



**Austria**



**4<sup>th</sup> NATIONAL REPORT**

**for the**

**CONVENTION ON  
NUCLEAR SAFETY**

**September 2007**

## **Impressum**

4th National Report of Austria for the Convention On Nuclear Safety  
in accordance with Article 5 of the Convention

### **Publisher**

Federal Ministry of Agriculture, Forestry, Environment and Water Management  
(Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft)  
Stubenring 1, 1012 Wien, Austria  
Nuclear Coordination Division  
(National Contact Point under the obligations of the Convention)

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**for the CNS Review Meeting 2008**

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# INTRODUCTION

## 1. About this report

The form of the Austrian National Report for the CNS Conference 2008 follows the structure given in the guidelines. On the basis of the last National Report, its content has been updated, in particular taking into account all recent changes of the legislative and regulatory framework.

## 2. General outline of Austria's national policy on nuclear safety

Austria has never operated a nuclear power plant and has no intention to do so in the future. Thus, Austria's high interest in the safety of nuclear facilities, except for the domestic nuclear activities as described in chapter 7.4., relates primarily to environmental and health concerns arising from the operation of nuclear power plants in Austria's neighbourhood.

Already in 1978, the Austrian electorate decided in a referendum not to start the operation of the nuclear power plant in Zwentendorf. Shortly thereafter, on 15 December 1978, the Austrian parliament promulgated the Law on the Prohibition of the Use of Nuclear Fission for Energy Generation in Austria [BGBl.<sup>1</sup> No. 676/1978: Bundesgesetz über das Verbot der Nutzung der Kernspaltung für die Energieversorgung in Österreich]. This position was strengthened by the Chernobyl accident in 1986 which substantially increased the opposition of the political parties and the public at large against nuclear power. Austria was at the time among those countries in Central Europe which were most affected by the Chernobyl accident.

In 1999, the Austrian parliament passed unanimously the Constitutional Law on a Nuclear-free Austria [BGBl. I No. 149/1999: Bundesverfassungsgesetz für ein atomfreies Österreich]. It stipulates, inter alia, that installations which serve for energy generation by nuclear power must not be constructed or, if they already exist, come on line. Furthermore, the law prohibits the transport of fissile materials for purposes of nuclear power generation or disposal unless this conflicts with international obligations.

In view of the high risks emanating from nuclear installations, especially from nuclear power plants, Austria attaches utmost importance to international efforts to harmonise and steadily increase nuclear safety on an international level. Consequently, Austria has undertaken a number of bilateral activities with neighbouring countries with regard to the exchange of information on nuclear safety matters. It does not only comprise operational information on nuclear installations but also early warning schemes in the case of nuclear incidents or accidents and mutual assistance for the prevention or mitigation of effects from such radiological events.

Austria has contributed and will contribute to all international activities which aim at improving safety levels worldwide. In this respect, Austria regards the Convention on Nuclear Safety a very important tool in developing a global nuclear safety culture. Its regular Review Meetings provide a highly welcome opportunity to review progress in the Member States of the Convention and to exchange views on how best to implement its provisions.

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<sup>1</sup> Bundesgesetzblatt = Federal Law Gazette

# ARTICLE BY ARTICLE REVIEW

## ***Obligations General provisions***

### **Article 6 (Existing Nuclear Installations)**

not applicable

#### **Nuclear Installations in the broader sense (not as defined in Art. 2 of the Convention)**

Currently, Austria operates no nuclear installations as defined in Article 2 of the Convention. Only two „nuclear facilities“, i.e. nuclear installations in the broader sense, are operated: one research reactor and one central waste processing and interim storage facility. Whereas the interim storage facility is covered by the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, the research reactor is only covered by the Code of Conduct on the safety of Research Reactors which has no reporting obligation. Thus the research reactor will be treated within this report.

In the 1970s, a nuclear power plant was constructed in Zwentendorf, but as the consequence of the negative vote in the referendum in 1978 was subsequently not put into operation. All nuclear fuel elements were removed in the late 1980s.

During the last reporting period two research reactors were decommissioned:

The decommissioning of the ASTRA research reactor at the Austrian Research Centre Seibersdorf, finally shut down in 1999, was completed in 2006. After the removal of all the spent fuel and the return shipment of to the United States for final storage in 2001, the environmental impact assessment and the necessary licensing procedures have successfully been completed. The decommissioning work could be performed in a very short time by the local experts. Only 80 tons of radioactive waste resulted from decommissioning.

The decommissioning of the 10 kW Siemens ARGONAUT reactor, which had been operated by the Reactor Institute in Graz since 1965, was completed in 2006, too. The reactor was mainly driven at ultra low power levels (<1W) for training purposes. By July 2004, the reactor was finally shut down, and the fuel was returned to the United States. Due to the special use of the system, the radioactive inventory of the reactor was very low. Only 150 grams (!) of radioactive waste rose from the decommissioning work.

#### **Atominstitut Vienna (Atomic Institute)**

At the Atominstitut of the Austrian Universities, which is administered by the Vienna University of Technology, operates a TRIGA Mark II research reactor. This research reactor is the only reactor, which is still in operation. It has a maximum steady state thermal output of 250 kW and pulsing capabilities up to 250 MW. Being in operation since March 1962, the reactor is exclusively being used for basic and applied academic research and teaching purposes. Being the closest research reactor to the IAEA headquarters, it is also frequently used by IAEA staff for development and calibration of safeguards instruments. The total number of fuel elements in the core is presently 82 (plus 4 fuel elements in the in-pool storage racks), the estimated total activity of these fuel elements after 1 year of cooling time is  $2.85 \times 10^{15}$  and after 10 years approx.  $1.81 \times 10^{14}$  Bq. The Atominstitut has a total spent fuel storage capacity of 168 fuel elements.

Financially and legally, the Vienna University of Technology is an independent body since the year 2004.

## ***Legislation and regulation***

### **Article 7 (Legislative and Regulatory Framework)**

The legislative and regulatory framework comprises the legal areas of radiation protection, installation safety, safeguards and physical protection of nuclear material and nuclear facilities. As Austria constitutes a Federal State, a number of federal (Bund), regional (Länder) and provincial (Bezirksverwaltungsbehörden) authorities are involved in the regulation of these matters.

#### **7.1 Law Prohibiting the Use of Nuclear Fission for Energy Purposes, Constitutional Law on a Nuclear-free Austria**

As outlined in the Introduction, the use of nuclear energy for peaceful purposes in Austria has been significantly influenced by the passing of the Law Prohibiting the Use of Nuclear Fission for Energy Purposes in 1978 and of the Constitutional Law on a Nuclear-free Austria in 1999.

The Constitutional Law on a Nuclear-free Austria prohibits the construction and putting into service of installations for the production of energy by means of nuclear fission as well as – with some exemptions – the transport of fissile materials in Austria. Where an international obligation exists, the international obligation would prevail. The use of installations for research and development activities is compatible with the quoted constitutional law.

