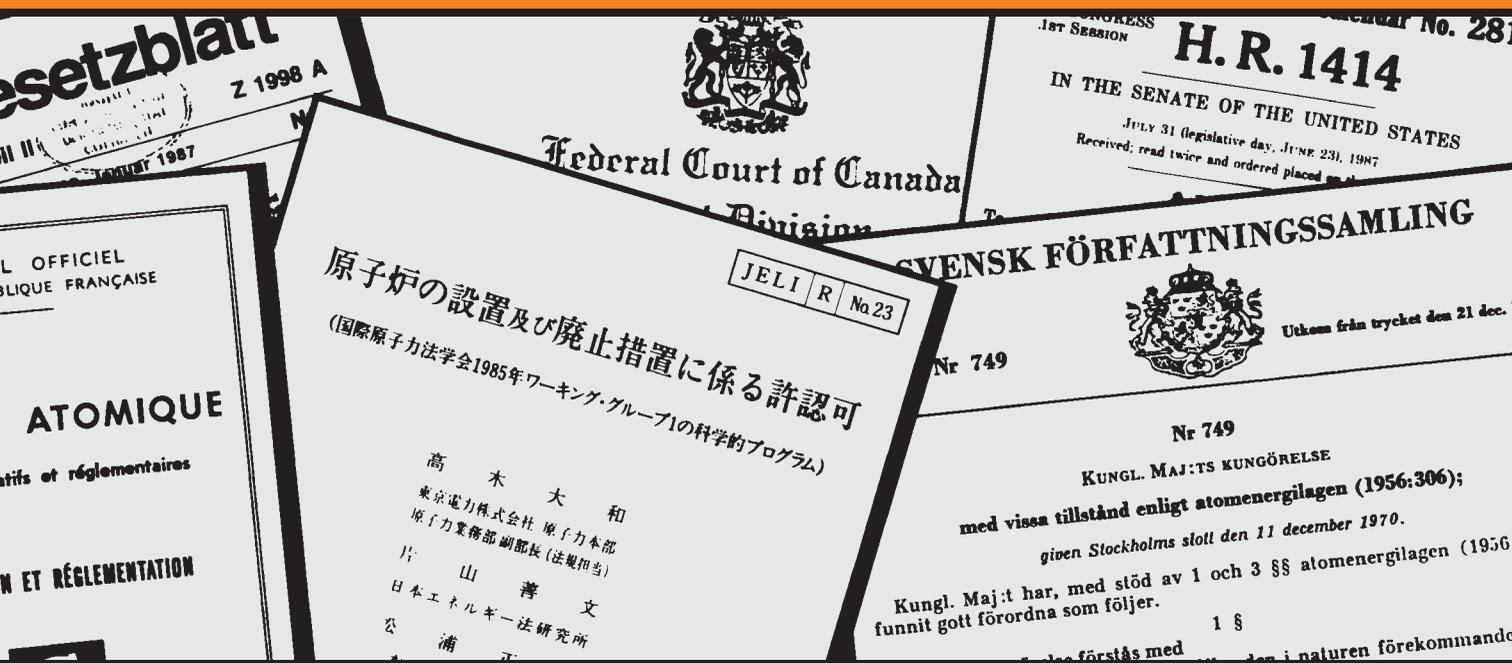




NUCLEAR LAW



BULLETIN 66/DECEMBER 2000

NUCLEAR ENERGY AGENCY



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Nuclear Energy Agency
Organisation for Economic Co-operation and Development

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COMPENSATION REGIMES APPLICABLE TO RADIATION WORKERS IN OECD COUNTRIES*

The purpose of this Note is to consider the compensation regime in force in OECD Member countries for workers who may be exposed to ionising radiation. It aims in particular to provide answers to the following questions and, in doing so, to identify similarities and differences which may exist between these different countries in this field:

- What is the basis for the worker compensation regime applied in the country concerned for workers exposed to ionising radiation (*i.e.* risk, exposure, probability of causation, etc.)?
- Are there different regimes for nuclear fuel-cycle workers and other workers exposed to ionising radiation (*i.e.* in hospitals, laboratories, industrial radiography, etc.)?
- How is worker compensation implemented (for example, is there a threshold for risk, exposure or probability of causation below which workers are not compensated; are all exposed workers compensated; do compensation amounts depend upon risk, exposure or probability of causation; etc.)
- How do the framework and basis for compensation of workers exposed to ionising radiation fit into other worker compensation schemes (for industrial accidents, for example)?

