq/m²] = 2.8E+03 | | | | | | | | | | | |
| **180 - 200 km** | 4.5E+05 | 1.6E+06 | 2.7E+03 | 9.7E+03 | 2.8E+04 | 1.4E+05 | 7.1E+01 | 3.3E+02 | 4.0E+04 | 1.9E+05 | 9.9E+01 | 4.5E+02 | 5.1E+03 | 2.5E+04 | 1.3E+01 | 5.9E+01 |
| probability > 700 Bq/m² = 0.58<br>probability > 6000 Bq/m² = 0.12<br>max [Bq/m²] = 2.3E+04 | | | | | probability > 650 Bq/m² = 0.01<br>max [Bq/m²] = 1.7E+03 | | | | | | | | | | | |
| **200 - 220 km** | 3.8E+05 | 1.5E+06 | 2.3E+03 | 8.7E+03 | 2.3E+04 | 1.2E+05 | 6.1E+01 | 2.7E+02 | 3.2E+04 | 1.7E+05 | 8.5E+01 | 3.7E+02 | 4.1E+03 | 2.2E+04 | 1.1E+01 | 4.8E+01 |

| distance | TIC I-131 [Bq*s/m³] | | Deposit I-131 [Bq/m²] | | TIC Cs-137 [Bq*s/m³] | | Deposit Cs-137 [Bq/m²] | | TIC Cs-134 [Bq*s/m³] | | Deposit Cs-134 [Bq/m²] | | TIC Sr-90 [Bq*s/m³] | | Deposit Sr-90 [Bq/m²] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* |
| | | | | | | | | | | | | | | | | |
| | probability > 700 Bq/m² = 0.53<br>probability > 6000 Bq/m² = 0.09<br>max [Bq/m²] = 2.4E+04 | | | | probability > 650 Bq/m² = 0.01<br>max [Bq/m²] = 1.8E+03 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **220 - 240 km** | 2.8E+05 | 1.4E+06 | 1.7E+03 | 7.8E+03 | 1.7E+04 | 1.2E+05 | 4.7E+01 | 2.5E+02 | 2.4E+04 | 1.7E+05 | 6.5E+01 | 3.5E+02 | 3.1E+03 | 2.1E+04 | 8.4E+00 | 4.6E+01 |
| | probability > 700 Bq/m² = 0.45<br>probability > 6000 Bq/m² = 0.07<br>max [Bq/m²] = 1.8E+04 | | | | probability > 650 Bq/m² = 0.01<br>max [Bq/m²] = 1.3E+03 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **240 - 260 km** | 2.3E+05 | 1.2E+06 | 1.3E+03 | 6.8E+03 | 1.5E+04 | 1.1E+05 | 3.4E+01 | 2.7E+02 | 2.0E+04 | 1.6E+05 | 4.8E+01 | 3.7E+02 | 2.6E+03 | 2.0E+04 | 6.2E+00 | 4.8E+01 |
| | probability > 700 Bq/m² = 0.37<br>probability > 6000 Bq/m² = 0.06<br>max [Bq/m²] = 1.7E+04 | | | | probability > 650 Bq/m² = 0.00<br>max [Bq/m²] = 6.1E+02 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **260 - 280 km** | 8.4E+04 | 3.3E+05 | 5.2E+02 | 2.2E+03 | 5.8E+03 | 4.1E+04 | 1.4E+01 | 9.4E+01 | 8.2E+03 | 5.8E+04 | 2.0E+01 | 1.3E+02 | 1.1E+03 | 7.5E+03 | 2.6E+00 | 1.7E+01 |
| | probability > 700 Bq/m² = 0.25<br>probability > 6000 Bq/m² = 0.01<br>max [Bq/m²] = 7.1E+03 | | | | probability > 650 Bq/m² = 0.00<br>max [Bq/m²] = 3.1E+02 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **280 - 300 km** | 3.3E+04 | 2.0E+05 | 2.0E+02 | 1.3E+03 | 2.2E+03 | 1.7E+04 | 4.9E+00 | 3.9E+01 | 3.1E+03 | 2.4E+04 | 6.9E+00 | 5.4E+01 | 4.0E+02 | 3.1E+03 | 8.9E-01 | 7.0E+00 |
| | probability > 700 Bq/m² = 0.13<br>probability > 6000 Bq/m² = 0.00<br>max [Bq/m²] = 2.2E+03 | | | | probability > 650 Bq/m² = 0.00<br>max [Bq/m²] = 1.7E+02 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **300 - 320 km** | 2.4E+04 | 1.8E+05 | 1.4E+02 | 9.8E+02 | 1.8E+03 | 9.3E+03 | 3.7E+00 | 1.9E+01 | 2.5E+03 | 1.3E+04 | 5.2E+00 | 2.6E+01 | 3.3E+02 | 1.7E+03 | 6.8E-01 | 3.4E+00 |
| | probability > 700 Bq/m² = 0.08<br>probability > 6000 Bq/m² = 0.00 | | | | probability > 650 Bq/m² = 0.00 | | | | | | | | | | | |

| distance | TIC I-131 [Bq*s/m³] | | Deposit I-131 [Bq/m²] | | TIC Cs-137 [Bq*s/m³] | | Deposit Cs-137 [Bq/m²] | | TIC Cs-134 [Bq*s/m³] | | Deposit Cs-134 [Bq/m²] | | TIC Sr-90 [Bq*s/m³] | | Deposit Sr-90 [Bq/m²] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* | *Average* | *95%* |
| | | | | max [Bq/m²] = 2.1E+03 | | | | max [Bq/m²] = 1.5E+02 | | | | | | | | |
| **320 - 340 km** | 1.7E+04 | 1.5E+05 | 9.8E+01 | 8.7E+02 | 1.1E+03 | 6.0E+03 | 2.3E+00 | 1.2E+01 | 1.6E+03 | 8.4E+03 | 3.3E+00 | 1.7E+01 | 2.1E+02 | 1.1E+03 | 4.2E-01 | 2.2E+00 |
| | | | | probability > 700 Bq/m² = 0.06<br>probability > 6000 Bq/m² = 0.00<br>max [Bq/m²] = 1.4E+03 | | | | probability > 650 Bq/m² = 0.00<br>max [Bq/m²] = 1.0E+02 | | | | | | | | |
| **340 - 360 km** | 9.7E+03 | 6.0E+04 | 5.7E+01 | 4.9E+02 | 6.6E+02 | 1.8E+03 | 1.4E+00 | 3.7E+00 | 9.3E+02 | 2.5E+03 | 1.9E+00 | 5.1E+00 | 1.2E+02 | 3.3E+02 | 2.5E-01 | 6.6E-01 |
| | | | | probability > 700 Bq/m² = 0.02<br>probability > 6000 Bq/m² = 0.00<br>max [Bq/m²] = 1.1E+03 | | | | probability > 650 Bq/m² = 0.00<br>max [Bq/m²] = 6.0E+01 | | | | | | | | |
| **360 - 380 km** | 4.5E+03 | 2.1E+04 | 2.7E+01 | 1.5E+02 | 2.7E+02 | 6.3E+02 | 5.5E-01 | 1.3E+00 | 3.8E+02 | 9.3E+02 | 7.7E-01 | 1.9E+00 | 4.9E+01 | 1.2E+02 | 1.0E-01 | 2.4E-01 |
| | | | | probability > 700 Bq/m² = 0.01<br>probability > 6000 Bq/m² = 0.00<br>max [Bq/m²] = 9.4E+02 | | | | probability > 650 Bq/m² = 0.00<br>max [Bq/m²] = 2.7E+01 | | | | | | | | |

## 2.2. Analysis of food restrictions in the territory of Austria

Food restrictions are analysed and determined in accordance with Council Regulation (EURATOM) 2016/52 of 15 January 2016.