#### **7.2 General Administrative Procedures Act**

Beyond specific provisions for licensing as referred to in specific laws the General Administrative Procedures Act [BGBl. No. 51/1991: Allgemeines Verwaltungsverfahrensgesetz] applies.

#### **7.3 Radiation Protection Legislation**

The Radiation Protection Act [BGBl. No. 227/1969: Strahlenschutzgesetz], with major amendments in 2002 and 2004 and a minor amendment in 2006 taking into account recent EU legislation and the five new Radiation Protection Ordinances contain detailed provisions concerning radiation protection, installation safety and the handling of radioactive waste.

##### **7.3.1 Radiation Protection Act**

The recent major amendments of the Radiation Protection Act by the Radiation Protection-EU-Adaptation Act [BGBl. I No. 137/2004: Strahlenschutz-EU-Anpassungsgesetz] in 2004 (in force since January 2005) – together with the Ordinances described below - fully implement the following EU directives into national law:

- EU Council Directive 96/29/EURATOM of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation (OJ No. L 159 of 29 June 1996),
- EU Council Directive 90/641/EURATOM of 4 December 1990 on the operational protection of outside workers exposed to the risk of ionizing radiation during their activities in controlled areas (OJ No. L 349/21 of 13 December 1990),
- EU Council Directive 2003/122/EURATOM of 22 December 2003 on the control of high-activity sealed radioactive sources and orphan sources (OJ No. L 346/57 of 31 December 2003).

The relevant changes take into account special safeguard provisions of high-activity radioactive sources and measures for the control of orphan sources, the implementation of the storage and the security of the personal dose data in the central register, the introduction of a reporting obligation to the central register in connection with the import and export of radioactive sources as well as the cancellation of the calibration duty for the measuring constructions of the radiation early warning system.

### **7.3.2 General Radiation Protection Ordinance**

The General Radiation Protection Ordinance [BGBl. II No. 191/2006: Allgemeine Strahlenschutzverordnung] has been enacted in 2006 and replaced the Radiation Protection Ordinance 1972. It entered into force on 1<sup>st</sup> June 2006.

The General Radiation Protection Ordinance aimed at the completion of the transformation of the EU directives cited in 7.3.1 into national law. It comprises the following key issues:

- adaptation of the regulations in connection with the reduction of the exposure for occupational exposed workers and members of the public,
- changes in connection with the regulations of the release limits for reporting and authorisation obligations,
- regulations for the protection of outside workers and specific regulations concerning the dose passport,
- regulations concerning radioactive waste and
- regulations for the control of high-activity radioactive sources.

### **7.3.3 Radiation Protection Ordinance for Applications in Medicine**

The Radiation Protection Ordinance for Applications in Medicine [BGBl. II No. 409/2004: Medizinische Strahlenschutzverordnung] entered into force on 1<sup>st</sup> January 2005.

It aimed at the transformation of the EU Council Directive 97/43/EURATOM of 30 June 1997 on health protection of individuals against the dangers of ionizing radiation in relation to medical exposure, and repealing Directive 84/466/EURATOM (OJ No. L 180/22 of 9 July 1997).

### **7.3.4 Radiation Protection Ordinance for Air Crew**

The Radiation Protection Ordinance for Air Crew [BGBl. II No. 235/2006: Strahlenschutzverordnung fliegendes Personal] entered into force on 1<sup>st</sup> July 2006.

It comprises a new set of special regulations for the radiation protection of persons who perform a function on board of an aircraft. Under this ordinance aircraft operators are obliged to conduct an estimation and, in case of a possible exceedance of 1 mSv, an assessment of the dose of the air crew.

### **7.3.5 Ordinance for Interventions in case of Radiological Emergencies and in Case of Lasting Exposure**

The Ordinance for Interventions in case of Radiological Emergencies and in case of Lasting Exposure [BGBl. II No. 145/2007: Interventionsverordnung] entered into force on 26<sup>th</sup> June 2007. It aimed at the transformation of the following EU Council Directives into national law:

- Title IX of the EU Council Directive 96/29/EURATOM of 13 May 1996 (see above, 7.3.1),



- EU Council Directive 89/618/EURATOM of 27 November 1989 on informing the general public about health protection measures to be applied and steps to be taken in the event of a radiological emergency (OJ No. L 357/31 of 7 December 1989).

The ordinance contains regulations in connection with interventions in case of radiological emergencies and in case of lasting exposure from a past radiological emergency or a past practice (see also Article 16 of this report). These include inter alia significant releases of radioactive material due to accidents involving facilities or practices, accidents during the transport of radioactive material or terrorist acts using radioactive material.

### **7.3.6 Ordinance for Naturally Occurring Radioactive Material**

The Ordinance for Naturally Occurring Radioactive Material will be enacted in 2008.

The ordinance contains regulations for the protection of persons against increased exposure due to practices with natural radioactive sources (in accordance with the Radiation Protection Act) with the exemption of the concerns of air crew where a separate ordinance has been enacted (see above, 7.3.4).

## **7.4 Radioactive Substances, Nuclear Fuels and Radiation Emitting Devices**

According to the Radiation Protection Act, any handling of radioactive material or use of any other radiation emitting devices needs licensing, if legally binding exemption levels are exceeded.

Handling of radioactive material means the extraction, production, storage, carriage, delivery, supply, import, export, processing, use or disposal of radioactive material or any other activity resulting in the emission of radiation.

Specific requirements in regulations foresee exemptions from licensing for activities involving radioactive materials, if they entail no radiation hazards. Similar exemptions relate to the carriage of radioactive materials, provided it complies with the appropriate transport regulations, and also to installations used for military research and experimental purposes. The design of devices containing radioactive materials or of radiation-emitting equipment may be approved by the authority in accordance with strict legal requirements. Such an approval may simplify the licensing procedures.

The possession of radioactive materials or of radiation-emitting equipment which is exempt from licensing under the Radiation Protection Act has to be reported. There are exemptions from the requirement to report, e.g. in case that radioactive material is below given limits of activity, or for the transport of radioactive materials when it is in compliance with the relevant transport regulations.

With the amendment of the Radiation Protection Act in 2004, the EU Directive of the control of high-activity sealed radioactive sources and orphan sources were transformed into Austrian law (see above, 7.3.1). Moreover, the provision of deliberately illegal handling of radioactive material was a part of this transformation of the corresponding European regulation into national law. In addition, a central register for radioactive sources, licensing and emergencies was established.

According to the Austrian Radiation Protection Act the owner of radiation sources above exemptions limits has to make a notification to the Central Register of Radioactive Sources. He is also obliged to report every year on the status of the radioactive sources. If this yearly reporting is missing, the competent authority has to initiate adequate measures to investigate the status of the radiation sources. The Austrian Radiation Protection Act forces the competent minister to organise campaigns to recover orphan sources left behind from past activities.