Introduction

The first overriding characteristic which emerges from our study is the general absence of a specific compensation regime applicable to radiation workers only. Thus, in the vast majority of OECD countries, with the notable exceptions of Korea¹ and the UK,² radiation workers are subject to

* This study was prepared by the Secretariat of the OECD Nuclear Energy Agency (NEA) on the basis of a survey carried out by the NEA Nuclear Law Committee and the Committee on Radiation Protection and Public Health concerning the worker compensation regimes in force for radiation workers in OECD Member countries.

1. In Korea, Article 109 of the Atomic Energy Act and its implementing decree provide that nuclear fuel-cycle workers shall be compensated pursuant to compensation standards established by the nuclear operator and approved by the Minister of Science and Technology. However, from the information made available to us, it would appear that there is no substantive difference between the regime governing nuclear fuel-cycle workers and that governing other radiation workers, as Article 4 of the “Compensation Standards Model” provides that standards governing the payment of compensation to workers who have suffered damage due to exposure to ionising radiation shall comply with the provisions of the Industrial Accident Compensation Insurance Act.

the general worker compensation regime rather than having a specific regime which applies to the exclusion of the general regime.³ In general, worker compensation legislation applies to all workers regardless of the type of work they perform.

There do, however, exist within some of the general worker compensation regimes in OECD countries, tables or lists which set out those occupational illnesses which are presumed to be caused by exposure to ionising radiation. By way of example, such tables or lists exist in the Czech Republic⁴ and France.⁵ They can be exhaustive in nature, but usually are simply representative of some of the illnesses which may be caused by such exposure.⁶ Other countries simply have a reference to “diseases caused by exposure to ionising radiation” as a generic category within their list or table of occupational diseases (*e.g.* Denmark, Germany).

Another factor which appears to be common to all OECD countries is that the compensation is awarded on a “no-fault” basis: once the claimant has fulfilled the required criteria in terms of existence of risk, exposure to radiation and causal relationship, he/she will not be required to show that his/her employer was at fault in order to receive a compensation award.

There do not appear to be many countries, with the exception of Korea⁷ and the USA,⁸ which operate a distinction between the regime applicable to nuclear fuel-cycle workers and that applicable to other workers exposed to ionising radiation (*e.g.* in hospitals, laboratories, industrial radiography etc.).⁹

