NATIONAL EMERGENCY RESPONSE PLAN
FOR NUCLEAR AND RADIOLOGICAL ACCIDENTS

Version 3.0
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1 NUCLEAR AND RADIOLOGICAL ACCIDENTS

1.1 Introduction

The plan covers accidents at the Krško Nuclear Power Plant (NPP), accidents in other nuclear and radiation facilities in the Republic of Slovenia (RS), nuclear and radiological accidents abroad with a potential impact on Slovenia, and other radiological accidents involving ionising radiation sources.

The plan is based on the threat assessment and complies with the Protection Against Natural and Other Disasters Act (Official Gazette of the RS, Nos. 51/06 – official consolidated text 1, and 95/07 – Act Amending the Public Sector Salary System Act), the Ionising Radiation Protection and Nuclear Safety Act (Official Gazette of the RS, No. 102/04 – official consolidated text 2), the Decree on the Contents and Drafting of Emergency Response Plans (Official Gazette of the RS, Nos. 3/02, 17/02, 17/06 and 76/08), and other regulations.

In the preparation of the plan, requirements of the International Atomic Energy Agency (IAEA) were taken into account, particularly the document titled Preparedness and Response for a Nuclear or Radiological Emergency, No. GS-R-2 (IAEA, 2002).

This emergency response plan does not cover Slovenia’s preparedness for terrorist attacks with radiological weapons, as this is regulated by the National Emergency Response Plan in Case of Terrorist Attack with Means or Weapons of Mass Destruction, or with Conventional Means, Version 4.0.

1.2 General Information on Nuclear and Radiological Accidents

Nuclear and radiological accidents are incidents that pose a direct threat to people and the environment, and require the implementation of protective measures. All incidents do not necessarily turn into accidents. An incident may also mean a reduction in nuclear or radiation safety, which requires an appropriate response from the authorities.

Radiological accidents are incidents which, due to increased ionising radiation and contamination by radioactive substances, require the implementation of protective measures.

Radiological accidents may occur in radiation facilities (industrial, research and medical facilities with radiation devices or radioactive substances, and mine or hydrometallurgical tailings dumps):

- in dealing with closed and open radiation sources,
- particle accelerators and
- other ionising radiation sources.

A radiological accident may occur anywhere and have different causes:

- uncontrolled and dangerous ionising radiation sources (discarded, lost, found, stolen);
- unknown causes of irradiation and contamination of people;
- crash-landing of a satellite carrying radioactive substances;
- transport of radioactive substances.

Nuclear accidents are incidents which require the implementation of protective measures due to a dangerous release of energy in a nuclear chain reaction or after the decomposition of chain

\[\text{Threat assessment in the case of emergency at nuclear facilities and due to radioactive sources, Slovenian Nuclear Safety Administration (SNSA), Edition 2, December 2009.}\]
reaction products. Nuclear accidents may at the same time be radiological accidents. This is particularly true of accidents in nuclear power plants where large amounts of nuclear and radioactive substances are present which, in the case of large discrepancies from normal operation, may irradiate people or be released into the environment.

Nuclear facilities in which nuclear and radiological accidents may occur are:
- nuclear power plants;
- research reactors;
- reactors installed on vessels;
- storage facilities and dumps of radioactive substances;
- industrial facilities (e.g. nuclear fuel production).

1.2.1 Ionising Radiation

Ionising radiation is radiation with enough energy to damage a substance. Sources of ionising radiation are both natural and artificial. A source of ionising radiation may be a radioactive substance which radiates due to the instability of atoms, or it may be a device (e.g. an X-ray apparatus). Due to radioactive substances in the environment (soil, air, water, food), people are constantly exposed to ionising radiation which may be external or internal. In this respect we are talking about a radiation dose that the body receives.

External radiation occurs when the source of penetrating radiation (e.g. an X-ray) is found in a person's surroundings. Exposure to radiation and damage suffered by a person are proportional to the time spent in the area of radiation (more time, more damage) and to the distance from the source of radiation (smaller distance, more damage - square of the distance).

Internal radiation, on the other hand, results from the intake of radioactive substances into the body by breathing contaminated air (inhalation), consuming contaminated food and drinks (ingestion), and from the intake through skin, particularly if the skin is damaged. Internal radiation can be particularly dangerous in the case of intake of radioactive substances which give off particles with less penetrating power – alpha (α) and beta (β) particles – but may cause major damage to organs and other tissues. Exposure to radiation and damage suffered by a person depend on the length of time a substance is present in the body. This varies greatly and depends on the nature of a radioactive substance.

Ionisation can cause damage to biologically important molecules in the tissue, which can result in cell damage or even cell death. Destruction of a large number of organ or tissue cells can have very serious, even fatal, effects on the organism, which can be observed relatively quickly after exposure. These are the so-called deterministic effects, characterised by the fact that they have a threshold below which they do not appear (they are not observed below a certain limit value of a radiation dose). Above the threshold, however, the severity of consequences grows with the dose received.

Radiation can cause cell changes which may represent one of the first events in a normal cell's development into a cancerous one. Radiation carcinogenicity is an effect the probability of which increases with the dose and can be seen after a certain period of time. This is the stochastic effect or the effect of statistically proven cell damage. If, however, radiation damages germ cells, consequences will only be observed in descendants (hereditary effects).
1.3 Sources of Danger

1.3.1 Nuclear Facilities

In the event of an accident in a nuclear power plant or a research reactor, significant quantities of radioactive substances may be released into the atmosphere and spread into the wider environment in the form of a radioactive cloud. The threat depends on the type and quantity of released radioactive substances (rare gases, iodine radioisotopes, long-lived fission products). Transfer and dissemination depend on the weather conditions. Radioactive particles are deposited during transfer (dry deposition) or washed out by precipitation (wet deposition).

The type and degree of risk change over time. In the first hours after the release, unprotected inhabitants near the site of the accident are first exposed to external radiation from a radioactive cloud and to inhalation of radioactive particles, particularly radioactive iodine isotopes, which accumulate in the thyroid gland. In the medium term (several days after the accident), radiation occurs as a result of consumption of food contaminated with radioactive iodine I-131 (e.g. in milk, leaf vegetables, drinking water) and as a result of external radiation from the contaminated soil. Similarly, in the long term (months and years after the accident), important long-lived radionuclides are present, as e.g. caesium (Cs-137, Cs-134) and strontium (Sr-90).

The worst nuclear accidents occur at nuclear power plants. An accident involving major core damage may result in very serious health risks or even endanger the lives of the power plant employees as well as the nearby and wider population.

1.3.1.1 Krško Nuclear Power Plant

The Krško NPP is situated on the left bank of the Sava river, 3 km from the town of Krško (Figure 1). The power plant can be reached by an industrial road leading from Krško. The highway Ljubljana – Novo mesto – Obrežje runs 3 km south of the power plant, and the railway line Ljubljana – Dobova – Zagreb 1 km from the plant. The power plant has an industrial track connecting it to the railway station in Krško.

Larger towns in the vicinity of the plant are Krško (3 km), Brežice (6 km), Brestanica (7 km), Kostanjevica na Krki (13 km), Sevnica (18 km) and Novo mesto (32 km). The power plant is situated about 70 km southeast of Ljubljana and 35 km northwest of Zagreb, Croatia.
The Krško NPP has a pressurised water reactor (PWR) with a thermal power output of 1994 MW, consisting of 121 fuel elements.

To prevent nuclear accidents and mitigate their consequences, security and safety systems and devices are installed in the power plant. Their task is prevention of uncontrolled leakage of radioactive substances into the environment.

In the event of a nuclear accident at the Krško NPP, the level of risk is highest in the nearby area (in the distance of several to 10 km from the power plant). The level of risk at greater distances depends on the weather conditions. Given the number and reliability of safety systems in the nuclear power plant, the probability of an accident resulting in a threat to the population is extremely low.

The probability of a nuclear accident at the Krško NPP also depends on natural and other disasters (e.g. earthquakes, floods, hurricanes, aircraft accidents etc.).

1.3.1.2 TRIGA Research Reactor

The TRIGA research reactor is situated in the Podgorica Reactor Centre at Brinje near Ljubljana and belongs to the Jožef Stefan Institute (Figure 2).

Safety analyses for the TRIGA reactor do not anticipate an accident with radioactive leakage into the environment, which would carry consequences for the population. The reactor is constructed in such a way that it shuts itself down in case of a sudden increase in power and before enough heat is produced to cause the melting of the core. The worst accident anticipated in the area of the reactor centre would be loss of water from the reactor tank, which would result in a very high dose speed in the reactor hall, but have no effect on the area outside the centre’s perimeter.

An accident with the greatest impact on the population would be damage to the cladding of the fuel element during transport, which would still result in only a very small radiation dose at a distance of 100 m from the TRIGA reactor.
Figure 2: Reactor Centre Location

1.3.1.3 Central Storage Facility for Radioactive Waste

The Central Storage Facility for Radioactive Waste (CSFRW), managed by the Radioactive Waste Management Agency (RWMA), is situated in the Podgorica Reactor Centre at Brinje near Ljubljana.

The CSFRW building includes a waste storage area and an area intended for personnel, which is frequented occasionally. The storage facility thus holds no other activity in addition to the storage of radioactive waste.

Incidents at the CSFRW location include warehouse fire, an accident during the movement of waste inside the storage facility or on the platform (container drop and consequent spill of solid radioactive waste), and loss or misappropriation of the ionising radiation source. The analysis of all incident scenarios which may affect the storage safety has shown that the building is constructed in such a way that radioactive effect on the employees, the population and the environment is in line with the statutory requirements. Radiological impact on the environment is negligible and the employees are protected from increased radiation and direct effects of the radioactive environment on their health through administrative measures².

1.3.2 Radiation Facilities

Radiation facilities use radioactive sources for industrial, research and medical purposes.

In industry, radioactive sources are used for various purposes, namely as stationary (e.g. for sterilisation, measuring the thickness of sheet metal and container levels etc.) or as mobile sources for field work (e.g. industrial radiography, measuring the moisture and density of road construction materials etc.). In medicine, radioactive sources are used for diagnosis and therapy (radiation).

The cause of an accident with radioactive substances or sources³ may only be human error as radioactive sources are passive devices and cannot malfunction as such. Causes may be divided into the following categories:

- improper use, storage or loss of a radioactive source due to negligence, ignorance, incompetence or disregard for radiation protection rules;

³ A radioactive source is a certain quantity of a radioactive substance intended for use as an ionising radiation source.
• construction error during the installation of a source (poor shield construction, inadequate tools for handling the source);
• abuse (of a place, sabotage).

Accidents with radioactive sources mostly result in contamination with a single radionuclide which primarily affects the employees; i.e. improper handling of a radioactive source may result in the staff's as well as the population's exposure exceeding the prescribed limit values.

P – 200  Overview of facilities in Slovenia using radioactive sources (SNSA)

1.3.3  Radiological Incidents

This section covers incidents that may occur anywhere.

1.3.3.1  Uncontrolled Ionising Radiation Sources

Accidents may occur in the use of uncontrolled and highly radioactive sources which may be life-threatening if unprotected or if their protection is damaged. Sources may be:
• lost: the owner is missing a source;
• found: a random person finds the source, which presents a problem because the finder is usually unaware of the source being radioactive;
• stolen: again, there is a chance that the thief is unaware of the source being radioactive;
• damaged by fire: fire at the location of the source (the possibility of source protection damage due to the fire is small; normal respiratory and other protection of fire-fighters is sufficient).

Uncontrolled sources include radiation and contamination with radioactive sources resulting from an unknown cause (contamination of the population and public areas or spaces). The cause may be a found or a stolen source or a radioactive substance which the population possesses without being aware of the danger it presents. Such occurrences may be detected by physicians on the basis of symptoms due to excessive radiation. Such cases are relatively rare and symptoms are thus not easily recognised.

Possession or handling of unprotected and highly radioactive sources may cause permanent damage due to external and internal (in the case of ingestion or inhalation) radiation, and in some cases it may also be life-threatening.

1.3.3.2  Crash-Landing of a Satellite Carrying Radioactive Substances

There is a possibility of a satellite with a nuclear reactor or a satellite carrying radioactive material crashing on the territory of Slovenia. There are two types of radiation source on a satellite:
• a high alpha activity source and
• a nuclear reactor.

In the first case there is a possibility of contamination with a highly toxic alpha radiant (e.g. plutonium isotopes). In the second case, a satellite crash would result in contamination with fission products. Contaminated areas have a strip-like form with a width of several ten kilometres and a length of several hundred kilometres.

The main risk for a person is the inhalation of particles, which can result in high internal radiation doses. The greatest threat for an individual, however highly unlikely, is the discovery of highly radioactive satellite remains which can cause serious injuries or even death.

1.3.3.3  Transport of Radioactive Substances
Due to special security measures, the probability of an accident during the transport of radioactive substances is very small; if, however, it does occur, its impact is limited to a certain area.

1.3.4 Accidents Abroad

It is necessary to plan protective measures for the event of incidents at nuclear power plants abroad.