Interpretive note:

Leaf vegetable:

In the case of hypothetical severe accident, there will be no prohibition on leaf vegetable in the territory of Austria with a probability of 50% in the event “DEC severe accident, ground release”. The probability of exceeding the intervention level in leaf vegetable 7 days after the event (meaning “exceeded somewhere in the territory of Austria”) is 25% (mainly due to I-131). The probability of exceeding the intervention level 30 days after the event is 3%. There is no restriction one year after the event.

Milk:

In the case of hypothetical severe accident, the probability of exceeding the intervention level in milk 7 days after the event, anywhere in the territory of Austria with the grassland, is 68% (mainly due to the content of I-131). The total quantity of prohibited milk, 95% quantile, will be 700 tons. The probability of exceeding the intervention level 30 days after the event (meaning “exceeded somewhere in the territory of Austria”) is 21%. The total quantity of prohibited milk, 95% quantile, will be 100 tons. There is no restriction one year after the event.

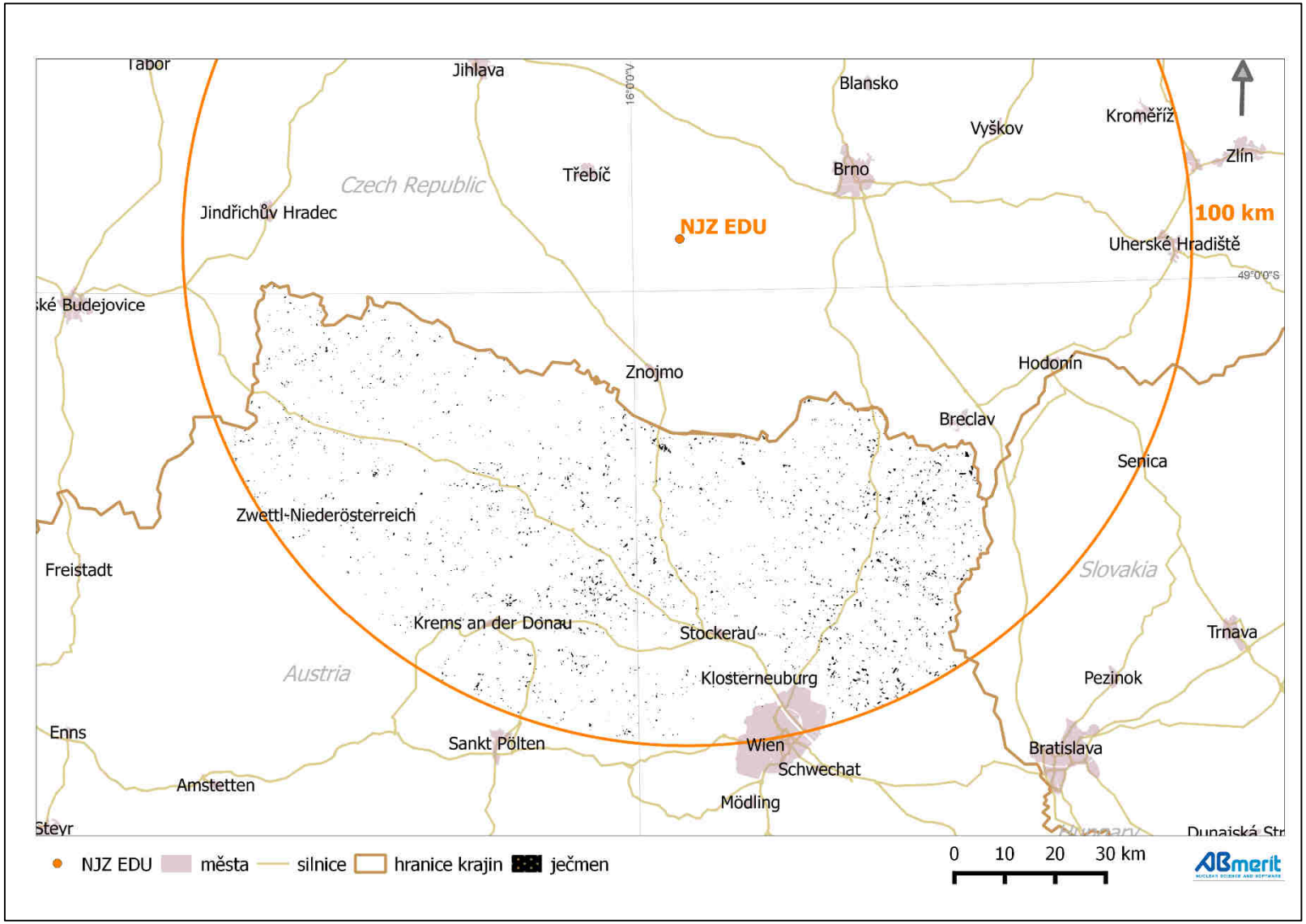
The annual milk production (2016, 2015) in Austria is approximately 3.6 million tons.

Wheat:

In the case of hypothetical severe accident, the probability of exceeding the intervention level in wheat 7 days after the event, anywhere in the territory of Austria with the wheat field, is 30% (mainly due to the content of I-131). The total quantity of prohibited wheat, 95% quantile, will be 50,000 tons. The probability of exceeding the intervention level 30 days after the event (meaning “exceeded somewhere in the territory of Austria”) is 6%. The total quantity of prohibited wheat, 95% quantile, will be 300 tons. There is no restriction one year after the event.

The annual wheat production (2016, 2015) in Austria is approximately 1.8 million tons.