-
2. In the United Kingdom, the Compensation Scheme for Radiation Linked Diseases (CSRLD) provides compensation to workers exposed to ionising radiation. This Scheme is of a voluntary nature and is not legally binding. Its use, however, is recommended by the Unions, who operate the Scheme jointly with the participating employers. It provides an alternative to legal action, but cannot prevent claimants from taking legal action (unless a payment has already been accepted under the Scheme).
 3. See, however, Footnote No. 8 *infra* in respect of the RECA federal compensation programme in the USA.
 4. Decision of Government No. 290/1995/Coll.
 5. Table of occupational illnesses resulting from exposure to ionising radiation – Table No. 6 – established by an Act of 1 January 1931, as amended. The original Table was devoted to afflictions caused by X-rays. The version of Table No. 6 in force today dates from 1985 and is at present undergoing revision.
 6. It is interesting to note that a complementary system of compensation was introduced in France in 1993, with a view to addressing the imperfections due to the inflexibility of using such tables. Its objective is to allow workers, whose illness does not appear in the tables or does not fulfil the prescribed criteria, to claim for compensation for occupational illness, on condition that the work-related origin of the affliction is proven as a result of an investigation after due hearing of both parties.
 7. In Korea, nuclear fuel cycle workers are governed by the Compensation Standards as described in Footnote No. 1 *supra*, whereas other workers exposed to ionising radiation are covered by the Industrial Accident Compensation Insurance Act and the Nuclear Damage Compensation Act.
 8. In 1984, the US Congress established the RECA federal compensation programme for uranium miners, military veterans exposed to atmospheric nuclear weapons testing and citizens exposed to downwind fallout from these tests. There are also provisions which apply specifically to United States Maritime employees. A new federal compensation programme for workers involved in the fabrication, research and testing of nuclear weapons was passed by the US Congress in October 2000. For all other workers, individual states will continue to administer their claims, as is currently the case. Federal government only intervenes in cases with broad cross-state involvement.
 9. This statement is made with the proviso that, as outlined above in Footnote No. 2, the regime in force in the UK is of a voluntary nature and therefore it only applies to workers employed by the participating

It is worthy of note that both of the principal international conventions in force on third party liability for nuclear damage contain a provision¹⁰ which expressly provides that it is left to national law establishing national health insurance, social security, worker's compensation or occupational disease compensation systems to determine (a) whether benefits under such systems should be retained for employees whether of the installation in question or employed in other establishments and (b) whether employees should also be entitled to compensation under the Convention.¹¹ The national law will also determine whether the bodies responsible for such payments may exercise a right of recourse against the operator to recover payments made, to the maximum limit of the operator's liability under the Convention.¹²

It should also be pointed out that there is no European Community regime or system for compensation of workers in the case of damage caused by exposure to ionising radiation under Chapter 3 of the Euratom Treaty or in the derived secondary legislation. Nor does the Community legislation on energy contain any provisions relevant for our purposes. The European Commission has therefore expressed the view that this issue is governed by national legislation.¹³

Types of affliction compensated

In general, compensation is provided for permanent physical or mental injury, economic loss, (*i.e.* reduction in or loss of salary) and medical expenses. Compensation is generally awarded for both deterministic afflictions (caused by extensive exposures or irradiation, *e.g.* radiation burns) and stochastic effects (which often appear a long time after the exposure, *e.g.* malignant diseases). The criteria upon which compensation is based tends to differ between the two (see *infra* under "Proof of a causal relationship"). Compensation is also frequently awarded for accidents taking place during the journey to and from work.

employers. The only alternative for workers whose employers do not participate in the Scheme is legal action, the Department of Social Security or War Pensions scheme.

10. Paris Convention on Third Party Liability in the Field of Nuclear Energy: Article 6(h); Vienna Convention on Civil Liability for Nuclear Damage: Article IX (1). The text of the two provisions is almost identical and reads as follows in the Paris Convention: "Where provisions of national or public health insurance, social security, workmen's compensation or occupational disease compensation systems include compensation for damage caused by a nuclear incident, rights of beneficiaries of such systems and rights of recourse by virtue of such systems shall be determined by the law of the Contracting Party or by the regulations of the inter-governmental organisation which has established such systems".
11. By way of example, in Japan, where the damage suffered exceeds the limit set in the Workers' Accident Compensation Insurance Law, workers are entitled to receive compensation for the total amount of damage suffered pursuant to the Japanese Law on Compensation for Nuclear Damage (1961, as amended). Similarly, in Sweden, employees in the nuclear installation are entitled to compensation under the Nuclear Liability Act (1968, as amended) for the part of the damage not covered by the Act on General Social Insurance for Work-related Injuries and Diseases.
12. For further information on the relationship between nuclear operators and their insurers with Social Security authorities, see the paper (in French) submitted by Jacques Deprimoz at the Nuclear Inter Jura 1993 (Biennial Congress of the International Nuclear Law Association) – Proceedings, page 169.
13. The only exception in this regard is in respect of officials of the European Commission working at the Joint Research Centre of the European Community, since the Commission officials are covered by the in-house insurance system rather than by the national law of the Member State concerned.