There are about 440 nuclear power plants operating in the world. In the range of 1000 km from Ljubljana there are 86 active nuclear power plants, of which 19 are situated within a 500-kilometre range. The closest to Slovenia are the power plants in Hungary, Slovakia, the Czech Republic and Germany (Figure 3).

In the case of unfavourable weather conditions, nuclear accidents in remote nuclear facilities can cause contamination of the entire territory of Slovenia. Severe contamination may only be expected in areas experiencing rainfall at the time a radioactive cloud passes over Slovenia.
Figure 3: Nuclear Power Plants in Europe

Status as of August 2006 as reported to IAEA.

Each indicated location can represent several reactors.
1.4 Likelihood of a Chain-Reaction Accident

No chain reaction is expected in the event of a nuclear or a radiological accident. However, consequences of such accidents may be the following:

- fire in the natural environment and facilities (e.g. as a result of a satellite crash);
- risk to traffic safety;
- failure of telecommunication links;
- sociological and psychological effects on the population;
- energy crisis due to the loss of electricity in the event of an accident at the Krško NPP.

1.5 Conclusion

A. Slovenia may be affected by nuclear and radiological accidents:
   - at the Krško NPP, TRIGA and CSFRW nuclear facilities;
   - involving stationary and mobile radioactive sources;
   - during the transport of radioactive substances;
   - resulting from the crash of a satellite carrying a reactor or radioactive substances;
   - abroad, with consequences in the territory of Slovenia.

B. The likelihood of a major nuclear accident (affecting the population and the environment) at the Krško NPP is very small, as there is a high level of passive and active safety features installed in the power plant.

C. A potential major nuclear accident at the Krško NPP would affect municipalities, regions, Slovenia as a whole and other countries.

D. The probability of a nuclear accident at the Krško NPP also depends on natural and other disasters (e.g. earthquakes, floods, hurricanes, aircraft accidents etc.).

E. A nuclear accident at a nuclear facility abroad may also affect Slovenia.

F. Radiological accidents are unlikely but may have serious consequences for individuals.
2 SCOPE OF PLANNING

2.1 Basic Levels of Planning

The basic emergency response plan for nuclear and radiological accidents is the national plan. It is prepared by the ACPDR in cooperation with ministries and other government bodies and professional organisations.

All emergency response plans for nuclear and radiological accidents and activities at all levels of planning must comply with the National Emergency Response Plan for Nuclear and Radiological Accidents. Plans are prepared by:

- the ACPDR regional offices (regional plans);
- municipalities (municipal plans);
- the Krško NPP (work plan);
- the RWMA (for the CSFRW at Brinje) (work plan);
- ministries (action plans).

2.1.1 Krško and Brežice Municipalities

Emergency response plans for nuclear and radiological accidents of the Krško and Brežice municipalities must include detailed analyses of protective measures taken in the event of a nuclear accident at the Krško NPP (particular attention must be given to cooperation with the Posavje region in the preparation and implementation of the evacuation). Municipal plans must include the list of organisations engaged in educational, social, health care and other activities involving care for and protection of 30 or more persons, and their tasks. In accordance with the law, these organisations plan the implementation of protective measures and certain protection, rescue and relief (PRR) tasks, in line with the action plans and municipal emergency response plans.

2.1.2 Posavje Region

The emergency response plan for nuclear and radiological accidents in the Posavje region must include a detailed analysis of protective measures taken in the event of a nuclear accident at the Krško NPP. The key role in the planning and conducting of evacuation is assumed by the Posavje region in cooperation with municipalities. In planning the evacuation, the region must provide means of transport for the evacuation of those inhabitants who do not possess their own transportation. Also, it must provide other key capabilities to conduct the evacuation. The plan must take into account the situation and conditions which arise in the Posavje region after the evacuation (for the minimum of 7 days), and provide for the protection of property, the operation of essential economic and service activities, health care, the education system, animal care and other services.

The emergency response plan for nuclear and radiological accidents in the Posavje region also includes plans for the transfer of functions from the Regional Notification Centre (RNC) in Brežice to the RNC in Novo mesto.

2.1.3 Regions and Municipalities Accepting Evacuated Inhabitants of the Posavje Region

Evacuated inhabitants of the Posavje region are accepted by:

- the Ljubljana region and its municipalities: Brezovica, Dobrova – Polhov Gradec, Dol pri Ljubljani, Domžale, Grosuplje, Ig, Ivančna Gorica, Kamnik, Kočevje, Komenda, Litija, Ljubljana, Logatec, Log - Dragomer, Lukovica, Medvode, Mengeš, Moravče, Ribnica, Škofljica, Šmartno pri Litiji, Trzin, Velike Lašče, Vodice and Vrhnika;
• the Western Štajerska region and its municipalities: Celje, Dobrna, Luče, Mozirje, Polzela, Prebold, Rogaška Slatina, Rogatec, Slovenske Konjice, Šmarje pri Jelšah, Šmartno ob Pakt, Soštanj, Tabor, Velenje, Vojnik, Vransko, Zreče and Žalec;
• the Eastern Štajerska region and its municipalities: Hoče Slivnica, Rače Fram, Lenart, Slovenska Bistrica, Ruše, Makole, Poljčane, Selnica ob Dravi, Starše, Miklavž na Dravskem polju, Pesnica, Šentilj, Maribor;
• the Dolenjska region and its municipalities: Novo mesto, Šmarješke Toplice, Mirna Peč, Mokronog-Trebelno, Šentjur, Trebnje, Straža, Dolenjske Toplice, Žužemberk, Semič, Metlika, Črnomelj;
• the Zasavje region and its municipalities: Hrastnik, Trbovlje and Zagorje ob Savi.

The above-mentioned regions and municipalities, designated to accept the evacuated inhabitants in the event of a nuclear accident at the Krško NPP, also draw up plans for the reception and accommodation of people (the basic criteria for the accommodation of people are defined in D-208), and provide for the care of the evacuated population for the minimum of 7 days. Care of the evacuated population is also provided from national commodity reserves.

The Western Štajerska and Dolenjska region plan for the decontamination of people and resources at control points of entry into the regions. In addition to own capabilities, they also plan for the assistance of the wider community. Control points for the Western Štajerska region are planned at the Hotermič Fishing Club in the Radeče Municipality and at the railway station Podčetrtek – Toplice in the Podčetrtek Municipality. For the Dolenjska region, control points are planned at the Šentjernej industrial zone (by the Podgorje factory) in the Šentjernej Municipality and at the AMZS (Automobile Association of Slovenia) Technical Centre at Otočec in the Novo mesto Municipality.

The regions designated to accept the evacuated inhabitants of the Posavje region establish information centres for the operation of the police, the social service, the Red Cross inquiry service, psychologists, clergy and others.

The emergency response plan for nuclear and radiological accidents in the Dolenjska region also includes plans for the transfer of functions from the RNC in Brežice to the RNC in Novo mesto.

2.1.4 Other Regions and Municipalities

All other regions prepare emergency response plans for nuclear and radiological accidents regarding the implementation of long-term protective measures in the event of a nuclear accident at the Krško NPP, and regarding the implementation of measures in the event of other incidents.

All other municipalities in Slovenia prepare parts of emergency response plans (notification and warning, implementation of long-term protective measures in the event of a nuclear accident at the Krško NPP, implementation of protection and rescue (PR) tasks, protective measures and PR tasks in the event of other incidents).

2.1.5 Ministries

In their action plans, in addition to the tasks planned for the event of a nuclear or a radiological accident, ministries provide for the transfer of tasks from their branch offices and other local units in the Posavje region to the neighbouring regions, as required.

2.1.6 Users and Carriers of Radiation Sources

In accordance with the Ionising Radiation Protection and Nuclear Safety Act, users of radiation sources must submit a document on incident management (notification and emergency response) and other documentation to obtain a permit for the use of a radiation source.
In accordance with the Transport of Dangerous Goods Act (Official Gazette of the RS, No. 33/06 – official consolidated text 1), carriers of radioactive substances must provide written guidelines for the implementation of measures, which drivers can carry with them. The guidelines must be provided by the consignor.

2.2 Principles of Protection, Rescue and Relief

In the event of a nuclear accident, protection, rescue and relief tasks are organised in line with the principles laid down in the Protection Against Natural and Other Disasters Act.

In the event of a nuclear accident, the principle of the right to protection and assistance, the principle of publicity, prevention and responsibility, and the principle of gradual use of protection, rescue and relief forces are predominantly followed.

2.3 Interministerial Committee

To plan, coordinate, monitor and evaluate the implementation of this national emergency response plan, the RS Government, on the proposal of the minister responsible for protection against natural and other disasters and the minister responsible for the environment and spatial planning, appoints an interministerial committee chaired by an SNSA representative. Committee members are ministry representatives (MoD – ACPDR, MESP – SNSA, MH, MI etc.).

Interministerial committee tasks are:

- coordination of all activities to ensure the implementation of this plan;
- advice on the development and coordination of emergency response plans for nuclear and radiological accidents at all levels of planning;
- coordination of cooperation with participants at regional and local levels;
- establishment of a process to ensure the implementation of this plan;
- participation in the preparation of training programmes and exercises;
- preparation of annual training and exercise plans at the national level;
- participation in the implementation of training and exercises;
- introduction of international standards;
- introduction of current international practice;
- coordination of Slovenian participation in international exercises and other activities.
3 CONCEPT OF PROTECTION, RESCUE AND RELIEF

3.1 Basic Assumptions of the Plan

A. The National Emergency Response Plan for Nuclear and Radiological Accidents is designed for the event of an accident which would result in a major release of radioactive substances into the environment or the irradiation of people, specifically for the event of:

- a nuclear accident,
- a radiological accident, and
- an accident abroad.

B. The Notification Centre of the Republic of Slovenia (NCRS) and RNCs are the main points of contact for the reception of initial incident reports in Slovenia. In addition, the NCRS is the main point of contact for the reception of initial incident reports from abroad.

C. The National Emergency Response Plan for Nuclear and Radiological Accidents is based on predetermined intervention and other levels:

- **Intervention levels** are expressed in terms of avertable doses at which protective measures for the population at risk are introduced.
- **Action levels** are levels of food contamination at which food control is introduced.
- **Operational intervention levels** are directly measurable levels at which protective measures for the population are introduced; they are derived from intervention and action levels.

D. The National Emergency Response Plan for Nuclear and Radiological Accidents is very detailed for the event of a nuclear accident at the Krško NPP and based on the level of risk of an incident occurring at the Krško NPP. The level of risk is declared by the power plant and, if necessary, coordinated with the SNSA beforehand.

- **Level 0 – an unusual event** is declared when an incorrect action or a situation out of control of the personnel could affect the safety of the power plant and lead to a higher level of risk.

- **Level 1 – an alert** is declared in the event of a situation which results or could have resulted in the reduction of safety at the nuclear power plant. A minor release of radioactive substances is possible, but no serious risk to the environment is anticipated.

- **Level 2 – a site emergency** is declared in the event of a situation which results or could have resulted in a major failure of the power plant’s safety functions and consequently a risk to the nuclear power plant personnel and the nearby population. A release of radioactive substances may occur or has already occurred to such an extent that the implementation of protective measures at the nuclear power plant is required, including the evacuation of the plant and the area under its direct control.

- **Level 3 – a general emergency** is declared when there is a risk of damage to the core, or a risk of the melting of the core, with the possibility of damage to the containment building, or when this has already occurred. A release of radioactive substances into the environment is possible or has already occurred to such an extent that the implementation of protective measures is required in the area outside the nuclear power plant.

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4 Decree on Dose Limits, Radioactive Contamination and Intervention Levels, Official Gazette of the RS, No. 49/04.
5 An avertable dose is the estimated value of the difference between the dose at which protective measures are implemented and the dose at which no protective measures are taken.
E. The National Emergency Response Plan for Nuclear and Radiological Accidents in the event of a nuclear accident at the Krško NPP is based on pre-determined protective measure planning zones:

- **The Precautionary Action Zone (PAZ)** is the area within a 3 km radius of the Krško NPP. In this area, preventive evacuation of the population (if possible) begins immediately upon the declaration of a general emergency (see 9.1.3.1).

- **The Urgent Protective Action Planning Zone (UPZ)** is the area within a 10 km radius of the Krško NPP. Protective measures in this area are implemented on the basis of the development of an accident and on the basis of measurements (see 9.1.3.2).

- **The Long-Term Protective Action Planning Zone (LPZ)** is the area within a 25 km radius of the Krško NPP. Protective measures are implemented on the basis of measurements (see 9.1.3.3).

- **The Area of General Preparedness** is the entire territory of Slovenia. Protective measures are implemented on the basis of measurements (see 9.1.3.4). Entire settlements are included in the PAZ, UPZ and LPZ zones, even if they extend beyond the imaginary circle with the Krško NPP as its centre.

F. The population in the area at risk receives timely and objective information on the extent of an accident, its consequences, the mitigation and elimination of consequences, and on disaster management (see 5.3).