Such activities have been successfully finished during the eighties of the last century at all universities and schools in Austria. All disused radioactive material, sealed or unsealed, has been transferred to the waste management facilities at Seibersdorf; the financing of these activities was done by the licensing authorities.

## **7.5 Regulation of Radioactive Waste Management**

The Radiation Protection Ordinance contains detailed provisions concerning the handling of radioactive waste which mainly relate to radiation protection measures. According to the General Radiation Protection Ordinance 2006, the licensing of such installations requires both the applicants for new licenses and the operators of existing installations to furnish waste management schemes. Operators of existing installations are obliged to submit the waste management scheme by 31<sup>st</sup> December 2008 at the latest while the scheme is a prerequisite for applicants for new licenses in the licensing procedure.

Since Austria does not operate nuclear power plants, there is no production of high level radioactive waste (HLW). Spent fuel from the TRIGA research reactor has been and will be returned to the USA. Consequently, there is no need for considering intermediate or final storage capacities in Austria for HLW. The Ordinance on the Shipment of Radioactive Wastes [BGBl. II No. 44/1997: Radioaktive Abfälle-Verbringungsverordnung], relates to the supervision and control of shipments of radioactive waste into, out of and through the national territory. It was issued pursuant to the Radiation Protection Act in order to implement the provisions of EU Council Directive 92/3/EURATOM of 3 February 1992 on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community. Since the most recent EU Council Directive 2006/11/EURATOM on the supervision and control of shipments of radioactive waste and spent fuel<sup>2</sup> covers more detailed provisions than contained in the prior directive (such as the acknowledgment for receipt and request for information and the provisions for extra-community shipments) the above-mentioned Ordinance on the Shipment of Radioactive Wastes will be amended in accordance with this latest EU directive until 2008.

## **7.6 Regulation of Transport**

In Austria, the transport of radioactive materials is strictly controlled so as to ensure maximum safety. Safety measures of a general nature are laid down in the Radiation Protection Act. The regulation of the import, export and passage in transit has been introduced with the recent amendment; details are to be laid down in the respective ordinance.

The transport of radioactive materials by rail is governed by the provisions of the Regulation Concerning the International Carriage of Dangerous Goods by Rail (RID), an Annex to the Convention Concerning the International Carriage by Rail (COTIF). RID has been applicable to the international transport of dangerous goods in Austria since it became a Party to COTIF. Under the Act on the Carriage of Dangerous Goods<sup>3</sup> of 1998 (GGBG), it also applies to transport operations within Austria.

The international transport of radioactive materials by road is primarily subject to the "European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)". The provisions of ADR apply directly. In addition to ADR, there are provisions of

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<sup>2</sup> This Directive has to be transformed into national law until 25th December 2008. Where the application for authorisation has been duly approved by or submitted to the competent authorities of the country of origin before 25 December 2008, according to Art. 24 of the Council Directive 92/3/EURATOM shall apply to all shipment operations covered by the same authorisation.

<sup>3</sup> Bundesgesetz über die Beförderung gefährlicher Güter und über eine Änderung des Kraftfahrzeuggesetzes 1967 und der Straßenverkehrsordnung 1960 (Gefahrgutbeförderungsgesetz -GGBG), BGBl. I No. 145/1998 idgF

the GGBG which refer to, implement and complete the ADR. Under the GGBG, ADR is also applicable to the domestic carriage of dangerous goods by road in Austria.

The GGBG also implements several directives of the European Union concerning the carriage of dangerous goods by road, rail and inland navigation, which also refer to, implement and complete the international agreements mentioned above.

As regards air transport, the provisions of the ICAO-Technical Instructions for the Safe Transport of Dangerous Goods by Air are implemented by the GGBG. Furthermore, the Dangerous Goods Regulations of the International Air Transport Association (IATA) constitute an integral part of any carriage contract concluded by an IATA-carrier.

Since the relevant international legal instrument for the transport of dangerous goods by inland navigation (ADN) has not yet entered into effect, the transport of radioactive materials is subject to the provisions of an ordinance<sup>4</sup> based on the 1997 Federal Act on Inland Navigation<sup>5</sup> and to the provisions of the GGBG, as far as they are common to all modes of transport.

Regardless of the applicable law of the state in which a harbour is located, the transport of radioactive materials by sea ships registered in Austria has to comply with the International Maritime Organisation (IMO) Dangerous Goods Code. The provisions of this IMDG-Code are also referred to in the GGBG.

The GGBG also implements several directives of the European Union concerning the carriage of dangerous goods by road, rail and inland navigation, which also refer to, implement and complete the international agreements mentioned above.

As far as the international legal instruments mentioned in this item 7.10. (RID/COTIF, ADR, ICAO-TI, IATA-DGR, ADN, IMDG-Code) relate to the transport of radioactive materials, they are mainly based on provisions published by the IAEA (Safety Series No. 6, ST-1 und ST-2).

## **7.7 The licensing system and the inspection, assessment and enforcement process governing the safety of nuclear installations**

In general – as a result of Austria's federal structure –, the responsibility for licensing under the Radiation Protection Act is shared between federal (Bund) as well as regional (Länder) authorities.

However, the licensing authority for the Atomic Institute in Vienna is the Federal Ministry of Science and Research conjointly with the Federal Ministry of Agriculture, Forestry, Environment and Water Management.

The construction and operation of installations for the handling of radioactive materials and radiation emitting devices require a license according to the Articles 5 to 8 of the Radiation Protection Act. The Radiation Protection Ordinance contains further provisions for the licensing procedure. The licensing procedure is also subject to the provisions of the General Administrative Procedures Act.

According to Article 5 of the Radiation Protection Act the design of installations with higher potential risk needs to be licensed prior to the start of the construction in order to save costs and facilitate the subsequent licensing procedure. According to Article 6 an operating license is granted if the installation has been constructed in compliance with the specified conditions and obligations, if a radiation protection officer has been appointed and if the regular operation of the installation entails no hazard from ionising radiation. A license further needs safety

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<sup>4</sup> Verordnung des Bundesministers für Wissenschaft und Verkehr über die Beförderung gefährlicher Güter auf Wasserstraßen (ADN -Verordnung), BGBl. II No. 295/1997 idgF

<sup>5</sup> Bundesgesetz über die Binnenschifffahrt (Schiffahrtsgesetz), BGBl. I No. 62/1997 idgF

assessment, final safety analyses and a concept for emergency preparedness. Article 7 rules the licensing procedure for facilities with a lower potential risk. A concept for decommissioning and dismantling, a concept for the recycling or reuse of radioactive substances and the management of radioactive waste are obligatory for any installation.