Types of compensation

Medical expenses appear to be reimbursed in most countries at 100%. In certain countries, a daily allowance is provided during sick leave. There is often a fixed amount of compensation for certain injuries suffered (*e.g.* loss of an eye or a limb), based on the degree of permanent impairment caused by the injury. Sometimes the legislation specifies the amount of compensation payable for economic loss based on the degree of wage loss suffered by the worker. Occasionally a ceiling is established in respect of compensation for personal injury and economic loss, for example in Australia. In any event, an allowance is provided in the case of permanent disability. France furthermore provides for partial protection of the worker's employment contract.¹⁴

Criteria to be fulfilled in order to obtain compensation

Existence of risk

The input which we received did not appear to indicate that many countries have an express requirement concerning the pre-determined existence of a risk in the activities carried out by the injured party. However, the French legislation does provide that the victim must exercise a profession which is liable to cause the affliction which he/she claims to be work-related.

Proof of exposure

This is one area where responses seem to differ, as the regimes applicable in certain countries (*e.g.* Spain) require there to be proof that dose limits have been exceeded in order to honour a claim, whereas others (*e.g.* United Kingdom) may grant compensation although the dose limits have not been exceeded.

Proof of a causal relationship

Proof of a causal relationship between the damage suffered and the work carried out by the victim is always required.

Generally, such causal relationship is proved in the case of a deterministic affliction if the threshold dose has been exceeded. There are well-established radiobiological data in relation to threshold doses (*e.g.* the values in Table IV-1 of the International BSS 1996). In other cases (*e.g.* France), deterministic afflictions are assimilated to work-related accidents and therefore if an injury takes place during working hours in the workplace, the worker benefits from a presumption of causality.¹⁵ Thus he/she only needs to establish the material facts of the accident, rather than its occupational character. This is also the case in Norway.

In the case of stochastic afflictions, diseases may be recognised as being of occupational origin through the use of tables or individual evaluation or both.

14. Since the adoption of the Act of 7 January 1981.

15. The victim does not benefit from the presumption of causality and must therefore prove the occupational character of the accident if it was not immediately noticed or where the ensuing injury did not appear for a certain amount of time after the accident.

In France, Table No. 6 (as described in Footnote No. 5 *supra*) sets out the list of afflictions caused by exposure to ionising radiation and also provides a sample list of the principal activities which may cause these afflictions. Where a victim suffers from one of the listed diseases, and carried out activities listed as possibly causing such affliction, if the criteria in relation to time limits have been respected, the employee is not required to prove causation between his/her illness and his/her profession. However, the complementary system introduced in 1993 as described in Footnote No. 5 *supra* does require that the work-related origin of the affliction be proven if the illness does not appear in the Table or if other criteria established in the Table have not been fulfilled.

Where an individual evaluation is carried out, compensation can be based on the probability of causation calculated with the use of individual dosimetric and epidemiological data (*e.g.* Czech Republic, Germany). In most countries, the calculated value of the probability of causation must exceed 50%. Some exceptions are made where such value is lower than 50%, taking into account other circumstances like other occupational carcinogens, incomplete dosimetric data etc. The Compensation Scheme for Radiation Linked Diseases in the UK provides that payment is awarded where the assessed probability (cp) that the occupational radiation exposure caused the illness is 20% or more.¹⁶

In the USA, the programmes described in Footnote No. 8 *supra* use either a “probability of causation” approach or a “presumptive” approach based on exposure history and type of disease. The former approach uses the radioepidemiological tables developed by the US National Institute of Health in 1985, which are currently being updated. The state provisions vary widely, although each state uses a test based on injuries and illnesses that “arise out of or in the course of employment”. The burden is on the worker to prove damage (illness) and causation, and each case is examined on its own merits. Depending on how this test is applied within each state, the worker may face a challenging burden in demonstrating that their disease arose out of exposure to radiation.