G. Slovenia informs the rest of the world of incidents and may, where appropriate, also request assistance (of the International Atomic Energy Agency (IAEA), of the EU through the ECURIE, of other international organisations within the EU Civil Protection mechanism, and of those countries with which it has signed bilateral or multilateral agreements).

3.2 **Response Concept and National Plan Activation**

The response concept in the event of a nuclear accident at the Krško NPP is based on the risk level classification.

The response concept for other incidents included in this plan is based on the consultation with the SNSA.

Figure 4 shows the response in accordance with the National Emergency Response Plan for Nuclear and Radiological Accidents. The Table following the Figure includes the explanation to the Figure.

In accordance with the step-by-step approach, the National Emergency Response Plan for Nuclear and Radiological Accidents may be activated in whole or in part. The national plan is activated in whole:

- in the event of a site or general emergency at the Krško NPP (level 2 or 3);
- in the event of other incidents, following the consultation of the Commander of the Civil Protection of the Republic of Slovenia (RS CP Commander) with the SNSA.
Following an alert (level 1) at the Krško NPP, the regional emergency response plan for nuclear and radiological accidents in the Posavje region, as well as municipal emergency response plans for nuclear and radiological accidents in the Krško and Brežice municipalities are activated. Following a site emergency (level 2) at the Krško NPP, regional and municipal emergency response plans for nuclear and radiological accidents are activated in the regions accepting the evacuated inhabitants. In addition, information centres are also established in these regions. Following a general emergency (level 3) at the Krško NPP, other regional emergency response plans for nuclear and radiological accidents are activated, along with parts of plans prepared by the municipalities in these regions.

In the event of a radiological accident, measures and tasks detailed in regional and municipal emergency response plans for the event of a nuclear accident at the Krško NPP are applied as appropriate.

The decision on the activation of the National Emergency Response Plan for Nuclear and Radiological Accidents is taken by the RS CP Commander.
Figure 4: Response Concept for Nuclear and Radiological Accidents
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### Activity

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<th><strong>RS CP Commander</strong> ensures:</th>
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<td>• Protection of the emergency personnel (see 9.1.2).</td>
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<td>• Notification of the public (see 5.2).</td>
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<td>• Implementation of protection, rescue and relief tasks (see 9.2).</td>
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<td>• Information of the population at risk (see 5.3).</td>
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<td>• Declaration of the termination of risk.</td>
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4 FORCES, ASSETS AND RESOURCES FOR THE IMPLEMENTATION OF THE PLAN

4.1 Bodies and Organisations Involved in the Implementation of Tasks Under National Jurisdiction

4.1.1 Government Bodies:

Tasks under national jurisdiction are implemented by:
- the Government of the Republic of Slovenia;
- the Ministry of Defence, Administration of the Republic of Slovenia for Civil Protection and Disaster Relief, GS SAF (Slovenian Armed Forces);
- the Ministry of the Environment and Spatial Planning, Slovenian Nuclear Safety Administration, Environmental Agency of the Republic of Slovenia;
- the Ministry of Health, Slovenian Radiation Protection Administration, Health Inspectorate of the Republic of Slovenia;
- the Ministry of Agriculture, Forestry and Food, Veterinary Administration of the Republic of Slovenia, Inspectorate of the Republic of Slovenia for Agriculture, Forestry and Food;
- the Ministry of the Interior, the Police;
- the Ministry of Transport;
- the Ministry of Education and Sport;
- the Ministry of Higher Education, Science and Technology;
- the Ministry of Labour, Family and Social Affairs;
- the Ministry of Foreign Affairs;
- the Ministry of the Economy;
- the Ministry of Public Administration;
- the Ministry of Finance, Customs Administration of the Republic of Slovenia;

4.1.2 Protection, Rescue and Relief Forces

4.1.2.1 CP Management Authorities:

- the RS CP Commander;
- the Deputy RS CP Commander; and
- the RS CP Headquarters.

4.1.2.2 CP Units and Services:

- the national rapid response unit (RRU);
- chemical-biological-radiological protection units (CBR protection);
- technical rescue units;
- the information centre;
- the logistics centre; and
- the support service.

4.1.2.3 Fire-fighting Units, and Units and Services of Associations and Other Non-Governmental Organisations:
4.1.2.4 Protection, Rescue and Relief Units, Services and Centres Organised by Government and Other Bodies:

- the Ecological Laboratory with a Mobile Unit (ELMU), Jožef Stefan Institute;
- the Mobile Meteorology and Hydrology Unit (MMHU) at the Environmental Agency of the Republic of Slovenia (EARS) – Monitoring Office;
- the Institute of Occupational Safety;
- the Radioactive Waste Management Agency (RWMA);
- the Slovenian Armed Forces (SAF) with the CBRN Battalion and other capabilities; and
- the Police.

In the event of a nuclear or a radiological accident, and in accordance with the requirements, those regional and municipal protection, rescue and relief forces are involved in the implementation of measures which are identified in regional and municipal emergency response plans (the step-by-step approach).

Preparedness, equipment and competence levels of units fall within the responsibility of their founders. The founders’ obligations are laid down in the organisation, training and equipment criteria, and in disaster relief subsidy contracts.

### 4.2 Material and Technical Resources for the Implementation of the Plan

Material and technical resources are planned for:
- protection and rescue equipment and tools (personal and mutual protection means; equipment, vehicles, and technical and other resources required by experts, rescue units, services and rescuers); and
- material resources from national reserves.

### 4.3 Planned Financial Resources for the Implementation of the Plan

Financial resources are planned for:
- the operating costs (reimbursement of activated CP members and other protection, rescue and relief forces);
- the costs of additional maintenance and servicing of the equipment used;
- material costs (transportation costs and services, fuel, lubricants); and
accommodation costs for the evacuated inhabitants of the Posavje region, costs of emergency care and education.

D - 1/2 Planned financial resources for the implementation of the plan
D - 50 Form for the reimbursement of costs to municipalities in the event of an accident
5 MONITORING, NOTIFICATION AND WARNING

Competent authorities and organisations monitor the operation of the Krško NPP and other nuclear and radiation facilities in Slovenia. Furthermore, they supervise the handling of radioactive sources and other radiation sources, as well as monitor environmental radioactivity.

For information on and notification of accidents, communications described in chapter 7.3 are used.

5.1 Notification of Nuclear and Radiological Accidents

5.1.1 Initial Notification of Nuclear and Radiological Accidents

Initial notification of a nuclear or a radiological accident is provided by nuclear or radiation facilities (the Krško NPP, TRIGA and CSFRW), or radioactive source holders, the police, citizens, the NRC or the NCRS, or the SNSA. Information on a nuclear or a radiological accident abroad comes directly to the NCRS or the SNSA.

Notification of incidents at the Krško NPP is described below. In the event of other incidents, the NCRS notifies the SNSA and consults with the SNSA duty inspector on further activities (notification, emergency response). Notification of other nuclear and radiological accidents is described in chapters 5.1.3 and 5.1.4.

5.1.2 Notification of a Nuclear or a Radiological Accident at the Krško NPP

5.1.2.1 Information from the Krško NPP

The first information on an incident at the Krško NPP is sent by the NPP to the RNC in Brežice at number 112. The RNC in Brežice then informs the NCRS. The Krško NPP informs the NCRS and the SNSA of the occurrence of an incident, using a special telephone line.

The Krško NPP sends notification of an incident on a special form, using the interministerial communications system (IECS), or by fax to the RNC in Brežice, the NCRS and the SNSA. The first notification must be confirmed by the recipient by telephone or by other means of communication. In the case of a telephone line or the IECS system failure, the Krško NPP sends the form to the RNC in Brežice using voice transmission through the ZA-RE PLUS communications system. In the same way, the RNC in Brežice notifies the NCRS which in turn notifies the SNSA.

The Krško NPP sends notification of an incident within 15 minutes after the determination of a level of risk and other significant changes. Otherwise, information is sent every 30 minutes during an incident.
### 5.1.2.2 Notification of Competent Authorities

#### Level 0 – UNUSUAL EVENT

![Diagram](image)

**Figure 5:** Notification of Competent Authorities at Zero Level of Risk at the Krško NPP

#### Level 1 - ALERT

![Diagram](image)

**Figure 6:** Notification of Competent Authorities at First Level of Risk at the Krško NPP
Organisations of national importance include the Slovenian Railways, Telekom, Mobitel, the Post of Slovenia, the Slovenian Roads Agency, the Motorway Company of the Republic of Slovenia (MCRS), and others.

Contact authorities of other countries and international organisations are UN - OCHA, EU - MIC and NATO - EADRCC.
5.1.3 Notification of Other Nuclear and Radiological Accidents in Slovenia

![Figure 8: Notification of Competent Authorities in the Event of Other Incidents in Slovenia](image)

- Competent RNC
  - competent ACPDR regional office
  - municipalities
  - OCC PD

- NCRS
  - RS CP Commander
  - ACPDR Director-General (Deputy RS CP Commander)
  - SNSA
  - OCC GPD
  - GOC
  - EARS
  - IRSPANOD
  - NCMC

- SNSA

Upon the activation of the national plan as a whole:
- CC
- ministries (see 4.1.1)
- organisations of national importance
- contact authorities of other countries and international organisations

Abroad:
- neighbouring countries
- IAEA
- EU

as required

5.1.4 Notification of Nuclear and Radiological Accidents Abroad
In line with the Convention on Early Notification of a Nuclear Accident, the NCRS and the SNSA receive information on a nuclear or a radiological accident abroad from the IAEA, the EU, or the country in which the accident has occurred. Information may also be sent by the UN - OCHA, EU - MIC and NATO - EADRCC.

The SNSA verifies the information and assesses the potential impact on Slovenia. As the effects of a nuclear or a radiological accident abroad are largely dependant on the distance of the accident site and on meteorological conditions, the EARS also participates in the assessment.

5.2 Notification of the General Public of Nuclear and Radiological Accidents

The public must be informed of a nuclear or a radiological accident in a timely and objective manner.

National-level draft press releases are prepared by the SNSA and, if possible, coordinated with the entity responsible for the incident. The first national-level press release is formulated and submitted for publication by the SNSA. Further press releases are formulated and submitted for publication by the SNSA in cooperation with the Public Relations Office of the MESP, until the activation of the RS CP HQ.

Following the activation of the RS CP Headquarters, press releases, based on drafts of the SNSA, are formulated, updated and submitted for publication by the RS CP Headquarters. This task is performed by the ACPDR Public Relations Officer or a Public Relations Officer of the Ministry of Defence, as appropriate.

If necessary, the GOC, within its competence, is also included in public information activities (see 7.1.17).

The public may also be informed of an incident directly by the entity responsible for its occurrence.

Foreign general public is informed by the GOC.
The authors of press releases must submit them for information to the NCRS, competent RNCs, the SNSA, the GOC, competent regional and municipal CP headquarters, the RS CP Headquarters, the information centres and the entity responsible for the incident, if known. Press releases are submitted every three hours or every 30 minutes following any major change.

Public information in the event of accidents is released through the media which, in accordance with the Public Media Act (Official Gazette of the RS, No. 110/06 – official consolidated text) and to the request of national authorities, public companies and institutions, are liable to immediately and free of charge release emergency information related to serious risk to lives, health and property of people as well as the cultural and natural heritage and safety of the state.

In such cases, responsibility for immediate release of public information from national authorities falls to the following:

- Television Slovenia – all programmes;
- Radio Slovenia – all programmes;
- Slovenian Press Agency (SPA); and
- other electronic media.

The NCRS publishes daily and special information bulletins prepared on the basis of national-level press releases and containing more detailed information.

### D - 4 Instructions on accident notification

#### 5.3 Notification and Warning of the Population in the Area at Risk

Notification of the population in the area at risk must be consistent with the notification of the general public.

Information on a nuclear or a radiological accident will be delivered to the citizens by the national and local media, and by other local means.

The population in the area at risk will be informed of the enforcement of protective measures by an alarm signal announcing imminent threat (warning). Instructions for the implementation of measures will follow the warning and will be delivered by the national and local media, or by other appropriate means (e.g. an edict).

In the event of a nuclear accident at the Krško NPP, upon the activation of regional emergency response plans for nuclear and radiological accidents and upon the activation of the national emergency response plan in whole, the regions accepting the evacuated inhabitants of the Posavje region organise regional-level information centres. At the national level, the information centre is organised by the ACPDR. In the event of other nuclear and radiological accidents, information centres are organised as appropriate.

Information centres deliver information to the citizens on:

- the consequences of an accident;
- the effect of an incident on the population and the environment;
- the expected assistance;
- the mitigation measures;
- the implementation of personal and mutual protection;
- the cooperation in the implementation of protective measures.
5.3.1 Notification and Warning of the Population in the Event of a Nuclear Accident at the Krško NPP

Levels 0 and 1
Upon the announcement of level 0 or 1 (an unusual event or an alert), the population of the Posavje region receives general information on an incident by the national and local media. Additional information for the citizens is provided by the municipalities in the Posavje region by publishing a special telephone number which is later transferred to the information centre established by the ACPDR.