The operation of all installations licensed under this law is inspected regularly by the licensing authority according to Article 17 in order to assure that the facility keeps the state of the art. In case of endangerment of the human health and life and if the requirements of the license are not observed the competent authority may prohibit the further operation.

According to Article 18 of the Radiation Protection Act, in case of imminent danger from an installation, the authorities have to take all appropriate measures to avert the danger. They may issue promptly enforceable provisional injunctions and, after consulting the radiation protection officer of the installation, have to proceed in compliance with Article 4 of the 1950 Act on the Enforcement of Administration Decisions [BGBl. No. 53/1991: Verwaltungsvollstreckungsgesetz].

Any malfeasance or breach of these provisions is fined according to Article 39.

## **Article 8 (Regulatory Body)**

### **Regulatory and Supervisory Authorities**

In Austria, legislative and executive powers are divided between the Bund and the Länder. Under the general clause of Art. 15 of the Federal Constitutional Law, legislative and executive powers are vested in the Länder, with the exception of all matters which are explicitly listed in Art. 10 to 12 of the Federal Constitutional Law.

For the nuclear installation covered by this report, the TRIGA Reactor of the Atomic Institute in Vienna, the competent authorities are the Federal Ministry of Agriculture, Forestry, Environment and Water Management and the Federal Ministry of Science and Research.

### **8.1 Federal Authorities (Bund)**

The Federal Ministers are responsible for the application of the pertinent provisions of the Radiation Protection Act with regard to:

- nuclear reactors;
- production of nuclear fuels or processing of irradiated nuclear fuels;
- particle accelerators;
- design approval for special equipment with radiation sources which can replace a license;
- approval of medical practitioners and hospitals.

#### **8.1.1. The Federal Ministry of Agriculture, Forestry, Environment and Water Management**

(Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft)

The Federal Ministry of Agriculture, Forestry, Environment and Water Management is responsible for radiation protection, with the exception of radiation matters in the medical field and foodstuff. The Minister is also responsible for issues relating to the long-term storage of radioactive waste, including the siting, construction and operation of storage facilities. Finally, the Federal Ministry of Agriculture, Forestry, Environment and Water Management is responsible for general affairs of nuclear co-ordination.

### **8.1.2 The Federal Ministry for Economy and Labour**

(Bundesministerium für Wirtschaft und Arbeit)

In his capacity as the National Nuclear Non-proliferation Authority, the Federal Minister for Economy and Labour is responsible for nuclear material accountancy and control in accordance with the Non-proliferation Act of 1991. Under the same Act, he is furthermore responsible for export controls regarding fissile material, non-nuclear material (e.g. heavy water, zirconium, etc.) and equipment.

Under the 1995 Foreign Trade Act [BGBl. No. 172/1995: Außenhandelsgesetz], he is responsible for the licensing of exports of nuclear-related „dual use,, goods. In addition, the Minister is responsible for a limited number of matters concerning the safety of nuclear installations, e.g. pressure vessels and power engines. Finally, the Central Labour Inspectorate of the Federal Ministry for Economy and Labour is responsible for the protection of the health of employees carrying out radiation activities.

### **8.1.3 The Federal Ministry of Science and Research**

(Bundesministerium für Wissenschaft und Forschung)

The Federal Ministry of Science and Research is responsible for the co-ordination and strategic orientation of energy research and development in general and nuclear research in particular. In addition, it is the competent authority for the licensing of the construction and operation as well as for the inspection of university-based nuclear installations in cooperation with the Federal Ministry of Agriculture, Forestry, Environment and Water Management.

### **8.1.4 The Federal Ministry of Finance**

(Bundesministerium für Finanzen)

As far as nuclear third party liability is concerned, the Federal Ministry of Finance supervises the conditions of liability insurances.

### **8.1.5 The Federal Ministry for European and International Affairs**

(Bundesministerium für europäische und internationale Angelegenheiten)

The Federal Ministry for European and International Affairs is the competent authority representing Austria in international fora. In particular, it is in charge of all issues related to the negotiation and implementation of all legal instruments concluded with the IAEA.

### **8.1.6 The Federal Ministry of Health Family and Youth**

(Bundesministerium für Gesundheit, Familie und Jugend)

The Federal Ministry of Health Family and Youth is responsible for radiation matters in the medical field and with regard to foodstuffs.

### **8.1.7 The Federal Ministry of the Interior**

(Bundesministerium für Inneres)

The Federal Ministry of the Interior is responsible for issuing licenses on the physical protection of nuclear material and facilities in use, storage and transport, including protective measures against interference or encroachment by unauthorised third persons [Safeguards Act, Part 3]. Moreover it is responsible for the coordination of the national crisis management system

### **8.1.8 The Federal Ministry of Justice**

(Bundesministerium für Justiz)

The Federal Ministry of Justice is responsible for all legal matters relating to the Act on Liability for Damage caused by Radioactivity.

### **8.1.9 The Federal Ministry for Transport, Innovation and Technology**

(Bundesministerium für Verkehr, Innovation und Technologie)

The Federal Ministry for Transport, Innovation and Technology is the authority competent for the carriage of dangerous goods (including radioactive materials) by all means of transport, for the shipments of radioactive materials and the transport security measures with regard to a radiologically significant carriage of nuclear materials (Act on the Transport of Dangerous Goods by Road, in line with respective international agreements such as e.g. ADR). In this regard it is also responsible for the approval of packages and shipments of radioactive materials. This Ministry is the competent authority for the implementation and interpretation of IAEA's regulations for the safe transport of radioactive materials (IAEA Safety Series Nos. 6, 7 and 37 as amended by IAEA Doc. ST-1 and ST-2) as well as for the legislation enforcing these regulations.

### **8.2 District Authorities**

(Bezirksverwaltungsbehörden)

In general, the district authorities are responsible for the implementation of Parts I - III of the Radiation Protection Act, except where the Law explicitly provides that the Federal Ministry or the regional Governor are in charge.

Under the Constitution, responsibility for granting construction licenses for installations to handle radioactive materials would normally lie with the mayor of the town to which the site of the installation belongs. In practice, however, advantage is usually taken of the possibility of transferring this responsibility to the regional authorities' level.

With the recent amendment of the Administrative Reform Act [BGBl. I No. 65/2002] the Independent Administration Senate (Unabhängiger Verwaltungssenat) has been introduced on the Countries' level as the competent appeal court in regarding administrative decisions.

## **Article 9 (Responsibility of the license holder)**

Each work activity with radioactive material exceeding the exemption limits in Austria needs a license. The license holder must fulfil specific requirements, conditions and obligations laid down in connection with the operating license. They are responsible for any breach towards the authority. In particular the license holder is responsible for the following issues:

- Assessment and implementation of arrangements for the radiological protection of exposed persons
- Critical examination of plans for installations from the point of view of radiation protection
- Preparation of written instructions for work activities
- Information and training of exposed persons in the field of radiation protection
- Regular checking of the effectiveness of protective devices and techniques

- Regular calibration of measuring instruments and regular checking that they are serviceable and correctly used.