In Denmark, the legislation provides that if non-occupational factors have contributed to the illness or damage suffered, such factors can be recognised and compensation will only be granted for that part of the disease caused by the occupational exposure. Similarly in Norway, it is necessary to prove that the radiation exposure was substantial to such a degree that the establishment of liability is considered reasonable, although such exposure may not necessarily have been the primary cause of the illness.

Thresholds

As described *supra*, there exists in Spain a requirement that the dose limits have been exceeded, thus constituting a threshold in terms of exposure to radiation. In the regimes examined for the

16. A sliding scale of awards is applied as follows:

- $cp < 20\%$ Nil payment
- $20\% \leq cp < 30\%$ $\frac{1}{4}$ payment
- $30\% \leq cp < 40\%$ $\frac{1}{2}$ payment
- $40\% \leq cp < 50\%$ $\frac{3}{4}$ payment
- $50\% \leq cp$ Full payment

The amount of compensation is determined in each case in the same manner as a successful legal claim and the appropriate fraction is then applied.

purposes of this study, there do not appear to be any thresholds for risk. Thresholds governing probability of causation are described *supra*.

In certain countries, a threshold has been fixed in relation to the permanent partial invalidity of the victim (in France, this level is fixed at 66.66%¹⁷ in the case of permanent partial invalidity resulting from an illness which is not designated on the Table).

In Sweden, pursuant to the Act on General Social Insurance, injury must cause impairment of working capacity by at least one quarter, and under the Act on General Social Insurance for Work-related Injuries and Diseases, the insured person's working capacity must have been reduced by at least one-fifteenth in order to benefit from compensation in the form of an annuity for loss of income. Such annuity depends on income level (up to a maximum ceiling)¹⁸ and on pension payments.

Conclusion

The results of this Study demonstrate a certain level of homogeneity in radiation worker compensation regimes in force in OECD countries with regard to the strict or no-fault basis upon which compensation is granted, the requirement to prove a causal relationship between the damage suffered and the tasks carried out by the victim (although the manner in which such probability of causation is determined varies substantially), and the types of compensation to which workers are entitled. Those areas where marked differences exist include the existence or not of exhaustive or representative tables setting out afflictions presumed to be of occupational origin, the role which non-occupational factors may play in preventing or reducing the payment of compensation and accordingly the degree of difficulty for victims in successfully filing a claim for compensation, in particular in respect of stochastic afflictions.

17. Decree No. 93-692 of 27 March 1993.

18. This ceiling is fixed at Swedish kroner (SEK) 275 000.

TOKAI-MURA ACCIDENT, JAPAN THIRD PARTY LIABILITY AND COMPENSATION ASPECTS*

Summary of events

The accident

On 30 September 1999, at 10.35, Japan's first criticality accident occurred in a conversion test building of a nuclear fuel fabrication plant in Tokai-mura, in the Ibaraki Prefecture. This plant is operated by JCO, a wholly-owned subsidiary of Sumitomo Metal Mining Co. (SMM) of Tokyo. A state of criticality continued on and off for approximately 20 hours following the initial criticality incident. The neutron dose rate had decreased below the limit of detection by approximately 06.30 on 1 October 1999.

This irradiation accident was rated Level 4 on the International Nuclear Event Scale (INES), indicating an event without significant off-site risk. The three workers directly involved in the accident were exposed to high levels of radiation and accordingly their health was adversely affected.¹ Twenty-four JCO personnel engaged in operations to stop criticality were subject to planned exposure. One hundred and forty-five JCO employees, 60 government officials and 207 local residents also received radiation doses of varying levels.

Authorities' response

Emergency measures (chronological order)

The accident was first notified to the Science and Technology Agency (STA) on 30 September 1999 at 11.19.