## 2.2.1 Figure - barley in the territory of Austria



## 2.2.2 Barley: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

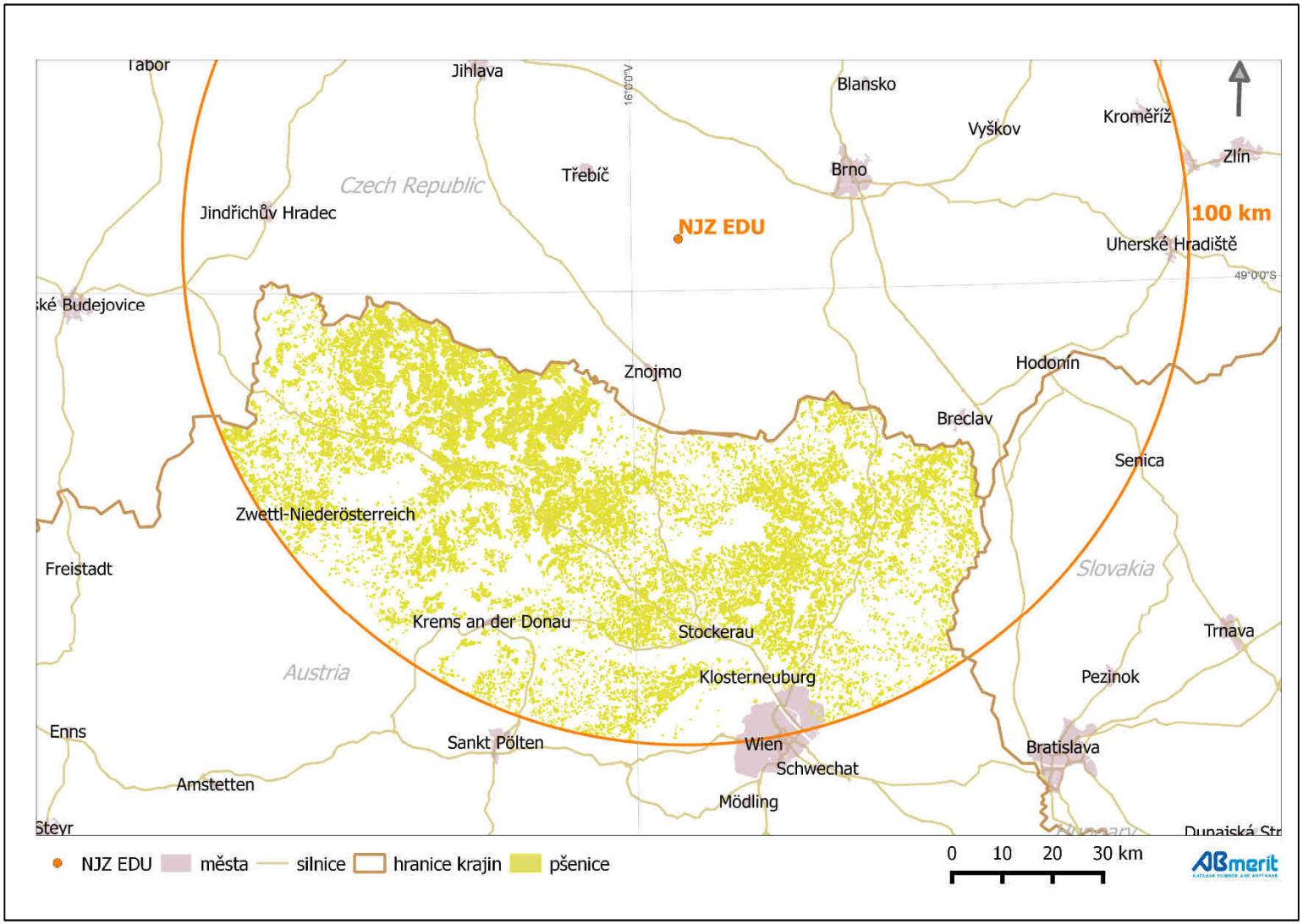
| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | 0E+0 | 3E+1 | 0E+0 | 3E+2 | 0E+0 | 3E+2 | 0E+0 | 1E+2 | 0E+0 | 8E+2 | 0E+0 | 5E+3 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | 0E+0 | 3E+1 | 0E+0 | 3E+2 | 0E+0 | 3E+2 | 0E+0 | 1E+2 | 0E+0 | 8E+2 | 0E+0 | 5E+3 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | no prohibition | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | 0E+0 | 0E+0 | 0E+0 | 4E-1 | 0E+0 | 0E+0 | | | 0E+0 | 1E+1 | 0E+0 | 6E+1 |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border - 100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

### 2.2.3 Barley: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cs-134 | 0.02 | 0.02 | 0.01 | 0.00 |
| I-131 | 0.29 | 0.25 | 0.15 | 0.06 |
| Sr-90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.29 | 0.25 | 0.15 | 0.06 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | no prohibition |
| Cs-134 | 0.02 | 0.02 | 0.01 | |
| I-131 | 0.04 | 0.01 | 0.01 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.05 | 0.02 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.4 Figure - wheat in the territory of Austria



## 2.2.5 Wheat: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

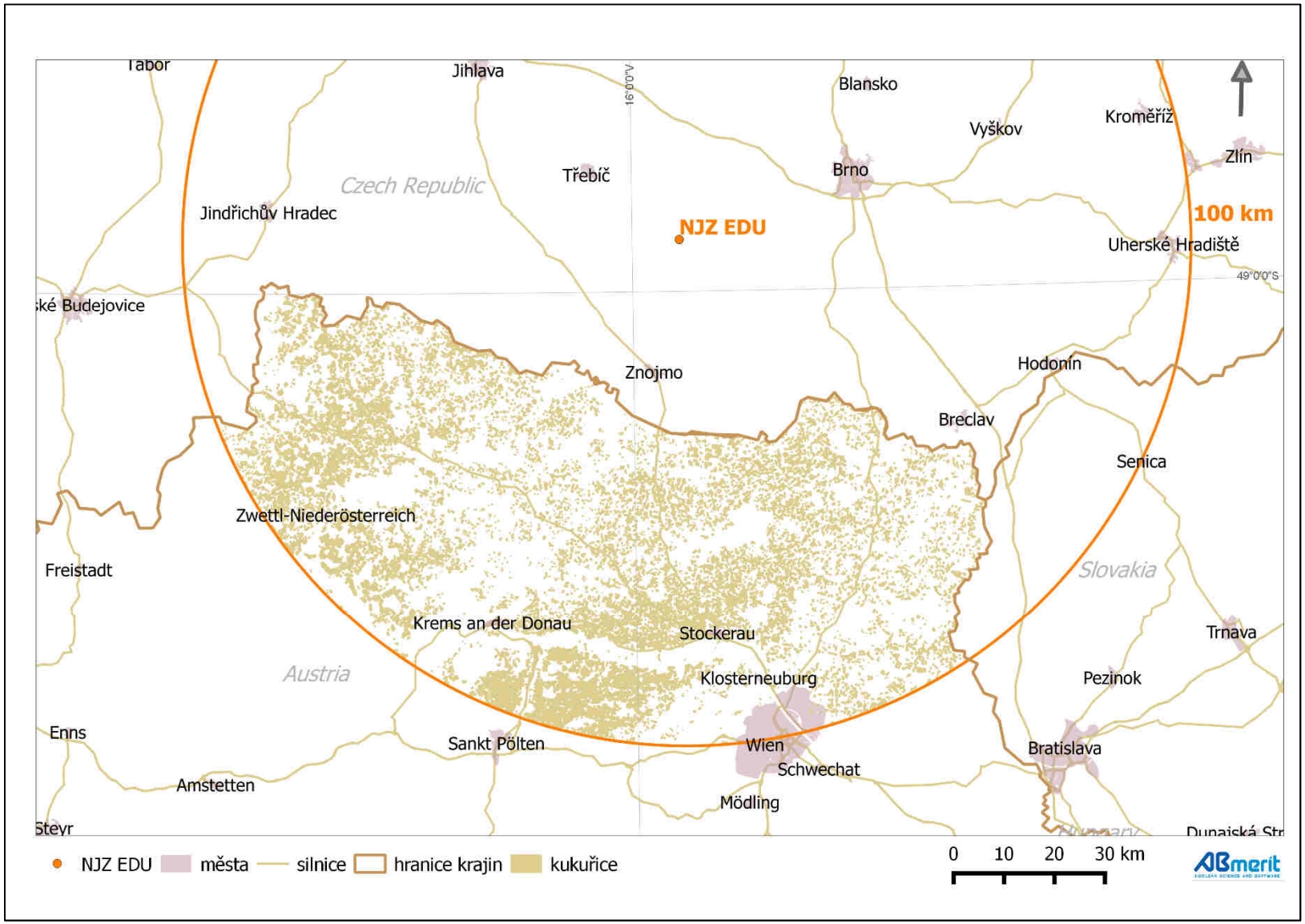
| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | 0E+0 | 8E+1 | 0E+0 | 3E+3 | 0E+0 | 3E+3 | 0E+0 | 9E+2 | 0E+0 | 8E+3 | 0E+0 | 5E+4 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | 0E+0 | 8E+1 | 0E+0 | 3E+3 | 0E+0 | 3E+3 | 0E+0 | 9E+2 | 0E+0 | 8E+3 | 0E+0 | 5E+4 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | no prohibition | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | 0E+0 | 0E+0 | 0E+0 | 1E+1 | 0E+0 | 0E+0 | | | 0E+0 | 1E+1 | 0E+0 | 8E+1 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | 0E+0 | 0E+0 | 0E+0 | 5E+1 | 0E+0 | 0E+0 | | | 0E+0 | 5E+1 | 0E+0 | 3E+2 |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