### **Nuclear Third Party Liability**

The liability for nuclear installations and nuclear substances, previously governed by the Act on Liability for Nuclear Damage of 1964, has been completely reformed by the Act on Liability for Damage Caused by Radioactivity<sup>6</sup> of 1999. The Act on Liability for Nuclear Damage of 1964 still followed the pattern of the Paris Convention, which Austria has signed, but not ratified. Its liability regime for nuclear damage was felt to be inadequate in view of the modern requirements. Thus the Act on Liability for Damage Caused by Radioactivity of 1999 aims at creating an up-to-date regulation, which comes up to the standard of comparable Austrian acts on strict liability.

The Act covers any damage to persons or property resulting from ionizing radiation through nuclear installations, nuclear substances and radionuclides. Further coverable damages are the costs of the removal of impairments to the environment and the costs of preventing measures undertaken to avert immediate danger originating from nuclear installations, nuclear substances or radionuclides. In this context, impairment to the environment is defined as any interference with the environment, which lastingly alters the latter in such a way that it differs noticeably from natural processes either in quantity, in quality or in the temporal respect. Only the impairment which is of some significance is to be compensated.

The liability both of the operator of a nuclear installation and the carrier of nuclear substances does in principle not presuppose any negligence on their part. Accordingly the Act lays down as a rule the strict liability of the said persons. The operator of a nuclear installation is liable for all harm caused by operating the installation. Not only damages resulting from an accident during operation are covered, but also any damages in the ordinary course of operation (i.e. without any sudden incident). The carrier of nuclear substances is liable for damages caused by an accident during carriage. In addition he has to remedy any other harm caused during carriage (thus likewise independently of a possible incident).

The maximum liability amounts, which were provided for in the Act on Liability for Nuclear Damage of 1964, were eliminated by the Act on Liability for Damage Caused by Radioactivity of 1999. It designates in principle the unlimited liability of the person liable.

The Act also provides liability rules for the handling of radionuclides. Also in these cases the amount of compensation is in principle unlimited. The holder of the radionuclide, however, is liable only if he is to be blamed for negligence, since in these cases damage normally cannot reach dimensions comparable to those caused by nuclear installations or the substantially more dangerous nuclear material. Due to the yet given specific danger of radionuclides the burden of proof is shifted from the injured party to the holder of the radionuclide.

Furthermore, the Act abandons the principle of „channelling” of nuclear liability currently governing the international conventions on the subject-matter. That means that compensation cannot only be claimed from the operator of an installation, but the injured party can also take legal action against third parties, e.g. the supplier and the constructor. This is meant to make sure that the person injured can recover all damages even if it is more than the operator can pay.

To provide security for the claims of possible injured parties, the Act on Liability for Damage Caused by Radioactivity of 1999 obliges the following persons to effect liability insurances: the operator of a nuclear installation situated in Austria, the carrier of nuclear substances and

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<sup>6</sup> Bundesgesetz über die zivilrechtliche Haftung für Schaden durch Radioaktivität (Atomhaftungsgesetz 1999 – AtomHG 1999, BGBl. I No. 170/1998)

the holder of a radionuclide with an activity of more than 370 Gigabecquerel. Minimum amounts insured shall guarantee that all foreseeable hazards can be covered.

Taking into consideration that Austria is a party neither to the Paris Convention nor to the Vienna Convention, § 23 of the Act contains special rules for international cases. Whereas pursuant to § 48 of the Austrian Act on Private International Law non-contractual damage claims are governed by the law of the state, in which the act causing the damage was committed, § 23 (1) of the Act on Liability for Damage Caused by Radioactivity of 1999 provides that the person injured by ionizing radiation can demand that Austrian law be applied to claims for damages which occurred in Austria. If vice versa the incident causing the harm has taken place in Austria and thus Austrian law is applicable, damages which occurred abroad are only covered according to Austrian law as far as compensation is also provided for by the personal statute - usually the *lex patriae* - of the injured party.

Concerning the Paris and the Vienna Conventions on Liability for Nuclear Damage, Austria has mainly two concerns: First the maximum liability amounts seem to be insufficient; in contrast the Austrian Act on Liability for Damage Caused by Radioactivity of 1999 provides for unlimited liability combined with obligatory liability insurance covering relatively high amounts of damage. Secondly the channelling of liability according to which only operators and not also suppliers can be held liable seems inadequate.

## ***General Safety considerations***

### **Article 10 - 12**

not applicable

### **Article 13 (Quality assurance)**

Legal provisions for quality assurance are part of the licensing process (Article 5 to 7) and the periodic inspections by the licensing authority according to Article 17 of the Radiation Protection Act. (see Article 7.2)

### **Article 14 (Assessment and verification of safety)**

According to Article 17 of the Radiation Protection Act, the licensing authorities regularly carry out inspections of the facilities, in order to control the compliance with respective laws and specific requirements from the granted license (see Article 7.2). The licensing authority for the Atomic Institute in Vienna is the Federal Ministry of Science and Research conjointly with the Federal Ministry of Agriculture, Forestry, Environment and Water Management.

Reporting obligations regarding events in nuclear facilities are regulated by the Radiation Protection Ordinance, respectively by the international Convention on Early Notification of a Nuclear Accident (IAEA/Emercon) and the European Council Decision 87/600/Euratom (ECURIE). National authority to be reported to is the licensing authority.



## Article 15 (Radiation Protection)

Article 15 is not applicable for Austria (referring to the definitions of nuclear installations in Art. 2 of the Convention). Nevertheless, the Austrian legislative framework concerning radiation protection in general is described in this report.

The main focus of Austria's nuclear safety legislation is radiation protection, which is governed by the Radiation Protection Act and the respective Radiation Protection Ordinances. These instruments define the general measures to protect the lives and health of individuals and their descendants from the hazards of ionising radiation, as well as the licensing conditions for the construction and operation of installations for the handling of radioactive materials. Part III of the Radiation Protection Act and the Radiation Protection Ordinance contain the basic radiation protection provisions:

- to ensure that exposure of individuals to radiation is kept „as low as possible ... in consideration of economic and social factors“; the term „ALARA“ is not explicitly used, but serves as factual basis for radiation protection in Austria;
- to restrict the absorption of radioactive materials by the human body to a minimum;
- to ensure that only the smallest possible quantities of radioactive materials are released into the air, water or soil.

The amendment of the General Radiation Protection Ordinance (entered into force in June 2006) and the Ordinance on interventions in Case of Radiological Emergencies (entered into force in July 2007) were important steps towards the implementation of EC legislation into Austrian law.