At 12.15, the local authorities in Tokai-mura established an Emergency Response Headquarters and the Mayor of Tokai-mura issued a recommendation to residents of his locality to shelter indoors.

At 14.30, the STA set up its Countermeasure Headquarters. However, in compliance with the 1961 Basic Law for Countermeasures against Disaster,² the Government Accident Countermeasure

* This study was prepared by the Secretariat of the OECD Nuclear Energy Agency in collaboration with the Japanese authorities.

1. Two of them subsequently died on 21 December 1999 and 27 April 2000 respectively.
2. This Law, which deals principally with natural disasters, was not deemed appropriate for the countermeasures necessary for this criticality accident: pursuant to the 1961 Law, local governments are directly responsible for the disaster prevention system of nuclear facilities, upon the advice of the

Headquarters headed by the Minister for Science and Technology were established at 15.00, and the two Headquarters merged.

At 15.00, the Mayor of Tokai-mura issued a recommendation to residents living within a 350 metre radius from the site of the accident to evacuate the area.³

At 15.30, the STA set up Local Countermeasure Headquarters in the STA's Safety Inspection Office at the Tokai facility in order to carry out on-site investigations.

A Government Task Force for the Accident headed by the Prime Minister was established at 16.00.

At 22.30, the Governor of Ibaraki Prefecture issued a recommendation to the 310 000 residents living within a 10 km radius from the plant to shelter indoors.⁴

On 1 October 1999, the Governor of Ibaraki Prefecture requested the closure of schools within a 10 km radius from the site and the suspension of harvesting of crops and vegetables.⁵

On 3 October 1999, the local government took measures to provide free medical check-ups for people living within a 350 metre radius of the accident. In fact, by 12 October 1999, examinations to detect radioactive contamination had been conducted for 74 633 residents.

Pursuant to the Task Force Plan issued by the Japanese Government on 4 October 1999 to deal with the consequences of the accident, an Investigation Committee for the Critical Accident at the Uranium Processing Plant was established by the Nuclear Safety Commission on 7 October 1999. This Committee issued its "Urgent Recommendations – Interim Report" on 5 November 1999.⁶ This Interim Report described the social and economic effects of the accident as follows:

"With evacuation of approximately 50 households within 350 metres and the recommendation to remain indoors for approximately 300 000 people living within a 10 km radius, transportation facilities were cancelled and schools and other public facilities were temporarily closed as were private companies. The effects of the accident were very large both socially and economically. Residents living near the site were not only inconvenienced due to the evacuation and the recommendation to stay indoors, but they also were subjected to the mental and physical effects caused by rumours. At the same time, sufficient measures including psychological counselling are necessary. Following the accident, there are many adverse effects due to rumours from misunderstanding".

government. In order to strengthen the emergency response regime, a Special Law on Emergency Preparedness for Nuclear Disaster was enacted in December 1999 in order to clarify the responsibilities of the government, local authorities and operators in nuclear emergencies.

3. One hundred and sixty-one persons were concerned by this recommendation, which was lifted at 18.30 on 2 October 1999.
4. This recommendation was lifted at 16.30 on 1 October 1999.
5. The recommendation suspending harvesting was lifted at 18.30 on 2 October 1999.
6. The final report was issued by the Investigation Committee on 24 December 1999.

Measures concerning compensation claims

On 4 October 1999, JCO opened up a contact point to facilitate the consultation of victims who were encouraged to submit an application form with detailed information on the damage suffered.

Pursuant to Section 18 of the Law on Compensation for Nuclear Damage,⁷ a Government Ordinance was issued on 22 October 1999 to establish a Dispute Reconciliation Committee for Nuclear Damage Compensation. Members of this Committee, which was set up at the STA, included lawyers, medical experts and nuclear engineering experts. Also on 22 October 1999, the STA established the Nuclear Damage Investigation Study Group to analyse the accident, damage and case studies, and to establish criteria to determine which nuclear damage should be compensated. This Study Group consisted of legal experts, university professors, nuclear engineering and radiation experts etc. with knowledge of, or engaged in practices related to nuclear damage compensation regimes, third party liability or insurance, in order to facilitate prompt and efficient negotiations between the parties. According to press reports, the nuclear insurance pool was to consult with the Study Group in order to assess compensation amounts.