### 2.2.6 Wheat: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cs-134 | 0.02 | 0.02 | 0.01 | 0.00 |
| I-131 | 0.30 | 0.25 | 0.15 | 0.06 |
| Sr-90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.30 | 0.25 | 0.15 | 0.06 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | no prohibition |
| Cs-134 | 0.02 | 0.02 | 0.01 | |
| I-131 | 0.05 | 0.01 | 0.01 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.06 | 0.02 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.7 Figure - maize in the territory of Austria



## 2.2.8 Maize: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | 0E+0 | 4E+0 | 0E+0 | 2E+3 | 0E+0 | 2E+3 | 0E+0 | 8E+2 | 0E+0 | 6E+3 | 0E+0 | 2E+5 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | 0E+0 | 4E+0 | 0E+0 | 2E+3 | 0E+0 | 2E+3 | 0E+0 | 8E+2 | 0E+0 | 6E+3 | 0E+0 | 2E+5 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

### 2.2.9 Maize: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cs-134 | 0.02 | 0.02 | 0.01 | 0.00 |
| I-131 | 0.24 | 0.17 | 0.09 | 0.05 |
| Sr-90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.24 | 0.17 | 0.09 | 0.05 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | no prohibition |
| Cs-134 | 0.02 | 0.02 | 0.01 | |
| I-131 | 0.03 | 0.01 | 0.00 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.04 | 0.02 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.10 Maize (fodder plant): Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

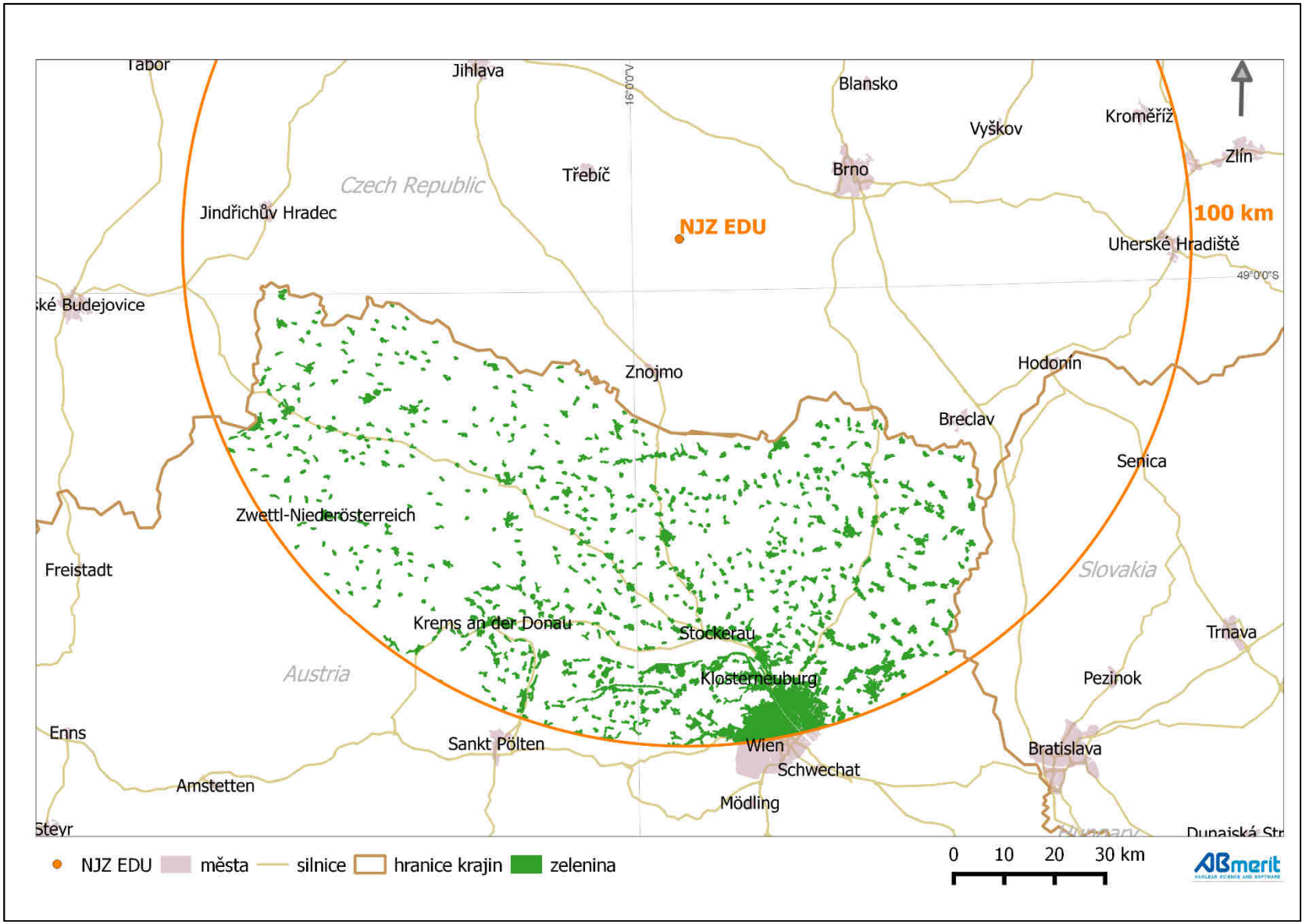
| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 5E-1 | 0E+0 | 7E+2 | 0E+0 | 0E+0 | no prohibition | | 0E+0 | 7E+2 | 0E+0 | 2E+4 |
| Cs-134 | 0E+0 | 4E+0 | 0E+0 | 1E+3 | 0E+0 | 9E+1 | | | 0E+0 | 2E+3 | 0E+0 | 5E+4 |
| **Total** | 0E+0 | 4E+0 | 0E+0 | 1E+3 | 0E+0 | 9E+1 | | | 0E+0 | 2E+3 | 0E+0 | 5E+4 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