In particular, the General Radiation Protection Ordinance implements topics from the directives 96/29/Euratom (on Basic Safety Standards) and 2003/122/Euratom (on control of high-activity sealed radioactive sources and orphan sources): It contains new dose limits, exemption values and clearance levels as well as reporting and documentation requirements (e. g. for HASS); in addition, the conditions for a national Central Dose Register and a Central Source Register are defined.

The Ordinance on Interventions in Case of Radiological Emergencies regulates amongst others

- intervention levels for protective measures for the public,
- the drawing up of emergency plans as well as of a catalogue of counter measures, providing e.g. a list of possible protective measures,
- the formation of intervention teams, including their education, training, dosimetric monitoring and medical surveillance,
- information of the public before and during a radiological event.

## Article 16 (Emergency Preparedness)

### 16.1. National emergency arrangements

Article 36l, 37 and 38 of the Radiation Protection Act, amended in 2004, set forth the general principles concerning interventions, radiation monitoring and counter measures to be taken in the case of a radiological emergency.

A new Ordinance on Interventions in Case of Radiological Emergencies and in Case of Lasting Exposure has been enacted in June 2007. *Inter alia*, new regulations for the following areas of radiological and nuclear emergency management are provided, such as

- new definition of intervention levels and a checklist of countermeasures to be taken into account in different phases of an emergency which provides the basis for a specific catalogue of counter measures in Austria,
- structure and content of emergency plans at federal and at provincial level,
- regulations for education, training, individual dosimetric monitoring and medical surveillance of intervention teams,
- criteria for planning and conducting emergency exercises

In accordance with the legislation, the responsibilities for off-site emergency management for events in Austria or abroad are summarised in the following table:

Institution	Responsibilities
Federal Ministry of Agriculture and Forestry, Environment and Water Management (henceforth: BMLFUW)	<ul style="list-style-type: none"> <li>• evaluation of the consequences of radiological and nuclear emergencies</li> <li>• environmental monitoring for large scale radioactive contamination</li> <li>• recommendations on countermeasures</li> <li>• Competent Authority for international information exchange (ECurie, IAEA Convention on Early Notification and bilateral agreements)</li> </ul>
Federal Ministry of Health, Family and Youth	<ul style="list-style-type: none"> <li>• food monitoring</li> <li>• pre-planned provisions for KI-blocking</li> </ul>
Crisis and Catastrophy Management of the Federal Ministry of the Interior	<ul style="list-style-type: none"> <li>• federal co-ordinating institution for crisis management</li> </ul>
Federal Alarming Centre in the Federal Ministry of Interior	<ul style="list-style-type: none"> <li>• national information exchange centre</li> <li>• Contact Point for information exchange with foreign countries (ECurie, IAEA Convention on Early Notification and bilateral agreements)</li> </ul>
Nine Austrian Provinces	<ul style="list-style-type: none"> <li>• implementation of the countermeasures</li> </ul>

In case of a radiological or nuclear emergency affecting the Austrian population, prepared texts including information on the event and recommended countermeasures will be forwarded by the authorities to the Austrian Broadcast Corp. and the Austrian Press Agency, giving recommendations to the public. A call centre for answering questions in case of different emergencies has been established. Printed guides for advance information of the public are available free of charge (also available on the internet) and will periodically be updated. According to the new Ordinance on Interventions in Case of a Radiological Emergency, addi-

tional information prior and in case of a radiological emergency in accordance with the Council Directive 89/618/EURATOM will be provided on the internet.

The exchange of (early) information in case of a radiological or nuclear emergency with the competent authorities in the neighbouring countries is guaranteed by three information systems: Austria fulfils the obligations of the Convention on Early Notification of Nuclear Accidents, (IAEA) Austria is part of the ECurie information exchange system organised by the EC, and Austria has bilateral agreements with the neighbouring countries operating nuclear power plants. In order to extend the good bilateral co-operation within the last years, an automatic exchange of information between emergency centres relevant for assessing the impact of a radiological or nuclear accident (such as dose rate measurements and source term information) has been established.

Currently, for the fulfilment of the requirements of the new Ordinance on Interventions in Case of Radiological Emergencies, the emergency plans at federal and regional level in Austria are reviewed and updated in accordance with IAEA guidelines (EPR-METHOD-2003).

Several types of emergency exercises on international, bilateral and local level help to improve the emergency preparedness system and keep the emergency personnel trained.

## **16.2. The Austrian Radiation Early Warning and Monitoring Systems**

According to § 37 of the Austrian Radiation Protection Act, the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) is obliged to operate an automatic Radiation Early Warning System which continuously monitors the ambient gamma dose rate and the air contamination.

The Austrian Radiation Early Warning System (Strahlenfrühwarnsystem) continuously monitors ambient gamma dose rates with 336 measuring stations throughout the country. In addition, 10 aerosol monitoring stations have been installed near the Austrian borders and another 4 in neighbouring countries close to nuclear power plants. The measurement data of these automatic on-line systems are transmitted to the National Centre at BMLFUW as well as to 9 Regional Centres located in the region's capitals. Selected data of this system are accessible to the general public via the Austrian Broadcast (ORF) Teletext service.

In addition, a laboratory-based monitoring network has to be operated by the BMLFUW and of the Ministry of Health, Family and Youth performing mainly a radionuclide-specific routine monitoring of the air, precipitation, the surface water bodies, feed- and foodstuffs. Measuring data can be obtained by car-borne and air-borne dose rate measurement units which are installed in the Federal Ministry of the Interior's and the Federal Army's networks.

The data gathered by the Radiation Early Warning and Monitoring System are exchanged on-line with the corresponding systems in the neighbouring countries (Slovenia, Slovakia, the Czech Republic, Hungary and Germany) on the basis of bilateral agreements. It is intended to set up a similar data exchange with the other neighbouring states. Negotiations with Switzerland on the data exchange have already been initiated.

BMLFUW is also obliged to operate adequate decision support systems (i.e. RODOS) based on meteorological forecast data. The information provided by the accident country (source term, other release parameters) is the basis for a prognosis of possible consequences.

The environmental monitoring measurement results and the results of the decision support systems provide the basis for assessing the radiological situation and recommending countermeasures. The implementation of the countermeasures lies within the responsibility nine Austrian Provinces.

## ***Safety of installations***

For the following Articles 17 - 19 information on the only Austrian Research Reactor, the TRIGA reactor administered by the Vienna University of Technology, is provided:

### **Article 17 (Siting)**

not applicable

#### **Nuclear Installations in the broader sense (not as defined in Art. 2 of the Convention)**

All site relevant parameters are compiled in the Safety Analysis Report (SAR). The site of the TRIGA reactor Vienna has been selected in 1959 and the SAR contains all original expertises relevant for the site selection, some updates have been included at revisions in 1975, 1986 and 2006, the SAR is available in electronic form.