By 30 September 2000, 7 025 claims had been filed by citizens, businesses and industrial organisations. Just before the end of 1999, the prefectural government and other local authorities offered mediation between JCO and victims for an early settlement. The following agreement was reached between JCO and the local authorities: JCO committed itself to pay approximately half of the claimed amounts to victims as a form of provisional payment before the end of 1999, to settle up as early as possible in 2000, and not to apply any predefined restrictions in terms of limitation periods for submission of claims and geographical scope. JCO's provisional payments amounted to 5.4 billion Japanese yen (JPY) by the end of December 1999 and a Special Consultation Centre was set up in the Ibaraki Prefecture Office from 31 January to 25 February 2000 in order to pursue negotiations with victims on the claims introduced. Over 98% of these claims were settled by 30 September 2000.

Liability and Compensation Issues: Implementation

Damage subject to compensation

On 26 May 2000, the STA Nuclear Damage Investigation Study Group finalised its report establishing guidelines to determine what damage caused by the Tokai-mura accident would be qualified as “nuclear damage” under Section 2(2) of the Compensation Law,⁸ and thus should be compensated. Its report is based on domestic judicial precedents, examples in other countries and information obtained from on-site investigations. It provided an indication of the extent to which a causal relationship must be proven, and it established guidelines on potential compensation with regard to eight categories of damage as follows:

- *Personal injuries*: people suffering from personal injuries are eligible to receive compensation if they can prove that their injuries are radiation injuries caused by exposure to radiation or radioactive nuclides released as a result of the accident.

7. See Annex I related to legislation governing the compensation of nuclear damage.

8. *Idem*.

- *Medical examination expenses (people)*: compensation will be given to anyone who was in Ibaraki Prefecture at any time during the period from the occurrence of the accident (10.35 on 30 September 1999) to the lifting of the evacuation recommendation (18.30 on 2 October 1999), and who incurred expenses in respect of a medical examination (before 30 November 1999) for the purpose of determining whether any physical injury had resulted from the accident.
- *Evacuation expenses*: transportation, hotel and other incidental expenses which were paid until the evacuation recommendation and recommendation to stay indoors were lifted are eligible for compensation.
- *Examination expenses (property)*: if property was in Ibaraki Prefecture at the time the accident occurred, expenses incurred in respect of examination of the said property (before 30 November 1999) can be recognised as damage.
- *Contaminated property*: in the case of movable property: if the property was in Ibaraki Prefecture at the time the accident occurred and if the value of the property has depreciated as a result of the accident, the portion of the value lost or reduced can be recognised as damage; in the case of real estate: if there was no firm intention to sell such property, it is not subject to compensation; if however there were cancellations of real estate sale agreements, refusal of loans with real estate as security or a reduction in planned sale prices, or if there was reduction of rent or cancellation of lease agreements after the accident, if the claimant proves the rationality of the claim, such claims may be subject to compensation.
- *Lost income*: anyone whose residence or place of work is in the area subject to the recommendations, and who was unable to work as a result of the administrative action, is eligible for compensation in respect of his/her lost or reduced income.
- *Business damage (both due to physical effects and to rumour)*: to be qualified as damage, there must be a consequential relationship between the accident and the economic loss; to determine causality, the time at which such loss or damage was caused, and the distance from the accident site are the most important factors: economic loss suffered between the time of the accident and 30 November 1999, within a 10 km radius of the accident site, and caused by loss of custom which is estimated to be reasonable given the circumstances of the accident, leading to an actual decrease in income, is considered to satisfy the causality criteria and is deemed eligible for compensation.
- *Mental suffering*: mental anguish alone, without any personal injury, is not recognised as damage unless the claimants can irrefutably prove a causal relationship and the proportionality of the amount of compensation sought.