Level 2
Upon the announcement of level 2 (site emergency), the Posavje CP commander delivers the inhabitants of the Posavje region information with instructions on an accident through the national and local media. As a back-up means of informing the population, the public warning system, which enables the transmission of voice messages, may be used. Additional information for the citizens is provided by the information centre in the LPZ zone, established by the ACPDR.

Level 3
Upon the announcement of level 3 (general emergency), an alarm signal indicating imminent threat will warn of the threat of radioactive substance release which may pose a risk to the population of the Posavje region. The alarm will be triggered by the RNC in Brežice at the behest of the RS CP Commander in the PAZ and UPZ zones. The alarm will be followed by instructions on the implementation of protective measures, disseminated by the national and local media. These instructions are prepared in advance and attached to the regional emergency response plan for nuclear and radiological accidents in the Posavje region. Additional information for the citizens is provided by the information centre in the LPZ zone, established by the ACPDR.

Notification of the population in the affected area during an emergency response is the responsibility of the Posavje CP commander who cooperates with the CP commanders of the Brežice and Krško municipalities.

5.3.2 Notification and Warning of the Population at Risk in the Event of Other Nuclear and Radiological Accidents

Instructions for the population at risk regarding protective measures depend on the threat. The protective measures proposal is prepared by the SNSA and ordered by the RS CP Commander.

In case of imminent threat of radioactive substance release, which could pose a risk to the population, the competent RNC triggers the alarm signal indicating imminent threat by the order of the RS CP Commander. The alarm is followed by instructions on the implementation of protective measures, disseminated by the national and local media.

5.4 Notification of Other Countries and International Organisations

Entities informed of a nuclear or a radiological accident in Slovenia are:
- the IAEA (the Convention on Early Notification of a Nuclear Accident);
- the EU (Council Decision, 87/600/Euratom); and
- the neighbouring countries (bilateral agreements).
Notification of the IAEA (ENAC) and the European Union (ECURIE) is the responsibility of the SNSA which, in line with the bilateral agreements on early notification, also informs the neighbouring countries. Notification of foreign countries is detailed in chapter 5.1, in addition to the notification of competent authorities in Slovenia, and depends on the type of the incident.

The ACPDR is responsible for the provision of information pertaining to bilateral and multilateral agreements on cooperation in the protection against natural and man-made disasters, which also define the means of notification of hazards and consequences of accidents. Information on an accident is also delivered by the UN - OCHA, EU - MIC and NATO - EADRCC.

In the event of an accident, the Ministry of Foreign Affairs (MFA) informs diplomatic missions of other countries in Slovenia, Slovenian diplomatic missions abroad and international organisations which, in line with the adopted international commitments, are not informed by the SNSA and the ACPDR directly.

The SNSA, the ACPDR and the MFA coordinate and unify their notification of foreign countries.

| P - 17/2 | List of contact authorities of other countries and international organisations |
| D - 5   | Forms for the notification of other countries and international organisations |
| D - 22/2A | SNSA action plan (documents Notification of the IAEA and the Neighbouring Countries – work instructions 5.3.3, and ECURIE – work instructions 5.3.4) |
6 ACTIVATION OF FORCES AND RESOURCES

6.1 Activation of National Protection, Rescue and Relief Forces

Activation of competent authorities and services in the event of a nuclear accident at the Krško NPP is determined in advance (see 6.1.1). In the event of other nuclear and radiological accidents, however, activation depends on the consultation between the RS CP Commander and the SNSA (see also 3.2).

Units, services and other operational structures of PRR forces within the competence of the state are activated by the NCRS, based on the decision by:
- the RS Government;
- the RS CP Commander or his deputy;
- the ACPDR Director-General or his deputy; and
- the national rapid response unit commander or his deputy.

On the proposal of the head of emergency response or the SNSA, the NCRS obtains consent of the authorities responsible for the activation, and in-turn activates a specialised mobile unit and other organisations competent for giving advice on the implementation of emergency response (see 3.2).

A proposal for the activation and use of SAF capabilities may be put forward by the RS CP Commander, on the proposal of the head of emergency response. Following the RS Government decision (in the case of emergency, the decision is taken by the Minister of Defence), the NCRS submits the request or the decision to the command centre (CC). Based on the order issued by the Chief of General Staff of the Slovenian Armed Forces (GS SAF), the SAF Force Commander activates the appropriate SAF command, unit or service.

CP members and other national PRR forces are summoned by the ACPDR or the competent ACPDR regional office. The ACPDR and its regional offices also govern all matters relating to salary compensations and reimbursement of costs incurred by CP members and other protection, rescue and relief forces (professional and voluntary) in the implementation of protection, rescue and relief.

In the event of a nuclear accident at the Krško NPP, national PRR forces (national and regional units), leaving for the affected area, gather at their assembly points and head for the logistics centres of the ACPDR regional offices in Novo mesto, Celje, Trbovlje, Ljubljana and Maribor. There, based on the requirements of the affected municipalities, they are assigned a site and issued a work order.

In the event of other incidents, national protection, rescue and relief forces (national and regional units), leaving for the affected area, gather at their assembly points and head for the emergency response site where the head of emergency response assigns them a worksite.

6.1.1 Activation of Bodies and Their Expert Services in the Event of an Accident at the Krško NPP

The activation of competent bodies and services in the event of a nuclear accident at the Krško NPP is conducted in accordance with the declared level of risk at the Krško NPP (Figure 10).
Level 0
The SNSA and its expert team are activated, while the competent bodies notified in the event of level 0 (see Figure 5) monitor the events (e.g. through the IECS, see 7.3.1).

Level 1
Activated are:
- the SNSA;
- the Posavje CP commander;
- the Krško and Brežice CP commanders;
- municipal and regional PRR forces in part or in whole, depending on the complexity of preparations for the implementation of protective measures and PR tasks; and
- the police.

The RS CP Commander monitors the events.

Level 2
In addition to the entities activated for level 1, the following are also activated:
- the RS CP Commander;
- the Deputy RS CP Commander;
- the RS CP Headquarters;
- the ACPDR;
- CP commanders of the Ljubljana, Western Štajerska, Dolenjska, Eastern Štajerska and Zasavje region; and
- the GOC.

Level 3
In addition to the entities activated for level 2, the following are also activated:
- CP commanders of other regions, and
- ministries.

Based on the assessment of the situation, the RS CP Commander may activate or summon other PRR forces and order operational readiness of certain PRR forces.
6.1.2 Activation of Bodies and Their Expert Services in the Event of Other Nuclear and Radiological Accidents

In the event of a radiological accident in Slovenia, or a nuclear or a radiological accident abroad, the following are activated, following the consultation with the SNSA:

- the police;
- competent fire-fighting units of wider importance;
- the specialised ELMU mobile unit (see 8.2.2);
- the SRPA in the case of possible irradiation of people; and
- the EARS in the case of an incident abroad.

Following the consultation with the SNSA, the RS CP Commander decides on the activation of national, regional and municipal PRR forces. The required forces are activated on the basis of the expected consequences of an accident, and on the basis of the planned measures and PRR tasks in the entire territory or in certain parts of Slovenia.

6.2 Activation of Means of Relief

At the request of competent CP commanders, heads of emergency response and services, the RS CP Commander assesses the need for material and financial assistance. The use of material resources from national commodity reserves for the relief of those affected by a nuclear or a radiological accident is based on the decision of the RS Government, following the proposal of the RS CP Commander or his deputy. The use of national reserve resources in the event of natural and other disasters is the decision of the RS CP Commander or his deputy, or the ACPDR Director-General.

The ACPDR issues a decision on the activation of the required material and financial resources, and makes all necessary arrangements regarding the preparation and transportation to the site of the accident, as well as regarding the distribution of resources and financial assistance. After its
work is completed, the ACPDR monitors the use and distribution of resources and financial assistance through receiving regular reports.

National material assistance includes:
- mediation in the provision of specialised equipment not available at the site of the accident;
- assistance in terms of protection and rescue equipment;
- assistance in terms of financial resources;
- assistance in terms of food, drinking water, medicines, clothing, footwear etc.;
- assistance in terms of animal feed and livestock care; and
- assistance in the temporary accommodation of the population.

6.3 International Assistance

Unless otherwise provided by a bilateral agreement, international assistance may be requested by the RS Government or the RS CP Commander. Requests are addressed to the European Commission Monitoring and Information Centre, the neighbouring and other countries, and international organisations, in line with international agreements (e.g. the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency).

International assistance is coordinated by the ACPDR and the SNSA.

International assistance is based on the actual needs and may include:
- services offered by experts, rescue units and services;
- treatment of people exposed to radiation;
- protection and rescue equipment;
- material assistance (food, drinking water, clothing, footwear, animal feed, medicines, and other resources for free distribution to the population at risk to alleviate the consequences of an accident); and
- use of airports, means of transport and other means of assistance on land and in the airspace of another country, as part of the international assistance efforts.

Based on the decision of the RS CP Commander, individual experts, rescue units and services as well as material assistance from other countries are gathered in the national logistics centre in Ljubljana and in regional logistics centres. These centres are direct collection points for assistance arriving to Slovenia by road and railway. The organisation and operation of the centres lie within the competence of the ACPDR and its regional offices.

For receiving assistance delivered to Slovenia by planes, the following airports have been designated: the Ljubljana Jože Pučnik Airport, the Maribor Edvard Rusjan Airport and the Cerklje ob Krki airfield (except in the event of a nuclear accident at the Krško NPP).

The reception and referral or the delivery of the means of assistance to the relevant logistics centres or directly to the affected area by planes lies within the competence of the ACPDR regional offices in Kranj, Maribor and Brežice.
7 ADMINISTRATION AND MANAGEMENT

7.1 Bodies and Their Tasks

Management of PRR forces is regulated by the Protection Against Natural and Other Disasters Act. According to this Act, protection against natural and other disasters is organised and implemented as a unified system at local, regional and national levels.

In the event of a nuclear or a radiological accident, individual government bodies exercise the tasks listed below and further elaborated in the action plans. The tasks must be coordinated with the competent municipal bodies, such as the mayor, the municipal CP commander and others. Action plans are enclosed in this emergency response plan.

7.1.1 Government of the Republic of Slovenia

- Directs and coordinates PRR efforts and disaster relief operations.
- Regulates international assistance.
- Decides on the national budget allocations to cover the costs of protection and rescue operations of national forces.
- Decides on the national budget allocations to assist the affected municipalities in the provision of basic living conditions.
- Performs other tasks within its competence.

7.1.2 Civil Protection Commander of the Republic of Slovenia

- Evaluates protective measure proposals, and orders and withdraws protective measures when the conditions for so-doing have been fulfilled.
- Manages the activity of CP and other PRR forces within the national competence in an operational and professional manner, and directs and coordinates PRR efforts in accordance with the current circumstances.
- Coordinates operational measures and activities of ministries and other government bodies.
- Operationally regulates assistance of other countries and international organisations in terms of PRR forces and resources.
- Informs the RS Government of the consequences of an accident and the situation in the affected area, and gives opinions and proposals concerning protection, rescue and relief as well as the elimination of consequences.
- Declares the termination of risk.
- Oversees the drafting of the final accident report and submits it to the Government for adoption.
- Performs other tasks within its competence.

7.1.3 Ministry of Defence

7.1.3.1 Administration of the Republic of Slovenia for Civil Protection and Disaster Relief

- Provides conditions for the operation of the RS CP Commander and Headquarters.
- Informs competent bodies and ministries of the declared levels of risk at the Krško NPP.
- Informs foreign countries on the basis of the adopted bilateral and multilateral agreements.
- Provides logistics support for the operation of national forces.
- Regulates the assistance of other countries and international organisations in terms of PRR forces and resources.
- Performs administrative and expert PRR functions within its competence.
- Organises a communications system for the operation of national PRR forces.
- Provides information support to management bodies at the national level.
- Performs other tasks within its competence.

D - 13 ACPDR action plan

7.1.3.2 Slovenian Armed Forces

- Conduct radiological, dosimetric and meteorological monitoring, reconnaissance of the areas at risk and identification of contaminated areas, in cooperation with other PRR forces.
- Perform radiological decontamination of people, material resources and land, in cooperation with other PRR forces.
- Conduct sampling.
- Carry out radiological laboratory sample analyses.
- Assist in the implementation of basic measures for the protection against radiological contamination.
- Organise the protection and rescue of SAF members and resources.
- Assist in the evacuation of the civilian population.
- Assist in the provision of conditions for the accommodation and care of the population at risk in the event of an evacuation.
- Coordinate the participation of SAF units and services for the implementation of PRR tasks in accordance with the powers conferred on them.
- Ensure the use of SAF material resources for PRR efforts in accordance with the relevant law.
- Perform other tasks within their competence.