The safety impact on the individuals, society and the environment has been extensively compiled in the SAR. In this report the impact of reactor operation of the TRIGA reactor Vienna on individuals, society and the environment are evaluated in detail and were found to be negligible during any operation mode.

The SAR has been updated several times since the first issue in 1962. These updates reflect the progress in technical, legal and organisational procedures. The latest update was performed in December 2006, therefore the present issue of the SAR reflects the actual safety of the TRIGA reactor Vienna including factors relevant for sub-paragraph (i) and (ii).

The Atominstitut operates since March 1962, since that time excellent relation and information exchange exist with the vicinity and neighbours around the Atominstitut and more than 3000 visitors annually (mainly college students and teachers) show that there is a large interest in the research programs of the Atominstitut. In addition all necessary relevant information is provided upon request to outside parties to allow them an independent evaluation of any reactor operational impact.

### **Article 18 (Design and Construction)**

not applicable

#### **Nuclear Installations in the broader sense (not as defined in Art. 2 of the Convention)**

The TRIGA reactor Vienna has been designed and several times being upgraded for the defence-in depth concept, to prevent accident occurrences and to release of radioactivity. Since initial criticality the I&C system has been replaced three times and the TRIGA Vienna is the only TRIGA reactor in Europe with a fully computerized I&C system. The area monitoring system and the environmental monitoring system are fully computerized and all relevant operational data are electronically stored. Defence in depth was a major issue for the operation license of the TRIGA Vienna.

The TRIGA reactor is due to its special fuel composition (which is U-Zr-H) an inherently safe reactor with an ultra-prompt negative temperature coefficient of the fuel which even allows transient operation (prompt criticality) as routine operation.

These so called reactor pulses are routinely performed for special experiments within the academic research program. About 40 TRIGA reactors operate presently world-wide with more than 10 000 reactor-years of experience accumulated and no major incident or accident has been experienced with any TRIGA type reactor. Nevertheless an extensive in-service inspec-

tion and maintenance program is carried out at the TRIGA reactor Vienna, the overall scope of this program is summarized in a manual available at the Atominstitut. Experience from this program has been transferred to other TRIGA reactors world-wide through IAEA Technical Cooperation Projects

TRIGA reactors are designed for ultra-safe, reliable and easy manageable operation, therefore in many cases reactors are located at a university campus or near hospitals. As mentioned in above the past upgrading and the on going inspection programs were all directed to a constant safety improvement and to reduce any possible human factors during operation or maintenance.

## **Article 19 (Operation)**

not applicable

### **Nuclear Installations in the broader sense (not as defined in Art. 2 of the Convention)**

The operation license is based on a detailed SAR which has been updated several times during the past according to any modifications in the reactor systems (i.e. reactor instrumentation and control system, ventilation system, area monitoring system), the latest SAR issue is from December 2006 which is available electronically.

The SAR includes all operational limits and conditions (OLC) derived from the safety analysis and including also operational experience, Typical OLC's are i.e. excess nominal power, excess fuel or water temperature, short reactor period, any failure of PC components in the I&C system. In addition any deviation from the nominal value is announced by an optical and acoustical alarm thus allowing the operator to start any counteraction before an OLC is reached.

Detailed written procedures for operation, testing, maintenance and re-inspection exists and are updated regularly, these documents are available electronically as Internal Reports, most of these reports are also available in English and have been basis for the IAEA for implementation in overseas TRIGA type reactors through the TC Program.

Written procedures exist in the reactor operation manual for responding to operational occurrences and to accidents, in spite of the fact that in none of the TRIGA reactors worldwide any incidents or accidents with an environmental impact has occurred.

Necessary engineering and technical support in safety related fields is available at the institute and through the Vienna University of Technology. Besides the in-house workshops business relations have been established in the past with qualified institutions, companies and research institutes to respond to any technical problem which cannot be solved by the in-house facilities.

Any incidents of safety significance are reported by the license holder to the regulatory body a practice which was established many years ago. In addition the TRIGA reactor Vienna is member of the incident reporting system of the IAEA (IRSRR) and has established a model reporting- and evaluation system which has been transferred to other TRIGA reactors through the IRSRR.

Operational experience is collected and shared among the TRIGA reactors worldwide as well through the IAEA to the international research reactor community. The Atominstitut is member of the

TRIGA community (meets every two years)

Arbeitsgemeinschaft Forschungsreaktoren (AFR- meets twice a year)

Research Reactor Operators Group (RROG-meets once a year)

Research Reactor Fuel Management Group (RRFM-meets once a year),

International Group on Research Reactor (IGORR- meets every 18 month).

European Atomic Energy Society (EAES-meets once a year)

At all these meetings the international experience is constantly exchanged and updated, the result of this information exchange is reflected in the overall technical and organisational status of the Vienna TRIGA facility.

Radioactive waste is kept as low as practicable through out the years and four transports of LAW per year to the ARCS waste storage facility are carried out. Since 1962 there are only eight fuel elements which are not more in use due to mechanical deformation, they are stored in the spent fuel storage facility in the reactor hall.

# **ACTIVITIES, ACHIEVEMENTS AND CONCERNS REGARDING THE IMPROVEMENT OF SAFETY**

## **Major achievements and changes since CNS Review Conference 2005**

The major change and achievement since the CNS Review Conference 2005 is an almost entire completion of the implementation of the European regulations in connection with radiation protection. For this purpose an amendment of the Radiation Protection Act in 2004 and several ordinances have entered into force.

# ANNEXES

Annex 1: Bilateral agreements in the field of nuclear safety and radiation protection

Annex 2: Multilateral agreements in the field of nuclear safety and radiation protection

## Annex 1

### Bilateral Agreements in the Field of Nuclear Safety and Radiation Protection

#### Belarus

Agreement on an exchange of information in the field of nuclear safety and radiation protection

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Republik Belarus über den Austausch von Informationen aus dem Bereich der nuklearen Sicherheit und des Strahlenschutzes).

BGBI. III 175/2003 entered into force in 2005.

#### Czech Republic

Agreement between Austria and former Czechoslovakia concerning questions of mutual interest in connection with nuclear safety and radiation protection

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Tschechoslowakischen Sozialistischen Republik zur Regelung von Fragen gemeinsamen Interesses im Zusammenhang mit der nuklearen Sicherheit und dem Strahlenschutz)

BGBI. No. 565/1990 idF BGBI. III No. 123/1997, entered into force in 1990.

#### Germany

Agreement on an exchange of information and experience in the field of radiation protection

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Bundesrepublik Deutschland über Informations- und Erfahrungsaustausch auf dem Gebiet des Strahlenschutzes)

BGBI. No. 128/1989 idF BGBI. No. 892/1994, entered into force in 1994.