## 2.2.11 Maize (fodder plant): Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.10 | 0.03 | 0.01 | no prohibition |
| Cs-134 | 0.14 | 0.08 | 0.02 | |
| Total | 0.14 | 0.08 | 0.02 | |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.00 | 0.00 | no prohibition |
| Cs-134 | 0.01 | 0.01 | 0.01 | |
| Total | 0.01 | 0.01 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| Total | | | | |

## 2.2.12 Figure - vegetable in the territory of Austria



## 2.2.13 Leaf vegetable: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | | | 0E+0 | 1E+3 | 0E+0 | 1E+3 | 0E+0 | 1E+3 | 0E+0 | 4E+3 | 0E+0 | 1E+5 |
| Sr-90 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | | | 0E+0 | 1E+3 | 0E+0 | 1E+3 | 0E+0 | 1E+3 | 0E+0 | 4E+3 | 0E+0 | 1E+5 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column boundary-100 km with the subtitle “50%”, there is the area on which leaf vegetable would be prohibited with a probability of 50%, if grown thereon. Similarly, in the column “95%”, there is the area on which leaf vegetable would be prohibited with a probability of 5%, if grown thereon.

Interpretive note on analyses of leaf and non-leaf vegetables: For leaf and non-leaf vegetables, we assume that it is, or can be grown in built-up areas of municipalities, in gardens. The total area of municipalities, i.e. built-up area, which is assumed that can be used to grow vegetable in gardens, is = 11,290 hectares (figure for Lower Austria). According to statistics, the area of vegetables in Lower Austria is = 10,323 hectares (figure for the year 2016). According to statistics, the annual production of vegetables in Lower Austria is = 374,564 tons (figure for the year 2016).

## 2.2.14 Leaf vegetable: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cs-134 | 0.02 | 0.02 | 0.01 | 0.00 |
| I-131 | 0.25 | 0.17 | 0.09 | 0.05 |
| Sr-90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.25 | 0.17 | 0.09 | 0.05 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | no prohibition |
| Cs-134 | 0.02 | 0.02 | 0.01 | |
| I-131 | 0.03 | 0.01 | 0.00 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.03 | 0.03 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.15 Non-leaf vegetable: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | | | 0E+0 | 1E+3 | 0E+0 | 1E+3 | 0E+0 | 2E+3 | 0E+0 | 4E+3 | 0E+0 | 8E+4 |
| Sr-90 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | | | 0E+0 | 1E+3 | 0E+0 | 1E+3 | 0E+0 | 2E+3 | 0E+0 | 4E+3 | 0E+0 | 8E+4 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

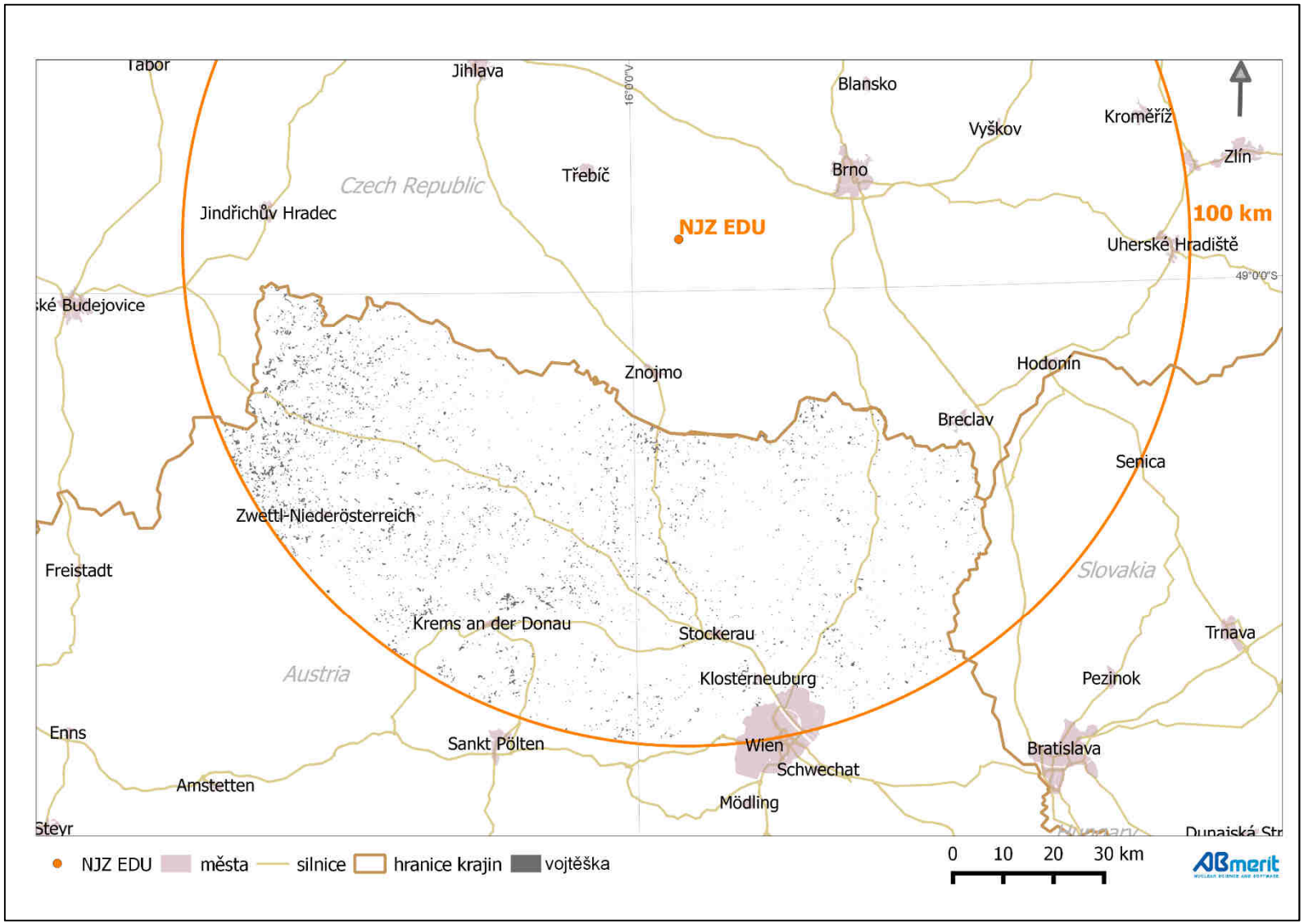
Note: In the column boundary-100 km with the subtitle “50%”, there is the area on which non-leaf vegetable would be prohibited with a probability of 50%, if grown thereon. Similarly, in the column “95%”, there is the area on which non-leaf vegetable would be prohibited with a probability of 5%, if grown thereon.