D - 14/2 Slovenian Armed Forces action plan

7.1.4 Ministry of the Environment and Spatial Planning

7.1.4.1 Slovenian Nuclear Safety Administration

- Analyses the incident and supports the work of the RS CP Commander and Headquarters.
- Proposes protective measures.
- Prepares the first national-level press release and submits it for publication, and cooperates in the preparation of further press releases.
- Informs the IAEA and the neighbouring countries of an accident in Slovenia, and receives information from them in the event of an accident abroad.
- Informs EU member states, Switzerland and Croatia of an incident in Slovenia, using the ECURIE system.
- Supports the work of other ministries when they require information on an incident or a forecast of the situation development.
- Coordinates emergency radioactivity monitoring – directs the work of mobile field units through the RRU, and receives, collects and submits data from the automatic radioactivity metres.
- Bilaterally exchanges information received from the automatic system for environmental radioactivity monitoring with Austria, Hungary, Croatia and the EU.
- Exchanges radiological data through the EURDEP system.
- Carries out inspections of the incident site when the radiological conditions permit.
- Establishes and ensures the operation of the IECS.
- Performs other tasks within its competence.
7.1.4.2 EARS, Meteorological Office

- Provides meteorological data.
- Provides calculations of meteorological models.
- Its duty service provides immediate response to the SNSA requirements in case of an emergency.
- Its experts assist the Dose Assessment Expert Group which operates at the SNSA.
- Performs other tasks within its competence.

7.1.5 Ministry of the Interior

- Performs tasks of public safety and the police.
- Performs tasks relating to internal administrative matters.
- Analyses, supervises and evaluates the efficiency and adequacy of the work methods of the Police and MI services.
- Performs other tasks within its competence.

7.1.5.1 Police

- Protects human lives, personal safety and private property of people, and maintains public order in the areas affected by nuclear accidents.
- Secures the area at risk.
- Prevents, detects and investigates criminal acts and offences, detects and apprehends perpetrators of criminal acts and offences as well as other wanted persons, and extradites them to competent authorities.
- Monitors and regulates traffic in accordance with the traffic infrastructure condition, and enables emergency response of protection, rescue and relief forces.
- Protects the national border and implements border control and police tasks regarding foreigners, in accordance with the situation at hand.
- Cooperates with the police aviation unit in the implementation of police, humanitarian, supply, reconnaissance and other tasks, significant for protection, rescue and relief in the event of a nuclear accident.
- Participates in the identification of victims.
- Cooperates with other organisational units of the Ministry of the Interior and other government bodies, particularly with notification centres.
- Cooperates with the Police of other countries.
- Performs other tasks within its competence.

7.1.5.2 Internal Affairs Inspectorate of the Republic of Slovenia

- Assesses the level of risk of individual buildings in the area at risk, as well as the traffic situation, and the storage and operation of weapons, ammunition and explosives.
- Supervises the performance of tasks related to the protection of persons and the property of private security companies in the areas at risk.
- Cooperates with other inspectorates.
• Performs other tasks within its competence.

### 7.1.6 Ministry of Public Administration

- Monitors the situation and adopts measures for the organisation of public administration and employment.
- Responsible for the maintenance of central service modules of the e-government and for the assistance in the integration of applications with the central e-government services.
- Ensures and manages electronic support between the entities within and outside the public administration, using information and communication technology.
- Ensures smooth operation and maintenance of application systems of the government bodies within the information and communication infrastructure.
- Involved in solving the public administration's spatial problems.
- Performs other tasks within its competence.

#### 7.1.6.1 Administrative units

- Regulate the civil status – issue public documents.
- Prepare information for the media regarding the manner and possibilities for obtaining a suitable public document.
- Can anticipate the demand for documents to be issued to potential evacuated persons.
- Consider the possibility of longer working and business hours, or of opening special counters for solving the problems of evacuated persons.
- Perform other tasks within their competence.

### 7.1.7 Ministry of Health

- Establishes medical guidelines for the operation of emergency medical teams at all levels in the event of a nuclear or a radiological accident, and implements appropriate education and training in accordance with the adopted guidelines.
- Ensures proper organisation and conditions for sustained and effective work of the emergency medical service and for hospitalisation of the wounded.
- In accordance with its responsibilities it supports and, if necessary, coordinates the provision of medical care to evacuated persons, and the cooperation of health-care institutions and public health care in the affected area.
- Monitors the situation and, in the framework of international assistance, proposes that persons exposed to radiation be referred to health-care institutions abroad.
- Prescribes the use of potassium iodide (KI) tablets in cooperation with the ACPDR and the SNSA.
- Participates in the distribution and replacement of KI tablets.
- Assists in the identification of persons, as appropriate.
- Coordinates activities for the planning, preparation and implementation of the evacuation of patients from the hospitals in the areas at risk.
- Performs other tasks within its competence.
7.1.7.1 Slovenian Radiation Protection Administration

- Determines response criteria in relation to the risk posed by nuclear and radiological substances in cooperation with the SNSA.
- Makes sure that the competent dosimetry services meet the necessary requirements.
- Proposes the implementation of appropriate protective measures and provides professional support for the operation of the RS CP Commander.
- Carries out inspections.
- Performs other tasks within its competence.

D - 16/2A SRPA action plan

7.1.7.2 Health Inspectorate of the Republic of Slovenia

- Participates in the implementation of protective measures by inspecting health and hygiene in temporary accommodation facilities as well as health and sanitary conditions of medical care, food supply, drinking water supply, public nutrition, education and child care.
- Performs other tasks within its competence.

D - 16/2B Health Inspectorate of the Republic of Slovenia action plan

7.1.8 Ministry of Transport

- Provides assessments on the status of transport facilities.
- Draws up a traffic arrangement plan for the affected area (particularly in the case of a nuclear accident at the Krško NPP) and establishes the rail, air and road traffic regime, taking into account the situation at hand and priorities.
- Informs the public and priority users of transport services of blocks, restrictions and other changes in road, rail and air traffic.
- Performs other tasks within its competence.

D - 17/2 MT action plan

7.1.9 Ministry of Foreign Affairs

- Establishes contacts with foreign governments, Slovenians living abroad, migrant organisations, persons temporarily working abroad, and international organisations, with the aim of disseminating information on the consequences of accidents and providing international assistance.
- Examines the possibilities and requirements for obtaining foreign loans to eliminate the consequences of accidents.
- Informs foreign diplomatic and consular missions responsible for Slovenia on the situation and consequences of accidents, and on the living conditions of foreign nationals in Slovenia.
- Participates in the organisation of visits by foreign diplomatic and consular representatives, representatives of international organisations and statesmen.
- In the event of an accident abroad it establishes contacts with the government of the country in which the accident has occurred and with the Slovenian citizens situated in this country, and issues instructions on travelling to the country in question.
- Performs other tasks within its competence.
7.1.10 Ministry of Finance

- Proposes priorities for the use of national budget resources.
- Proposes measures for the allocation or reallocation of a feasible amount of financial resources for the elimination of consequences of an accident.
- Assesses the possibility of allocating additional appropriations from the national budget.
- Performs other tasks within its competence.

7.1.10.1 Customs Administration of the Republic of Slovenia

- Oversees legal and illegal trafficking of radioactive and nuclear substances entering Slovenia from the third countries as well as trafficking inside Slovenia.
- In case of increased radioactivity at the national border it informs the SNSA and the Police, and participates in the introduction of protective measures.
- Prevents, detects and investigates attempts of unauthorised admission of radioactive and nuclear substances.
- Performs other tasks within its competence.

7.1.11 Ministry of the Economy

- Drafts proposals for the RS Government on the organisation of supply using national commodity reserves.
- Monitors and balances market developments through the use of commodity reserves in order to prevent critical reduction of vital supply stocks.
- Participates in making decisions on continuing the manufacturing, service and other activities in the affected area.
- Participates in the preparation of programmes for the elimination of consequences.
- Participates in the implementation of activities concerning the use of catering and tourist facilities and capabilities for temporary accommodation and care of the population at risk.
- Participates in activities concerning the implementation of protective measures in tourist facilities.
- Increases energy supply to priority users.
- Facilitates the supply of imported energy.
- Draws up measures related to the operation of energy industry in the affected area.
- Establishes immediate control over the use of energy.
- Establishes supply centres and sets priorities for the supply of energy resources.
- Performs other tasks within its competence.

7.1.12 Ministry of Labour, Family and Social Affairs

- Monitors the situation and adopts measures concerning social assistance in the affected area. In cooperation with social work centres it provides coordinated activities for the provision of proper living conditions in social welfare institutions (nursing homes; day-care and work centres; training, occupation and care centres; special institutions).
- Coordinates activities and, through social work centres, participates in the evacuation of occupants from the area at risk.
• Participates in the accommodation of the population groups at risk, particularly the occupants of social welfare institutions.
• Ensures that the occupants in the area at risk receive payment of social security benefits.
• Cooperates with other government bodies in the organisation of evacuation, taking into account transportation and other provisions.
• Performs other tasks within its competence.

D - 23/2 MLFSA action plan

7.1.13 Ministry of Agriculture, Forestry and Food

• Monitors the situation, examines the possibilities and adopts measures to protect agricultural and livestock products as well as food in the affected area. This is achieved in cooperation with properly accredited laboratories as risk assessors.
• Directs the production and processing of animal feed and safe food products of plant and animal origin.
• On the basis of official records it prepares plans for the protection of vital resources in the area of animal health and for the production of safe food and animal feed, taking into account the nature and extent of the threat.
• Ensures the destruction of unsafe agricultural products, together with professionally qualified institutions.
• Participates in the making of a market, pricing and protection policy for agricultural, forestry and food products.
• Performs the social status of farmers in the affected area.
• Performs other tasks within its competence.

7.1.13.1 Veterinary Administration of the Republic of Slovenia

• Participates in the adoption of measures related to animals, food of animal origin and animal feed.
• Implements strict official emergency control regarding the safety of food of animal origin and animal feed as well as animal health care and protection.
• Orders the implementation of measures to animal keepers, safe food and animal feed business operators, and to those responsible for the provision of animal health care and protection.
• Performs other tasks within its competence.

7.1.13.2 Inspectorate of the Republic of Slovenia for Agriculture, Forestry and Food

• Participates in the control of the primary production of safe food and animal feed of plant origin, including the first placing on the market, and implements measures for food business operators in the primary production.
• Participates in the control of plant health, helps prevent the spread of harmful organisms, and implements appropriate measures.
• Oversees the implementation of forest management and silvicultural plans for the conservation of specific environmental and forest functions.
• Performs other tasks within its competence.

D - 24/2 MAFF action plan

7.1.14 Ministry of Education and Sport
• Ensures the implementation of ordered protective measures in childcare and educational institutions.
• Establishes guidelines for the suspension or continuation of education and other activities in the area of childcare as well as primary and secondary education outside the contaminated area.
• Takes decisions on the suspension of classes or early termination of the academic year.
• Participates in the supply of schools with the essential school supplies.
• Performs other tasks within its competence.

D - 26/2 MES action plan

7.1.15 Ministry of Higher Education, Science and Technology

• Ensures the implementation of ordered protective measures in educational institutions.
• Establishes guidelines for the suspension or continuation of education and other activities in the area of higher education outside the contaminated area.
• Takes decisions on early termination of the academic year.
• Assesses the status of communication facilities.
• Provides telecommunication links to priority users.
• Performs other tasks within its competence.

D - 30/2 MHEST action plan

7.1.16 Radioactive Waste Management Agency

• Takes over radioactive waste at the site of an industrial accident, an accident involving the transport of radioactive substances, or another accident.
• Takes over radioactive waste in the case the producer of radioactive waste can not be found or identified.
• Stores the seized low and intermediate level radioactive waste.
• Performs other tasks within its competence.

7.1.17 Communication Office of the Government of the Republic of Slovenia

• Informs the foreign general public.
• Coordinates the preparation of joint press releases.
• Organises and manages the press centre.
• Organises press conferences for Slovenian and foreign journalists.
• Documents and analyses papers and articles published in Slovenian and foreign public media.
• Provides basic information services to foreign journalists.
• Follows the reporting of Slovenian and foreign media, and prepares selections of published reports (so-called clippings).
• Performs other tasks within its competence.

D - 29/2 GOC action plan

7.1.18 Krško Nuclear Power Plant

• Classifies the incident and determines the level of risk.
- Proposes protective measures.
- Informs the public of an incident.
- Establishes support centres (an operational support centre, a technical support centre and an external support centre).
- Provides the SNSA access to information in the Krško NPP process information system to allow the SNSA equivalent and timely incident analysis.
- Monitors radioactivity in the area of the power plant.
- Performs other tasks within its competence.

7.1.19 Municipalities

- Draw up emergency response plans for nuclear and radiological accidents, or parts of these plans (see 2.1).
- Municipalities in the Posavje region participate in the planning and management of the evacuation.
- Municipalities accepting the evacuated inhabitants of the Posavje region draw up reception plans in which they plan for the provision of basic living conditions for 7 days (accommodation, food, clothing, medical assistance, and other provisions).
- Municipal PRR forces manage emergency response in the event of other nuclear and radiological accidents (see 7.2.2).
- Perform tasks set out in the Rules on the Use of Potassium Iodide Tablets.
- Perform other tasks set out in this emergency response plan and other tasks within their competence.
7.2 Operational Management

Professional operational management of PRR forces is carried out by CP commanders with the assistance of CP headquarters, the head of emergency response and the head of rescue units.