Agreement on mutual assistance in the event of disasters or serious accidents

(Abkommen zwischen der Republik Österreich und der Bundesrepublik Deutschland über die gegenseitige Hilfeleistung bei Katastrophen oder schweren Unglücksfällen)

BGBI. No. 489/1992, entered into force in 1992.

#### Hungary

Agreement on the settlement of questions of mutual interest in connection with nuclear installations

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Ungarischen Volksrepublik zur Regelung von Fragen gemeinsamen Interesses im Zusammenhang mit kerntechnischen Anlagen)

BGBI. No. 454/1987, entered into force in 1987.

Agreement on mutual assistance in the event of disasters or serious accidents

(Abkommen zwischen der Republik Österreich und der Republik Ungarn über die gegenseitige Hilfeleistung bei Katastrophen oder schweren Unglücksfällen)

BGBI. III No. 76/1998, entered into force in 1998.



## **Liechtenstein**

Agreement on mutual assistance in the event of disasters or serious accidents

(Abkommen zwischen der Republik Österreich und dem Fürstentum Liechtenstein über die gegenseitige Hilfeleistung bei Katastrophen oder schweren Unglücksfällen)

BGBI. No. 758/1995, entered into force in 1996.

## **Poland**

Agreement on an exchange of information and co-operation in the field of nuclear safety and radiation protection

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Republik Polen über Informationsaustausch und Zusammenarbeit auf dem Gebiet der nuklearen Sicherheit und des Strahlenschutzes)

BGBI. No. 643/1990, entered into force in 1990.

## **Russia**

Agreement between Austria and the former USSR concerning early notification and information in the case of nuclear accidents and the exchange of information related to nuclear installations

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Union der Sozialistischen Sowjetrepubliken über die frühzeitige Benachrichtigung bei einem nuklearen Unfall und den Informationsaustausch über Kernanlagen)

BGBI. No. 130/1990 idF BGBI. No. 257/1994, entered into force in 1990.

## **Slovakia**

Agreement between Austria and Slovakia concerning questions of mutual interest in connection with nuclear safety and radiation protection

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Slowakischen Republik zur Regelung von Fragen gemeinsamen Interesses im Zusammenhang mit der nuklearen Sicherheit und dem Strahlenschutz)

BGBI. No. 565/1990 idF BGBI. No. 1046/1994, entered into force in 1995.

Agreement on co-operation and mutual assistance in the event of disasters

(Vertrag zwischen der Republik Österreich und der Slowakischen Republik über die Zusammenarbeit und die gegenseitige Hilfeleistung bei Katastrophen)

BGBI. III No. 155/98, entered into force in 1998.

## **Slovenia**

Agreement on an early exchange of information in the case of radiological dangers and on questions of mutual interest in the field of nuclear safety and radiation protection

(Abkommen zwischen der Republik Österreich und der Republik Slowenien über den frühzeitigen Austausch von Informationen bei radiologischen Gefahren und über Fragen gemeinsamen Interesses aus dem Bereich der nuklearen Sicherheit und des Strahlenschutzes)

BGBI. III No. 176/1998, entered into force in 1998.

Agreement on co-operation in the field of prevention and mutual assistance in the event of disasters or serious accidents

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Republik Slowenien über die Zusammenarbeit bei der Vorbeugung und gegenseitigen Hilfeleistung bei Katastrophen oder schweren Unglücksfällen)

BGBI. III No. 87/1998, entered into force in 1998.

### **Switzerland**

Agreement on an exchange of information in the field of nuclear safety and radiation protection

(Abkommen zwischen der Regierung der Republik Österreich und dem Schweizerischen Bundesrat über den frühzeitigen Austausch von Informationen aus dem Bereich der nuklearen Sicherheit und des Strahlenschutzes)

BGBI. III No. 201/2000, entered into force in 2001.

### **Tajikistan**

Agreement between Austria and the former USSR concerning early notification and information in the case of nuclear accidents and exchange of information related to nuclear installations (used with Tajikistan)

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Union der Sozialistischen Sowjetrepubliken über die frühzeitige Benachrichtigung bei einem nuklearen Unfall und den Informationsaustausch über Kernanlagen)

BGBI. No. 130/1990 and BGBI. III No. 4/1998, entered into force in 1998.

### **Ukraine**

Agreement on an exchange of information and co-operation in the field of nuclear safety and radiation protection

(Abkommen zwischen der Regierung der Republik Österreich und der Regierung der Ukraine über Informationsaustausch und Zusammenarbeit auf dem Gebiet der nuklearen Sicherheit und des Strahlenschutzes)

BGBI. III No. 152/1998, entered into force in 1998.

## **Annex 2**

### **Multilateral Agreements in the Field of Nuclear Safety and Radiation Protection**

#### **UN / IAEA**

Convention on Early Notification of a Nuclear Accident

(Übereinkommen über die frühzeitige Benachrichtigung bei nuklearen Unfällen)

BGBI. No. 186/1988, entered into force in 1988

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

(Übereinkommen über Hilfeleistung bei nuklearen Unfällen oder strahlungsbedingten Notfällen)

BGBI. No. 87/1990, entered into force in 1989.

Convention on Nuclear Safety

(Übereinkommen über nukleare Sicherheit)

BGBI. III No. 39/1998, entered into force in 1997

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

(Gemeinsames Übereinkommen über die Sicherheit der Behandlung abgebrannter Brennstäbe und die Sicherheit der Behandlung radioaktiver Abfälle)

BGBI. III No. 169/2001, entered into force in 2001.

#### **UN / ECE**

Convention on Environmental Impact Assessment in a Transboundary Context

(Übereinkommen über die Umweltverträglichkeitsprüfung im grenzüberschreitenden Rahmen)

BGBI. III No. 201/1997, entered into force in 1997.

Convention on the Transboundary Effects of Industrial Accidents

(Übereinkommen über die grenzüberschreitenden Auswirkungen von Industrieunfällen)

BGBI. III No. 119/2000, entered into force in 2000.

Convention on the Protection and Use of Transboundary Watercourses and International Lakes

(Übereinkommen zum Schutz und zur Nutzung grenzüberschreitender Wasserläufe und internationaler Seen)

BGBI. No. 578/1996, entered into force in 1996.

#### **Council of Europe**

European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities

(Europäisches Rahmenübereinkommen über die grenzüberschreitende Zusammenarbeit zwischen Gebietskörperschaften)

BGBI. No. 52/1983, entered into force in 1983.

#### **Danube River Protection Convention**

Convention on Co-operation for the Protection and Sustainable Use of the Danube River

(Übereinkommen über die Zusammenarbeit zum Schutz und zur verträglichen Nutzung der Donau)

BGBI. III No. 139/1998, entered into force in 1998.

#### **Alpine Convention**

Convention on the Protection of the Alps (Übereinkommen zum Schutz der Alpen)

BGBI. No.477/1995 entered into force in 1995