Interpretive note on analyses of leaf and non-leaf vegetables: For leaf and non-leaf vegetables, we assume that it is, or can be grown in built-up areas of municipalities, in gardens. The total area of municipalities, i.e. built-up area, which is assumed that can be used to grow vegetable in gardens, is = 11,290 hectares (figure for Lower Austria). According to statistics, the area of vegetables in Lower Austria is = 10,323 hectares (figure for the year 2016). According to statistics, the annual production of vegetables in Lower Austria is = 374,564 tons (figure for the year 2016).

## 2.2.16 Non-leaf vegetable: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cs-134 | 0.02 | 0.02 | 0.01 | 0.00 |
| I-131 | 0.29 | 0.20 | 0.10 | 0.06 |
| Sr-90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.29 | 0.20 | 0.10 | 0.06 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | no prohibition |
| Cs-134 | 0.02 | 0.02 | 0.01 | |
| I-131 | 0.03 | 0.01 | 0.00 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.03 | 0.03 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.17 Figure - alfalfa in the territory of Austria



## 2.2.18 Alfalfa (fodder plant): Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

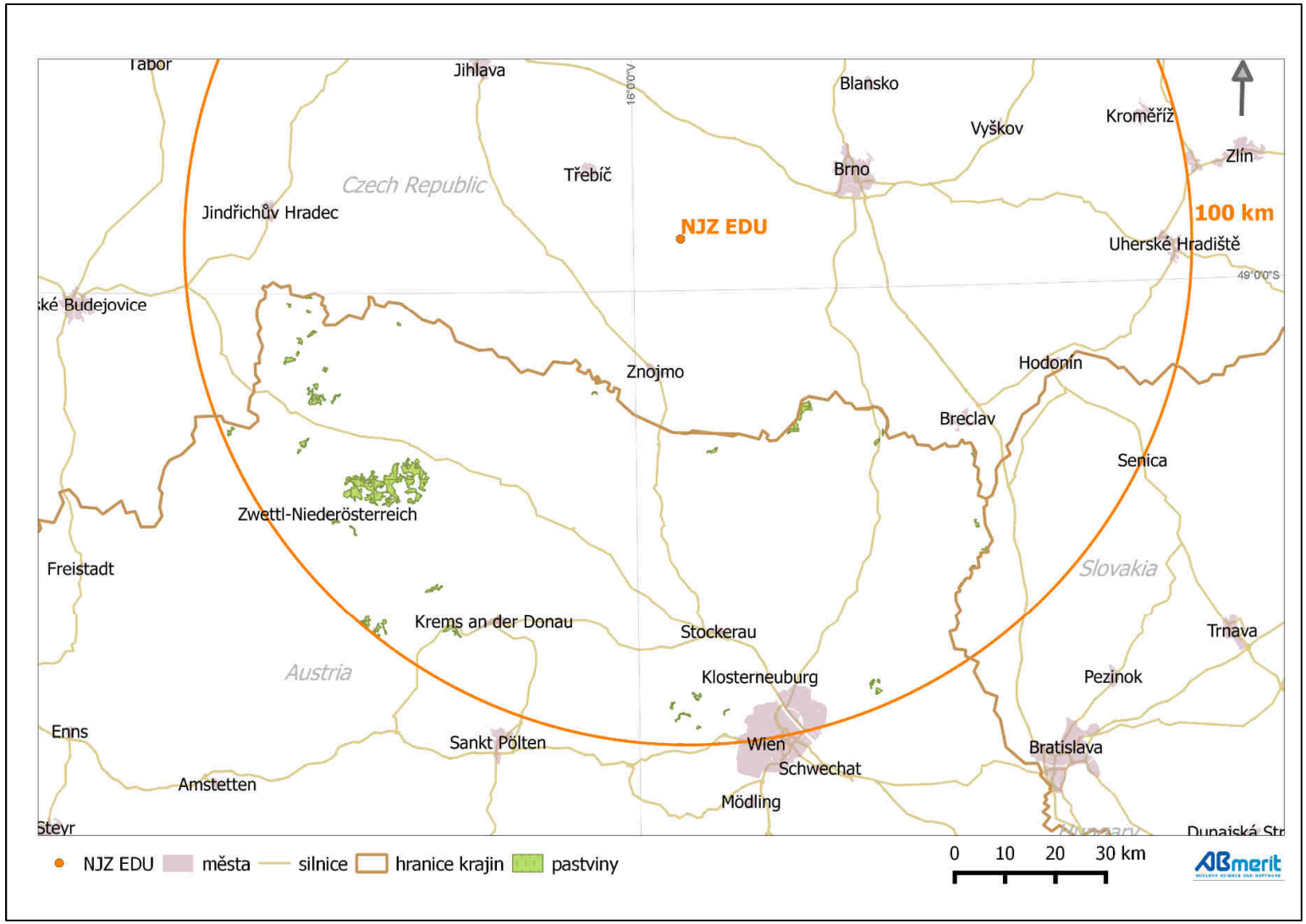
| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 2E+0 | 0E+0 | 1E+2 | 0E+0 | 0E+0 | no prohibition | | 0E+0 | 1E+2 | 0E+0 | 7E+2 |
| Cs-134 | 0E+0 | 3E+0 | 0E+0 | 2E+2 | 0E+0 | 4E+0 | | | 0E+0 | 2E+2 | 0E+0 | 1E+3 |
| **Total** | 0E+0 | 3E+0 | 0E+0 | 2E+2 | 0E+0 | 4E+0 | | | 0E+0 | 2E+2 | 0E+0 | 1E+3 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

## 2.2.19 Alfalfa (fodder plant): Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.10 | 0.03 | 0.01 | no prohibition |
| Cs-134 | 0.14 | 0.08 | 0.02 | |
| Total | 0.14 | 0.08 | 0.02 | |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.00 | 0.00 | no prohibition |
| Cs-134 | 0.01 | 0.01 | 0.01 | |
| Total | 0.01 | 0.01 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| Total | | | | |

## 2.2.20 Figure - grassland in the territory of Austria



## 2.2.21 Grassland (fodder plant): Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

## 2.2.22 Grassland (fodder plant): Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | no prohibition | | |
| Cs-134 | 0.01 | | | |
| Total | 0.01 | | | |
| 30 days after release | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| Total | | | | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| Total | | | | |