At the operational level, protection, rescue and relief activities in a municipality are managed by the municipal CP commander assisted by the municipal CP headquarters. In a region, this is performed by the regional CP commander assisted by the regional CP headquarters.

7.2.1 Operational Management in the Event of a Nuclear Accident at the Krško NPP

Operational management at the national level begins at the time of the site emergency (level 2).

In the event of a site or a general emergency, the Posavje CP commander has to perform the following tasks:

- manage and coordinate the operation of PRR forces in the Posavje region;
- provide logistics support to PRR forces;
- monitor the implementation of protective measures;
- manage the evacuation; and
- regulate traffic, close down areas at risk, set up roadblocks and traffic signs, and control traffic, in cooperation with the police and other competent services.

CP commanders of the Ljubljana, Dolenjska, Western Štajerska, Eastern Štajerska and Zasavje region organise the reception of the evacuated population from the Posavje region.

The RS CP Commander organises and manages PRR activities within his competence and in line with the RS Government decisions. He is professionally assisted by the RS CP Headquarters.

In the event of an accident, the RS CP Headquarters usually organise their work at the head office situated at the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief of the Ministry of Defence.

The national rapid response unit (RRU) performs operational tasks of national PRR forces, manages mobile units for CBR reconnaissance in cooperation with the SNSA (see chapter 8.2.2), and participates in the decontamination of people, vehicles and equipment.

Activities of the SAF CBRN Battalion and other CBR units are coordinated by the RRU command.

D - 30 ACPDR plan for the provision of spatial and other conditions for the work of the RS CP Commander and Headquarters

7.2.2 Operational Management in the Event of Other Nuclear and Radiological Accidents

In the event of other nuclear and radiological accidents requiring immediate action, emergency response is managed by the SNSA duty inspector, until the arrival of fire-fighters (a competent fire-fighting unit of wider importance) who then assume command. The SNSA duty inspector advises the head of emergency response.

If it is necessary to activate a regional plan or the national plan (see 3.2), command is assumed by the CP commander of the competent region or the RS CP Commander in cooperation with the SNSA.
7.3 Organisation of Communications

In data transfer and voice communication, all available telecommunication and information infrastructure may be used, based on different interconnected networks in accordance with the Protection Against Natural and Other Disasters Act and with the Telecommunications Act. Data transfer and communication between management bodies, rescue services and other providers of protection, rescue and relief is conducted by means of the following services and communications:

- Services:
  - IECS;
  - emergency response intranet; and
  - electronic mail.

- Communications:
  - radio communications (ZA-RE, ZA-RE DMR and ZA-RE PLUS, TETRA);
  - satellite communications for the data transfer of mobile units;
  - packet radio for data transfer and other communications of the Association of Radio Amateurs of Slovenia;
  - fixed public telephone systems;
  - mobile telephony;
  - portable mobile base stations;
  - internet; and
  - fax.

7.3.1 Interministerial Emergency Communications System (IECS)

For communication between management bodies in the event of an incident at the Krško NPP (the RS CP Commander and Headquarters, the Posavje CP commander and headquarters, the Krško and Brežice CP commanders and headquarters, the NCRS, the RNC in Brežice, the RNC in Novo mesto, the SNSA, the GOC, the EARS, the Krško NPP external and technical support centres etc.), the IECS is used in addition to the above-mentioned communication channels.

The IECS is also used for other incidents, depending on their scope and the possibility of use of the system.

The RS CP Commander and Headquarters, the SNSA, the GOC, the EARS and the NCRS also use IECS during other incidents. Its establishment and operation are ensured by the SNSA.

7.3.2 ZA-RE Communications System

In the direct management of protection, rescue and relief operations, the emergency response radio communications system (ZA-RE) and the personal call system are used. The ZA-RE communications system must be used in the operational management of emergency response and other protection and rescue operations. The system’s telecommunications centres are situated in notification centres enabling the integration of users into public and private telecommunications systems, as well as the integration of notification centres.
7.3.2.1 Use of ZA-RE Mobile Repeater Stations

Mobile repeater stations are used to replace the failed repeater stations of the ZA-RE radio communications network or to enhance the network’s functioning in the case of locations with poor coverage or the need for an additional repeater due to increased radio traffic, or the need for the organisation of the ZA-RE radio communications traffic in the event of a nuclear or a radiological accident.

In the event of an accident at the Krško NPP, radio communications in the Posavje region may be enhanced by installing mobile repeater stations on the hills of Bohor, Kum, Trška gora and Trdinov vrh, or at another suitable location, as appropriate. Mobile repeater channels are designated upon the installation of repeaters. As a rule, channels 31 and 32 are used; however, it is possible to use any other repeater channel of the ZA-RE communications system (Figure 11).

![Figure 11: Repeater Stations with the ZA-RE System Channels](image)

7.3.2.2 Personal Call Subsystem

The ZA-RE communications system also includes a personal call subsystem (pagers). This allows written messages to be sent to holders of personal call receivers. Messages are sent by competent regional notification centres. The transmission network consists of 47 transmitters of the upper network and 69 digital repeaters of the lower network. If necessary, a mobile digital repeater may also be installed. In the Posavje region, a mobile digital repeater could be installed in a town or its surrounding area, or on the hills of Kum, Trška gora and Trdinov vrh.

P - 22 Directory of users of telephone lines, radio stations, pagers and electronic mail in the field of protection and rescue
D - 31/2 Plan for the provision of communications
8 RADIOACTIVITY MONITORING

8.1 Regular Monitoring

Regular environmental radioactivity monitoring takes place in the wider area of Slovenia and in the vicinity of nuclear and radiation facilities, in accordance with the annual programmes. The purpose is to monitor the level of natural radiation and radioactive contamination in the environment, provide immediate warning when elevated levels are found, and provide dose assessment of reference population groups. In the event of an incident, regular monitoring immediately turns into emergency monitoring.

8.2 Emergency Monitoring

Emergency environmental radioactivity monitoring is based on the regular monitoring programmes and is increasingly conducted in the event of an incident, both in terms of sampling rate and sample measurements as well as in terms of an increased number of locations. The purpose of emergency monitoring is to provide information:

- to allow the calculation of population doses and hence the basis for the recommendation of protective measures, for the withdrawal of measures, for rehabilitation etc.;
- to assess the emergency personnel doses while conducting activities in contaminated areas; and
- to assess radioactive contamination of the environment.

Emergency monitoring data are the following:

- dose rate in the environment and the assessment of received dose levels in a given period;
- concentration of radionuclides in the air;
- surface contamination of soil and precipitation radioactivity;
- contamination of water, food and animal feed.

Emergency radioactivity monitoring is coordinated by the SNSA. The functional scheme of emergency monitoring is provided in Figure 12.

The early notification network (see 8.2.1) provides immediate measurement results from automatic metres in the environment and basic information required by the SNSA for dose assessment.

Mobile units (see 8.2.2) carry out measurements in the field. Their work is directed by the SNSA, while they are operationally managed by the RRU. Orders and measurement results go through the RRU or, if technically possible, they are transmitted directly.
Laboratory measurements are carried out by the approved laboratories (see 8.2.3).

Slovenia is included in bilateral (Austria, Croatia, Hungary) and wider international exchange of radiological data (EU, IAEA). Radiation and contamination measurements at national borders have increased the surveillance of persons and goods.

An EARS meteorologist, the supporting member of the Dose Assessment Expert Group at the SNSA, provides interpretation of meteorological data and results of meteorological models, and, if necessary, communicates with specialised meteorological centres (the RSMC Bracknell or the RSMC Toulouse) operating under the auspices of the World Meteorological Organisation (WMO Environmental Emergency Response).

In the event of a nuclear or a radiological accident abroad it is necessary to establish radioactivity monitoring at the national border. By measuring the contamination of persons and goods, this is conducted by CBR CP units, the ELMU capabilities, the Institute of Occupational Safety, and the SAF CBRN Battalion.

8.2.1 Early Notification Network

Early notification network (ENN) is an automatic measurement system consisting of fixed radiation metres installed throughout Slovenia (Figure 13) and collecting information in one place (the SNSA). It is intended for immediate detection of increased radiation levels in the environment. ENN information is also available at www.radioaktivnost.si.

![Figure 13: Early Notification Network (ENN)](image)

**D - 22/2A** SNSA action plan (documents Automatic Radiation Monitoring – work instructions 5.5.6, and Incident Meteorologists Work – work instructions 5.5.9)

8.2.2 Mobile Units

Regarding the ability to perform radiation measurements, mobile units are divided into:
specialised mobile units:
- the Ecological Laboratory with a Mobile Unit (ELMU), Jožef Stefan Institute, Ljubljana;
- the Institute of Occupational Safety Mobile Unit, Institute of Occupational Safety, Ljubljana;
- the SAF Mobile Radiological Laboratory;
- the Mobile Meteorology and Hydrology Unit (MMHU);
- the Krško NPP Mobile Unit;

other mobile units:
- CBR reconnaissance CP units.

Mobile units are activated by the NCRS on the proposal of the SNSA (the procedure is described in chapter 6.1). Their work is directed by the SNSA, except for the Krško NPP unit, in accordance with the required measurements, while operational management of units is assumed by the rapid response unit (RRU), except for the Krško NPP unit. The RRU command ensures the transfer of field measurement data to the SNSA and the RS CP Commander. For reasons of efficiency and accuracy and if technically possible, direct communication between the SNSA and mobile units is also established.

Emergency radioactivity monitoring data are available to all providers of measures and tasks through the IECS.

CBR reconnaissance CP units are responsible for measuring the dose loads of emergency responders who are not professionals in working in ionising radiation sources. In addition, these units are responsible for marking contaminated areas and collecting samples.

D - 22/2A SNSA action plan (document Mobile Units Guidance – work instructions 5.5.5)
D - 204 Mobile units’ data transfer plan (SNSA and ACPDR)

8.2.3 Approved Laboratories for Radioactivity Measurements

Radioactivity measurements of samples are conducted by the approved and accredited laboratories at the Jožef Stefan Institute and the Institute of Occupational Safety. Apart from regular radioactivity measurements, they are able to conduct immediate measurements of an increased number of samples, measurements of higher-activity samples, and immediate measurements of different radioisotopes.
9 PROTECTION, RESCUE AND RELIEF MEASURES AND TASKS

9.1 Protective Measures

Protective measures are taken to prevent or reduce the exposure of individuals to radiation sources. The basis for determining protective measures in the event of a nuclear or a radiological accident is intervention levels (see 3.1). Individual national-level protective measures are proposed by the SNSA and ordered by the RS CP Commander.

Protective measures may also be proposed to the RS CP Commander by the entity responsible for the accident.

In case of an incident at the Krško NPP, the NPP proposes immediate protective measures coordinated with the SNSA.

9.1.1 Types of Protective Measures

Given the response pace, protective measures may be immediate, food security measures and long-term measures.

9.1.1.1 Immediate protective measures

The purpose of immediate protective measures is to prevent the deterministic effects of radiation. Therefore, they must be implemented as soon as possible after a nuclear or a radiological accident.

In the event of a nuclear accident at the Krško NPP, the following national-level measures must first be implemented:

a) sheltering;
b) ingestion of potassium iodide tablets;
c) evacuation; and
d) accommodation and care of the evacuated population.

In the event of other incidents, the following measures must be implemented:

e) limitation of radiation and contamination (area security);
f) use of personal protective equipment;
g) care and treatment of the injured and irradiated persons.

In both cases:

h) area surveillance;
i) decontamination of people and equipment.

a) Sheltering

Sheltering means keeping people and animals inside during an incident to avoid external radiation and intake doses. A closed space may be a shelter or a regular building with windows closed and ventilation turned off. Sheltering may last up to 24 hours.

b) Ingestion of Potassium Iodide Tablets

Ingestion of potassium iodide tablets or iodine prophylaxis is the ingestion of stable iodine before the occurrence of a nuclear or a radiological accident or immediately following the occurrence of an accident in order to protect the thyroid gland from radiation due to the accumulation of radioactive iodine.
For the event of a nuclear accident at the Krško NPP and in line with the Rules on the Use of Potassium Iodide Tablets in the Event of Nuclear and Radiological Accidents, citizens, schools, kindergartens, health care centres, nursing homes, other institutions, companies and organisations in the 3 and 10 km zone around the Krško NPP have been distributed potassium iodide tablets in advance.

For all other Slovenian citizens, potassium iodide tablets are kept in hospitals and other health care organisations and are distributed according to the need for the implementation of iodine prophylaxis.

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<tr>
<th>D - 205</th>
<th>Rules on the use of potassium iodide tablets in the event nuclear and radiological accidents (MH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D - 206</td>
<td>Potassium iodide tablets distribution plan (ACPDR)</td>
</tr>
</tbody>
</table>

c) Evacuation

Evacuation is organised movement of people away from the area at risk. Inhabitants of an area under evacuation are moved to a certain place in a way and within a time limit set out in the emergency response plan.

In the event of a nuclear accident, evacuation is ordered before the release of radioactive substances into the atmosphere or after the passage of a radioactive cloud if there was no time for evacuation and sheltering was ordered in advance. The same measures are taken in the event of a radiological accident with the release of radioactive substances into the air, or on the basis of field measurements in the case of soil contamination (e.g. radioactive liquid spill).