## 2.2.23 Milk: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

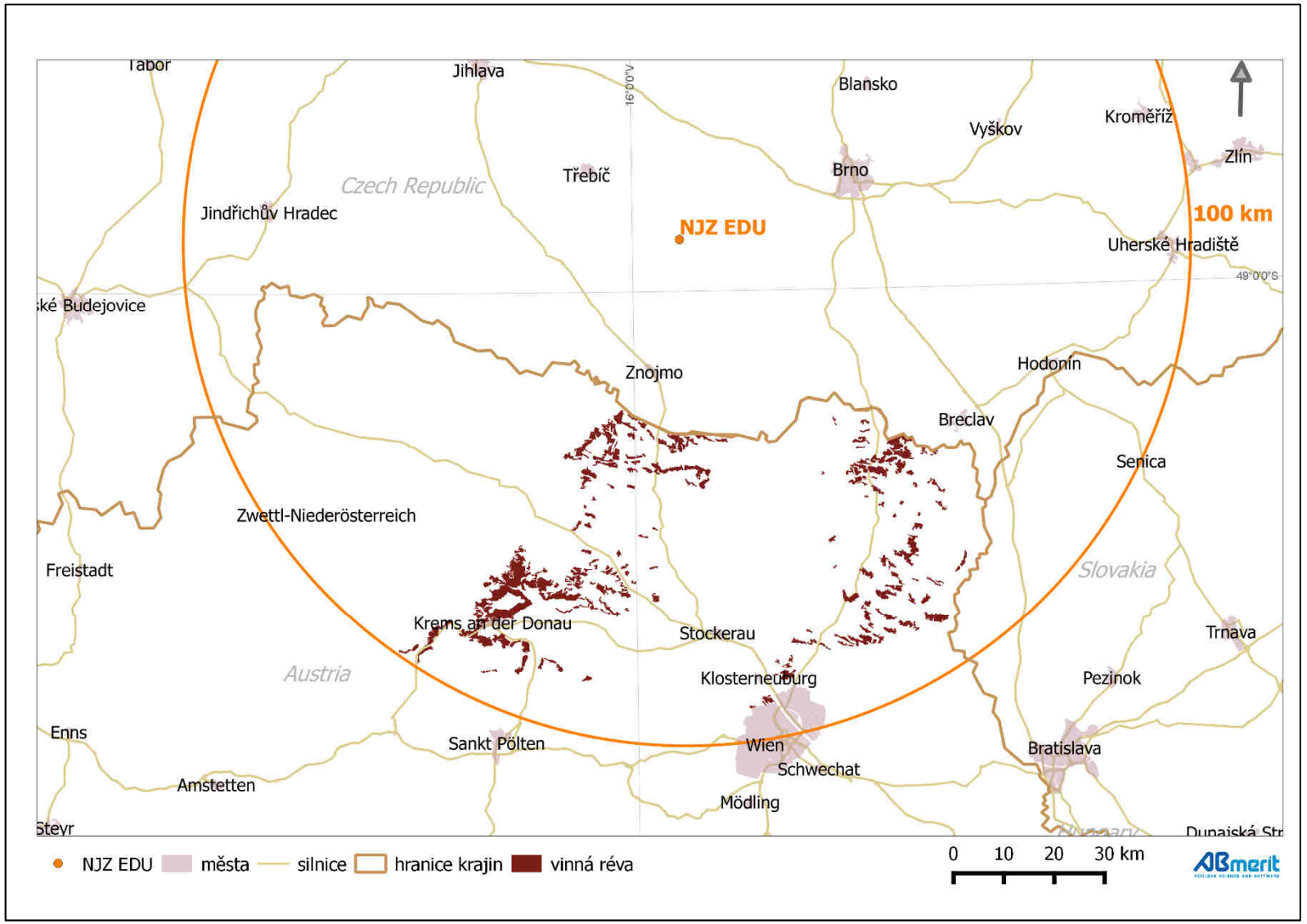
| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 9E+1 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 2E+2 | 0E+0 | 1E+1 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 9E+1 | 0E+0 | 0E+0 | 0E+0 | 2E+2 | 0E+0 | 2E+2 | 0E+0 | 2E+1 |
| I-131 | 0E+0 | 3E+1 | 9E+1 | 9E+2 | 3E+1 | 5E+3 | 2E+2 | 3E+3 | 4E+2 | 9E+3 | 3E+1 | 7E+2 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 2E+2 | 0E+0 | 1E+1 |
| **Total** | 0E+0 | 3E+1 | 9E+1 | 9E+2 | 3E+1 | 5E+3 | 2E+2 | 3E+3 | 4E+2 | 9E+3 | 3E+1 | 7E+2 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | 0E+0 | 0E+0 | no prohibition | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | | | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | | | 0E+0 | 4E+2 | | | 0E+0 | 2E+2 | 0E+0 | 4E+2 | 0E+0 | 1E+2 |
| Sr-90 | | | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 6E+1 | 0E+0 | 2E+1 |
| **Total** | | | 0E+0 | 4E+2 | | | 0E+0 | 2E+2 | 0E+0 | 4E+2 | 0E+0 | 1E+2 |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

## 2.2.24 Milk: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.10 | 0.05 | 0.04 | 0.03 |
| Cs-134 | 0.14 | 0.07 | 0.07 | 0.06 |
| I-131 | 0.68 | 0.64 | 0.61 | 0.54 |
| Sr-90 | 0.07 | 0.03 | 0.03 | 0.03 |
| Total | 0.68 | 0.64 | 0.61 | 0.54 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cs-134 | 0.01 | 0.01 | 0.01 | 0.01 |
| I-131 | 0.21 | 0.11 | 0.08 | 0.07 |
| Sr-90 | 0.05 | 0.02 | 0.02 | 0.01 |
| Total | 0.21 | 0.11 | 0.08 | 0.07 |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.25 Figure - grapevine in the territory of Austria