As a rule, evacuation is carried out with own (personal) vehicles. Means of transport for the special categories of the population (children in schools and kindergartens, hospital patients, senior citizens in nursing homes, guests in tourist facilities, prisoners) are provided by competent institutions.

Municipalities (except the Posavje region in the case of a nuclear accident at the Krško NPP) provide the required number of public means of transport for the evacuation of those inhabitants who do not possess their own means of transport.

Road companies ensure the closure of national roads during the evacuation, while municipalities provide for the closure of municipal roads.

Involved in the evacuation are CP units, fire-fighters, the police and, if necessary, the SAF.

d) Accommodation and Care for the Population at Risk

Accommodation and care for the population at risk encompasses the provision of shelters and emergency care (health care, provision of drinking water, food, clothing and other vital resources, electricity, psychological support, information and education of school children, the provision of essential transport links, and the operation of municipal infrastructure) to those inhabitants who, due to the threat to the area in which they live, have left their homes.

Evacuated inhabitants receive instructions regarding temporary accommodation and care in the evacuation reception areas.

The costs of accommodation, emergency care and education are covered by the state.
Participants in the evacuation are CP units (e.g. accommodation centres) and other PRR forces, public services and institutions competent for the provision of water, food, electricity, municipal utility services, health care and education, as well as social services and non-governmental organisations.

| D - 207 | Instructions for the operation of evacuation reception areas (ACPDR) |
| D - 208 | Guidelines for temporary accommodation, accommodation standards and care for the evacuated population (ACPDR) |

**e) Limitation of Radiation and Contamination (Area Security)**

This measure is mainly implemented in the case of radiological accidents where an area of appropriate size around the source of radiation is physically secured. In this way, access is denied to people and animals in order to prevent accidental exposure to radiation and the spread of potential contamination. The measure is implemented by the police or fire-fighters (primarily those who first arrive at the site).

**f) Use of Personal Protective Equipment**

For protection against the inhalation of contaminated dust particles in the air, various respiratory protection is used. For protection against the contamination of skin and clothes, rubber gloves and cloaks are used.

**g) Care and Treatment of the Injured and Irradiated Persons**

All the injured are provided emergency medical assistance.

Specialist care of all the injured and diseased who are not contaminated and show no signs of acute illness (e.g. vomiting) is provided by the competent general hospitals.

Contaminated persons and persons showing signs of acute radiation are treated by the University Medical Centre Ljubljana (UMC), Department of Nuclear Medicine.

In the case of severe acute radiation, international assistance may also be requested (see 6.3).

**h) Area Surveillance**

Areas where protective measures are implemented are controlled by the police who also control access and exit points to and from these areas.

| D - 209 | Instructions for the operation of control points (ACPDR, SNSA) |

**i) Decontamination of People, Animals and Equipment**

To reduce the hazardous effects of radiation and the spread of contamination, people, animals and equipment must be examined and, if necessary, decontaminated. Verification of contamination and decontamination are usually carried out at decontamination stations which are set up outside the protective measure area, at control points (e.g. in the event of a nuclear accident at the Krško NPP, see 2.1.3).

Decontamination of people, animals and public spaces may be carried out by fire-fighting units competent to respond to accidents involving dangerous substances, a CBR decontamination CP unit and, if necessary, the SAF.
9.1.1.2 Food Security Measures

Food security measures reduce the risk of the stochastic radiation effects due to the intake of contaminated food and drinking water in the body.

Food security measures last from several days to several weeks for short-lived isotopes, and for several decades for long-lived isotopes.

Food security measures comprise:

- prohibition of the use of contaminated food and animal feed;
- prohibition of the use of (drinking) water, and prohibition of or restriction on the consumption of certain foods, especially crops, fruits and vegetables as well as milk and dairy products;
- protection of animals and animal feed (keeping animals in stalls, pens and covered areas, a ban on grazing and feeding animals with fresh fodder);
- restriction on the gathering and use of arable crops and wild fruits;
- restriction on grazing;
- restriction on or prohibition of the use of wild game meat;
- protection of drinking water sources;
- provision of alternative safe food products, water and animal feed.

Food security measures are implemented by the population (including animal owners) in the context of personal and mutual protection, by competent public services and institutions in the field of water supply, health care and education, and by food business and animal feed business operators.

9.1.1.3 Long-Term Protective Measures

Long-term protective measures reduce the risk of the stochastic radiation effects. They last from several weeks to several months and up to several centuries for very long-lived isotopes. It is necessary to take into account the economic and social consequences of these measures.

Long-term protective measures comprise:

- temporary transfer of the population;
- permanent transfer of the population; and
- environmental decontamination.

Long-term protective measures are implemented in the framework of the rehabilitation after an incident, in the course of the regular operation of competent bodies and services.

9.1.2 Radiological Protection of Emergency Response and Other Personnel

The police, fire-fighters and emergency medical teams are emergency personnel who first arrive at the site of an incident, except in nuclear and radiation facilities where first measures are taken by the employees.

Emergency and other personnel (all providers of protective measures and PR tasks) must be equipped with appropriate personal protection equipment and dosimetry control means. Personal
protective equipment of the personnel must be provided by their superiors. Equipment acquired from other sources is only used in exceptional cases. Dose load control of those individuals who are not professionals in working with ionising radiation sources is the responsibility of CBR reconnaissance CP units. Measurements of internal contamination of people are carried out by the Department of Nuclear Medicine.

Dose loads for individuals must not exceed the value of dose limits for those who are professionals in working with ionising radiation sources, unless this would protect the lives and health of a large number of people or prevent the development of events with catastrophic consequences.

Exceeded dose limits for individuals may only be approved in exceptional cases by the RS CP Commander, with the consent of an occupational physician when:
- a person is healthy;
- a person volunteers to carry out the task;
- a person is trained to perform the task;
- a person is aware of the risks;
- the execution of a certain task is the condition for the rescue or protection of a large number of people who are exposed to an immediate threat.

The precautionary action zone (PAZ) in which protective measures are planned and implemented lies at a distance of 3 km from the Krško NPP where, due to the proximity, immediate preventive protective measures are implemented. The PAZ includes entire settlements, even if they extend outside the 3 km zone (Figure 14).

In the event of an accident at the Krško NPP, the PAZ is the most endangered area; therefore, protective measures must be implemented immediately upon the declaration of a general emergency at the Krško NPP (level 3).
Protective measures in the PAZ are immediate (see 9.1.1.1) and food security measures (see 9.1.1.2) with emphasis on the following points:

**Sheltering**

Sheltering is only ordered in exceptional cases where it is considered that, due to the rapid deterioration of conditions at the Krško NPP, there is not enough time to carry out preventive evacuation.

**Evacuation**

Evacuation is carried out along the predetermined evacuation routes to the evacuation reception areas outside the LPZ. From there, people are taken to the place of their temporary accommodation. With regard to the circumstances (unfavourable weather conditions), the RS CP Commander may also order reception and accommodation in other regions. The Krško and Brežice municipalities have the responsibility to acquaint the population with the evacuation routes and reception areas.

The preparation and implementation of evacuation is the responsibility of the Posavje region in cooperation with the municipalities in the PAZ zone.
Evacuation is managed by the Posavje CP commander in cooperation with the municipal CP commanders. Regional and municipal plans include detailed descriptions of evacuation activities which fall under the competence of the region or regional-level government bodies, and under the competence of municipalities or municipal bodies (the provision of vehicles for the transportation of people who do not possess their own means of transport, roadblocks, blockade and control of the evacuated area, control points, admittance of emergency personnel etc.).

The MLFSA coordinates activities and, through social work centres, participates in the evacuation of occupants of social welfare institutions (nursing homes; day-care and work centres; training, occupation and care centres; and special institutions) from the PAZ zone.

The MES ensures that childcare and educational institutions in the PAZ carry out the evacuation.

The MH coordinates the planning, preparation and evacuation of patients from the Brežice Hospital.

**Accommodation and Care for the Population Evacuated from the PAZ**

The evacuated inhabitants gather at evacuation reception areas outside the LPZ. Reception areas and temporary accommodation of people are outlined in municipal and regional plans for the minimum of 7 days (see 2.1.3).

**9.1.3.2 Urgent Protective Action Planning Zone (UPZ)**

The urgent protective action planning zone (UPZ) in which immediate protective measures are planned and implemented lies at a distance of 10 km from the Krško NPP. To facilitate the planning and implementation of protective measures, the entire UPZ is divided into settlement areas covered by a grid of 16 sectors (portions of a circle), the axis of the first running towards the north (Figure 15).
Protective measures in the UPZ are immediate (see 9.1.1.1) and food security measures (see 9.1.1.2) with emphasis on the following points:

Evacuation

Evacuation is carried out along the predetermined evacuation routes to the evacuation reception areas outside the LPZ. From there, people are taken to the place of their temporary accommodation. With regard to the circumstances (unfavourable weather conditions), the RS CP Commander may also order reception and accommodation in other regions. The Krško and Brežice municipalities have the responsibility to acquaint the population with the evacuation routes, control points, as well as the municipality and location of their accommodation.

Evacuation in the UPZ is carried out on the basis of model and measurement results (see chapter 8), with regard to the release of radioactive substances into the atmosphere and the direction of the release (depending on the direction of the wind and other meteorological conditions).

The preparation and implementation of the evacuation is the responsibility of the Posavje region in cooperation with the municipalities in the UPZ zone.

Evacuation is managed by the Posavje CP commander in cooperation with the municipal CP commanders. Regional and municipal plans include detailed descriptions of the evacuation activities which fall under the competence of the region or regional-level government bodies, and under the competence of municipalities or municipal bodies (the provision of vehicles for the transportation of people who do not possess their own means of transport, roadblocks, blockade and control of the evacuated area, control points, admittance of emergency personnel etc.).

The MLFSA coordinates activities and, through social work centres, participates in the evacuation of occupants of social welfare institutions (nursing homes; day-care and work centres; training, occupation and care centres; and special institutions) from the UPZ.

The MES ensures that childcare and educational institutions in the UPZ carry out the evacuation.

Accommodation and Care for the Population Evacuated from the UPZ

The evacuated inhabitants gather at evacuation reception areas outside the LPZ. Reception areas and temporary accommodation of the population are outlined in municipal and regional plans (see 2.1.3).
9.1.3.3 Long-Term Protective Action Planning Zone (LPZ)

The long-term protective action planning zone (LPZ) in which long-term protective measures are planned and implemented lies at a distance of 25 km from the Krško NPP. To facilitate the planning and implementation of protective measures, the entire LPZ is divided into settlement areas covered by a grid of 16 sectors (portions of a circle), the axis of the first running towards the north (Figure 15, page 59).

Protective measures in the LPZ are implemented on the basis of model and radioactivity measurement results (see chapter 8).

Protective measures in the LPZ are long-term (see 9.1.1.3), food security measures (see 9.1.1.2) and immediate (see 9.1.1.1).

9.1.3.4 Area of General Preparedness (Entire Territory of the Republic of Slovenia)

Protective measures in the entire territory of Slovenia are implemented on the basis of model and radioactivity measurement results (see chapter 8).

Protective measures in the entire territory of Slovenia are long-term (see 9.1.1.3), food security measures (see 9.1.1.2) and immediate (see 9.1.1.1).

9.1.4 Protective Measures in the Event of a Nuclear Accident Abroad

In addition to the measures planned for the LPZ zone (see 9.1.3.3), the following measures are implemented in the event of a nuclear accident abroad:

- stricter and more intense environmental and food control; priority is given to those areas which have experienced rainfall;
- drafting of a strategy for food and animal feed sampling;
- protection of Slovenian nationals in the affected countries;
- a ban on imports from the affected countries;
- recommendations on travelling to the affected countries;
- intensified radioactivity control at border crossings;
- intensified control of imported food and animal feed.

In the event of a major nuclear accident at a power plant which lies within a 500-km range of Slovenia and given unfavourable weather conditions, immediate protective measures (e.g. ingestion of potassium iodide tablets, see 9.1.1.1) and food security measures (see 9.1.1.2) may be taken.

9.1.5 Protective Measures in the Event of Other Nuclear and Radiological Accidents

In the event of other nuclear and radiological accidents, immediate on-site protective measures are implemented by facility operators or radioactive source holders. Otherwise, immediate emergency response is required (see also 7.2.2):

- the area is protected and closed down by the police or professional fire-fighters, or the first one to arrive at the site;
- participants in an emergency response are competent public services and organisations (e.g. the ELMU, the Institute of Occupational Safety).
At the national level, appropriate protective measures in the event of other nuclear and radiological accidents (see 9.1) are ordered depending on the type of the incident, the circumstances, and the possible development of the incident.

9.2 Protection, Rescue and Relief Tasks

9.2.1 First Aid and Emergency Medical Treatment

First aid includes:
- first aid to the injured and diseased;
- assistance in the decontamination of the injured and diseased;
- participation in the transportation of lightly injured and diseased;
- participation in the care of the injured and diseased;
- participation in the implementation of hygiene and epidemiological measures.

First aid in the event of a nuclear accident at the Krško NPP, particularly during the evacuation and reception of the evacuated inhabitants of the Posavje region, is provided by first aid units.

Emergency medical treatment in the event of a nuclear or a radiological accident is provided by emergency medical teams organised at a pre-hospital level and by appropriate organisational units at the secondary level (hospitals), in line with the adopted medical guidelines for the management of emergency medical teams.

Specialist care of all the injured and diseased who are not contaminated and show no signs of acute illness (e.g. vomiting) is provided by the competent general hospitals. Contaminated persons and persons showing signs of acute radiation are treated by the University Medical Centre Ljubljana (UMC), Department of Nuclear Medicine. In the case of severe acute radiation, international assistance may be requested (see 9.1.1.1 f).

9.2.2 First Veterinary Aid

With reference to paragraph 19 of Article 51 of the Veterinary Service Act (Official Gazette of the RS, Nos. 33/01, 110/02 - Construction Act-1, 45/04 - Act Amending Certain Acts Concerning Agriculture and Forestry and Repealing Certain Acts Concerning Agriculture and Forestry, 62/04 - Constitutional Court Decision and 93/05), holders of veterinary activities are required to provide emergency veterinary aid to animals, in line with Article 50 of the Veterinary Service Act.

First veterinary aid tasks are also implemented by first veterinary aid teams in companies, institutions and other organisations dealing with animal husbandry.

First veterinary aid in the event of a nuclear or a radiological accident includes:
- implementation of measures for the protection of animals, food of animal origin, animal feed and watering places against the ionising radiation, as recommended by the MAFF or the Veterinary Administration of the Republic of Slovenia (VARS);
- implementation of measures for the protection of animals at risk of a massive outbreak or in the event of a massive outbreak of animal diseases;
- participation in livestock decontamination;
- participation in the disposal of animal carcasses.
Overview of first veterinary aid teams

9.2.3 Fire Extinguishing and Rescue

In addition to fire extinguishing in the event of a nuclear or a radiological accident, fire-fighting units also participate in the implementation of other protection and rescue tasks, particularly in the transportation of drinking water for animals, in rescue operations in the event of traffic accidents and in the decontamination.

9.2.3.1 Fire Extinguishing in the Event of a Fire at the Krško NPP

Fire extinguishing at the Krško NPP lies within the competence of the Krško NPP professional fire-fighters. If they are unable to extinguish the fire, they request assistance of the Krško Professional Fire Brigade.

9.2.4 Provision of Basic Living Conditions

During a nuclear or a radiological accident it is necessary to ensure safe (uncontaminated) water and food as well as basic living conditions, such as suitable accommodation in the event of an evacuation, food in the event of food security measures etc. (see also chapter 9.1.1).

9.3 Withdrawal of Protective Measures and Termination of Risk

Protective measures are withdrawn with regard to the tolerance in the exceeding of intervention levels and with regard to the development of the event. Proposal for the withdrawal of individual protective measures is given by the SNSA and ordered by the RS CP Commander.

Considering the development of an incident and the environmental situation, the RS CP Commander declares the termination of risk.

Decision sample on the withdrawal of protective measures and PRR tasks
Decision sample on the termination of risk (ACPDR, SNSA)
10 PERSONAL AND MUTUAL PROTECTION

Personal and mutual protection includes all activities that the local inhabitants begin to carry out as soon as they are informed of protective measures in the event of a nuclear or a radiological accident.

The use of provisional and standard personal protection means and full compliance with the instructions communicated through the media by professional bodies can effectively reduce the effects of an accident.

In order for the inhabitants to efficiently implement measures for the protection of their health and lives, they must be fully informed of the effects of radiation, its danger, the level of risk, as well as all possible and necessary protective measures. Inhabitants receive in advance all necessary instructions regarding the method of notification in the event of an accident, the type and levels of risk as well as the necessary protective measures and their implementation.

Personal and mutual protection in the event of a nuclear or a radiological accident includes:

- use of personal protection means against radioactive contamination;
- staying indoors (sheltering);
- ingestion of potassium iodide tablets;
- evacuation;
- personal decontamination;
- restriction on the use of food (use of products stored in closed cupboards, pantries, refrigerators);
- drinking only uncontaminated water and beverages (bottled drinks).

The organisation, development and management of personal and mutual protection lie within the competence of a municipality. To that end, the municipality organises an appropriate advisory service, usually performed by volunteers, particularly psychologists, sociologists, social workers, medical professionals, protection and rescue experts, and others.

In the affected areas and in areas where the evacuated inhabitants are accommodated, services and activities of various professional and humanitarian organisations providing assistance to the affected population or the population at risk should be situated as close to the population as possible. In this respect, an important role is played by CP commissioners and information centres in which activities for the normalisation of the situation are organised and implemented.
## 11 TERMS AND ABBREVIATIONS

### 11.1 Explanation of Terms

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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Action level</td>
<td>Maximum concentration of radionuclides in food, milk and drinking water above which consumption is prohibited.</td>
</tr>
<tr>
<td>Deterministic effects</td>
<td>Clinically identifiable failures of irradiated organs, body tissue and organisms due to cell damage. There exists a certain level, the “threshold”, below which the effect is absent; the severity of effects on human beings increases with increasing the doses.</td>
</tr>
<tr>
<td>Dose load</td>
<td>The sum of all doses received in a certain period of time due to internal and external radiation.</td>
</tr>
<tr>
<td>Evacuation</td>
<td>Temporary and organised transfer of people from a certain area in the event of an incident to avoid doses exceeding the intervention levels.</td>
</tr>
<tr>
<td>Evacuation reception area</td>
<td>Evacuation reception areas are places accepting the evacuated population.</td>
</tr>
<tr>
<td>Incident</td>
<td>An event which results in reduced radiation or nuclear safety. Due to the situation caused by an incident it is necessary to begin implementing measures for the protection of workers, members of the public, or the population in part or in whole, or for the protection of patients in case of an incident during a radiological procedure.</td>
</tr>
<tr>
<td>Avertable dose</td>
<td>Expected reduction in the dose load if a particular protective measure is applied.</td>
</tr>
<tr>
<td>Iodine prophylaxis</td>
<td>Ingestion of non-radioactive iodine (potassium iodide tablets) prior to or immediately upon the occurrence of an incident to protect the thyroid gland from radiation due to the accumulation of radioactive iodine isotopes in it.</td>
</tr>
<tr>
<td>Dose limits</td>
<td>Prescribed doses which may not be exceeded.</td>
</tr>
<tr>
<td>Stochastic effects</td>
<td>Statistically identifiable organism dysfunctions due to the changed properties of irradiated cells that can proliferate. Stochastic effects, such as the development of malignant cancers or hereditary effects of genes, do not depend on the dose and there is no threshold below which they do not occur. However, their occurrence is more likely with high doses.</td>
</tr>
<tr>
<td>Control point</td>
<td>A control point is the point of controlling the entry to and exit from the area of protective measures, and the point of checking the contamination of people and equipment as well as the point of decontamination.</td>
</tr>
<tr>
<td>Accident</td>
<td>An event or a series of events caused by uncontrolled natural and other forces which affect or endanger the lives and health of people, animals and property, and cause such damage to the cultural heritage and the environment that special measures, forces and resources must be used in order to control and manage the consequences.</td>
</tr>
<tr>
<td>Planning zone</td>
<td>Common name for areas within a certain distance from the accident site in which the implementation of protective measures is envisaged or planned.</td>
</tr>
<tr>
<td>Radiation</td>
<td>Term used in the protection against ionising radiation for the exposure to radiation (particularly of people) within a certain period of time.</td>
</tr>
<tr>
<td>Operational intervention level</td>
<td>An intervention level value expressed by directly measurable quantities, such as external radiation dose rate, surface radiation, and collective dose equivalent.</td>
</tr>
</tbody>
</table>
Contamination or concentration of radioactive substances in the air, drinking water, food and animal feed. Operational intervention levels are used in the initial phases of an incident in order to make quick decisions regarding emergency response measures.

<table>
<thead>
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<th>Term</th>
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<tr>
<td>Contamination</td>
<td>Contamination of objects, surfaces or persons with radioactive substances.</td>
</tr>
<tr>
<td>Deposition</td>
<td>Deposition of radioactive particles from a radioactive cloud due to gravitation or wash-out by precipitation on the ground and other surfaces.</td>
</tr>
<tr>
<td>Sheltering</td>
<td>Keeping people indoors in case of an incident to avoid external radiation and intake doses. A closed space may be a shelter or a regular building with windows closed and ventilation turned off.</td>
</tr>
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# List of Abbreviations

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<td>RWMA</td>
<td>Radioactive Waste Management Agency</td>
</tr>
<tr>
<td>EARS</td>
<td>Environmental Agency of the Republic of Slovenia</td>
</tr>
<tr>
<td>NCRS</td>
<td>Notification Centre of the Republic of Slovenia</td>
</tr>
<tr>
<td>CSFRW</td>
<td>Central Storage Facility for Radioactive Waste</td>
</tr>
<tr>
<td>NC of Croatia</td>
<td>Notification Centre of the Republic of Croatia</td>
</tr>
<tr>
<td>CP</td>
<td>Civil Protection</td>
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<tr>
<td>APP</td>
<td>Appendices</td>
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<tr>
<td>MCRS</td>
<td>Motorway Company of the Republic of Slovenia</td>
</tr>
<tr>
<td>NSS</td>
<td>Nuclear Society of Slovenia</td>
</tr>
<tr>
<td>EADRCC</td>
<td>Euro-Atlantic Disaster Response Coordination Centre</td>
</tr>
<tr>
<td>ECURIE</td>
<td>European Community Urgent Radiological Information Exchange (a system of notifying the EU, Switzerland and Croatia)</td>
</tr>
<tr>
<td>ELMU</td>
<td>Ecological Laboratory with a Mobile Unit</td>
</tr>
<tr>
<td>ENAC</td>
<td>Early Notification and Assistance Convention website</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EU-MIC</td>
<td>European Union – Monitoring and Information Centre</td>
</tr>
<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
</tr>
<tr>
<td>JSI</td>
<td>Jožef Stefan Institute</td>
</tr>
<tr>
<td>IRSPANOD</td>
<td>Inspectorate of the Republic of Slovenia for Protection Against Natural and Other Disasters</td>
</tr>
<tr>
<td>SAF CBRN</td>
<td>Chemical, Biological, Radiological and Nuclear Defence Battalion of the Slovenian Armed Forces</td>
</tr>
<tr>
<td>KI</td>
<td>Potassium Iodide</td>
</tr>
<tr>
<td>kV</td>
<td>Kilovolt</td>
</tr>
<tr>
<td>MMHU</td>
<td>Mobile Meteorology and Hydrology Unit</td>
</tr>
<tr>
<td>MW</td>
<td>Megawatt</td>
</tr>
<tr>
<td>ENN</td>
<td>Early Notification Network – automatic measurement system</td>
</tr>
<tr>
<td>NCMC</td>
<td>National Crisis Management Centre</td>
</tr>
<tr>
<td>Krško NPP</td>
<td>Krško Nuclear Power Plant</td>
</tr>
<tr>
<td>LPZ</td>
<td>Long-Term Protective Action Planning Zone in the event of an accident at the Krško NPP</td>
</tr>
<tr>
<td>OCC GPD</td>
<td>Operations and Communications Centre of the General Police Directorate</td>
</tr>
<tr>
<td>OSC</td>
<td>Operational Support Centre</td>
</tr>
<tr>
<td>PAZ</td>
<td>Precautionary Action Zone in the event of an accident at the Krško NPP</td>
</tr>
<tr>
<td>UPZ</td>
<td>Urgent Protective Action Planning Zone in the event of an accident at the Krško NPP</td>
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<td>ANX</td>
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<tr>
<td>CC</td>
<td>Command Centre</td>
</tr>
<tr>
<td>RNC</td>
<td>Regional Notification Centre</td>
</tr>
<tr>
<td>CBR</td>
<td>Nuclear, Biological and Chemical</td>
</tr>
<tr>
<td>SRC</td>
<td>Slovenian Red Cross</td>
</tr>
<tr>
<td>TSC</td>
<td>Technical Support Centre</td>
</tr>
<tr>
<td>GOC</td>
<td>Communication Office of the Government of the Republic of Slovenia</td>
</tr>
<tr>
<td>UN-OCHA</td>
<td>United Nations Office for Coordination of Humanitarian Affairs</td>
</tr>
<tr>
<td>SNSA</td>
<td>Slovenian Nuclear Safety Administration</td>
</tr>
<tr>
<td>SRPA</td>
<td>Slovenian Radiation Protection Administration</td>
</tr>
<tr>
<td>ACPDR</td>
<td>Administration of the Republic of Slovenia for Civil Protection and Disaster Relief</td>
</tr>
<tr>
<td>PR</td>
<td>Protection and Rescue</td>
</tr>
<tr>
<td>ESC</td>
<td>External Support Centre</td>
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