## 2.2.26 Grapevine: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

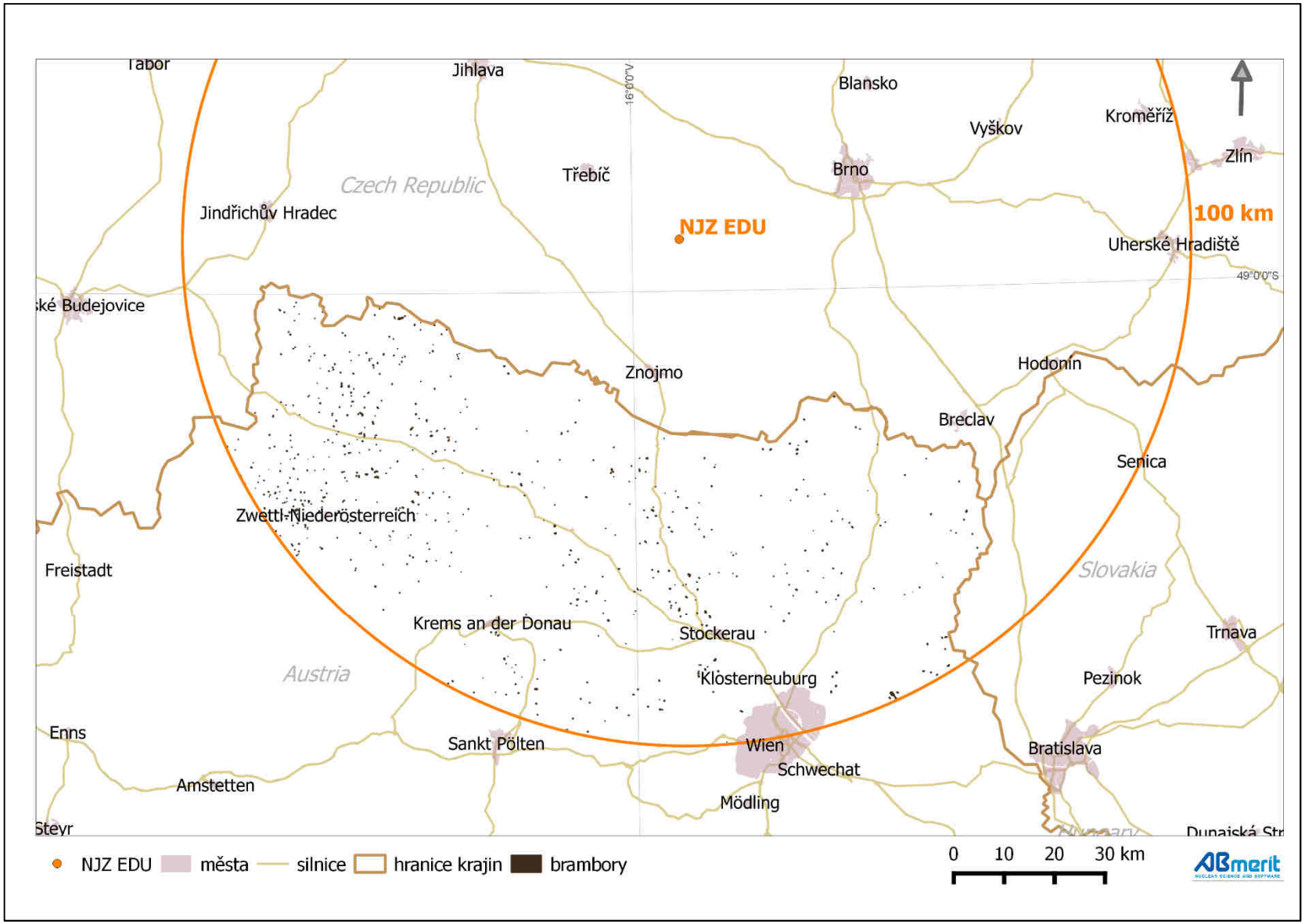
| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | 0E+0 | 7E+2 | 0E+0 | 2E+3 | 0E+0 | 4E+2 | 0E+0 | 9E+2 | 0E+0 | 3E+3 | 0E+0 | 1E+4 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | 0E+0 | 7E+2 | 0E+0 | 2E+3 | 0E+0 | 4E+2 | 0E+0 | 9E+2 | 0E+0 | 3E+3 | 0E+0 | 1E+4 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| I-131 | 0E+0 | 2E+2 | 0E+0 | 3E+2 | no prohibition | | | | 0E+0 | 4E+2 | 0E+0 | 2E+3 |
| Sr-90 | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | 0E+0 | 2E+2 | 0E+0 | 3E+2 | | | | | 0E+0 | 4E+2 | 0E+0 | 2E+3 |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| I-131 | | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

## 2.2.27 Grapevine: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | 0.00 | 0.00 | 0.00 |
| Cs-134 | 0.01 | 0.00 | 0.00 | 0.00 |
| I-131 | 0.37 | 0.21 | 0.13 | 0.03 |
| Sr-90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.37 | 0.21 | 0.13 | 0.03 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.00 | no prohibition | no prohibition |
| Cs-134 | 0.03 | 0.00 | | |
| I-131 | 0.07 | 0.01 | | |
| Sr-90 | 0.00 | 0.00 | | |
| Total | 0.07 | 0.01 | | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.28 Figure - potatoes in the territory of Austria



## 2.2.29 Potatoes: Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

| Nuclide | area [ha] | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 50% | 95% |
| 7 days after release | | | | | | | | | | | |
| Cs-137 | no prohibition | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | no prohibition | | 0E+0 | 0E+0 | 0E+0 |
| Cs-134 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 |
| I-131 | | | 0E+0 | 3E+1 | 0E+0 | 2E+1 | | | 0E+0 | 6E+1 | 0E+0 | 2E+3 |
| Sr-90 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 | | | 0E+0 | 0E+0 | 0E+0 | 0E+0 |
| **Total** | | | 0E+0 | 3E+1 | 0E+0 | 2E+1 | | | 0E+0 | 6E+1 | 0E+0 | 2E+3 |
| 30 days after release | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | |
| I-131 | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | |
| **Total** | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | |
| I-131 | | | | | | | | | | | |
| Sr-90 | | | | | | | | | | | |
| **Total** | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

## 2.2.30 Potatoes: Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | 0.00 |
| Cs-134 | 0.02 | 0.02 | 0.01 | 0.00 |
| I-131 | 0.18 | 0.16 | 0.08 | 0.02 |
| Sr-90 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.18 | 0.16 | 0.08 | 0.02 |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.01 | 0.01 | no prohibition |
| Cs-134 | 0.02 | 0.02 | 0.01 | |
| I-131 | 0.03 | 0.01 | 0.00 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.03 | 0.02 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |

## 2.2.31 Wheat (as fodder plant): Areas and quantities of the commodity, probability of exceeding the intervention level in the territory of Austria by the distance from the place of release (from the NNS)

| Nuclide | area [ha] | | | | | | | | | | quantity [t] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | border-40 km | | 40-60 km | | 60-80 km | | 80-100 km | | border-100 km | | border-100 km | |
| | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% | 50% | 95% |
| 7 days after release | | | | | | | | | | | | |
| Cs-137 | 0E+0 | 3E+0 | 0E+0 | 3E+2 | 0E+0 | 0E+0 | no prohibition | | 0E+0 | 4E+2 | 0E+0 | 2E+3 |
| Cs-134 | 0E+0 | 5E+1 | 0E+0 | 7E+2 | 0E+0 | 2E+2 | | | 0E+0 | 1E+3 | 0E+0 | 6E+3 |
| **Total** | 0E+0 | 5E+1 | 0E+0 | 7E+2 | 0E+0 | 2E+2 | | | 0E+0 | 1E+3 | 0E+0 | 6E+3 |
| 30 days after release | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |
| 1 year after release (through the root system from the soil) | | | | | | | | | | | | |
| Cs-137 | no prohibition | | | | | | | | | | | |
| Cs-134 | | | | | | | | | | | | |
| **Total** | | | | | | | | | | | | |

Note: In the column border-100 km with the subtitle “50%”, there is the area or quantity of the commodity to be prohibited with a probability of 50% in the territory of Austria to a distance of 100 km from the NNS. Similarly, in the column “95%”, there is the area or quantity of the commodity to be prohibited with a probability of 5%.

## 2.2.32 Wheat (as fodder plant): Probability that the intervention level will be exceeded over the given distance from the NNS in the territory of Austria

| Nuclide | distance [km] | | | |
|---|---|---|---|---|
| | 40 | 50 | 75 | 95 |
| 7 days after release | | | | |
| Cs-137 | 0.10 | 0.03 | 0.01 | no prohibition |
| Cs-134 | 0.14 | 0.08 | 0.02 | |
| I-131 | 0.00 | 0.00 | 0.00 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.14 | 0.08 | 0.02 | |
| 30 days after release | | | | |
| Cs-137 | 0.01 | 0.00 | 0.00 | no prohibition |
| Cs-134 | 0.01 | 0.01 | 0.01 | |
| I-131 | 0.00 | 0.00 | 0.00 | |
| Sr-90 | 0.00 | 0.00 | 0.00 | |
| Total | 0.01 | 0.01 | 0.01 | |
| 1 year after release (through the root system from the soil) | | | | |
| Cs-137 | no prohibition | | | |
| Cs-134 | | | | |
| I-131 | | | | |
| Sr-90 | | | | |
| Total | | | | |