The Japan Atomic Energy Insurance Pool (43 non-life insurance companies) determined its own claims handling standards for damage resulting from the accident. Based on the discussions of the Study Group, such standards are in line with the Study Group guidelines.

Compensation amounts awarded

By 30 September 2000, 7 025 claims had been filed. According to the STA, almost all compensation in respect of the accident had been awarded by 30 September 2000: 98% of the claims

were settled for a total amount of JPY 12.73 billion. Since it was clear that the amount of compensation JCO could provide by itself⁹ was insufficient, SMM provided assistance in respect of the payment of the remainder. The payment made to JCO by the Japan Atomic Energy Insurance Pool was limited to JPY 1 billion, namely the amount insured by JCO.

The majority of claims concerned economic loss caused by consumers' behaviour based on rumour.

The following groups of persons were affected by the accident and presented claims against JCO:

Workers

Under the Workers' Accident Compensation Insurance System,¹⁰ compensation can be paid if claimants were exposed to more than 0.25 Sieverts of radiation, enough to cause acute radiation poisoning. The government ruled that the three JCO workers at the site of the accident, who were exposed to massive amounts of radiation, were diagnosed as having received acute radiation injuries and that the damage was directly related to their activities at the plant. Therefore, under the Workers' Accident Compensation Insurance Law the Japanese Government is required to pay compensation for medical expenses and loss of earnings to the worker who survived the accident, as well as funeral expenses and a compensation pension to the survivors of the two workers who died. In this respect, on 14 January 2000, the Ministry of Labour stated that it would examine the possibility of exercising a right of recourse against JCO and SMM for part of the amount of compensation to be awarded to the three workers directly exposed (or to their families). The Worker's Accident Compensation Insurance Law provides for the exercise of such a right of recourse if the accident was caused through the company's negligence or intentional acts or omissions.

Section 3(1) of the Law on Compensation for Nuclear Damage provides that if the three JCO workers have suffered damage over and above the limit established in the Workers' Accident Compensation Insurance Law, they are entitled to receive compensation from JCO for the total amount of damage suffered, minus any benefits which they received under the above legislation.¹¹ However, to date these workers have only received compensation on the basis of the workers' compensation legislation.¹²

Residents

According to the information available to the NEA Secretariat, JCO paid a total of JPY 20 million to households living within a 350 metre radius from the plant in the form of "consolation payments". Such payments would not appear to be based on the JCO's obligations under the

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9. It is very difficult to estimate how much compensation JCO could provide. JCO's assets were estimated to be approximately JPY 4 billion, but in general, companies cannot mobilise the full amount of the estimated value of their assets.
 10. See Annex I related to legislation governing the compensation of nuclear damage.
 11. Section 4 of the Supplementary Provision to the Compensation Law.
 12. The total amount of compensation paid to the three workers pursuant to the Workers' Accident Compensation Insurance Law is estimated at JPY 120 million. However, the NEA Secretariat could not obtain official confirmation of this figure.

legislation on compensation for nuclear damage, but rather they represent a Japanese legal tradition whereby discretionary payments are offered to victims of an accident by the persons responsible.

A number of residents in this zone deemed the above-mentioned consolation payments to be insufficient, and therefore introduced claims for compensation in excess of the initial payment described above to cover *inter alia* the cost of evacuation and medical examinations.

Industrial and Agricultural Activities

Claims were entered against JCO in respect of losses ensuing from the accident in the fields of agriculture (farming and fishing) and industry, and for costs incurred by the village in its management of the consequences of the accident.

The agricultural claims stemmed from reductions in demand for local foodstuffs after the accident. Shipment of the new harvest had to be suspended for three days after the criticality. Fishery co-operatives also suspended operations for three days, and the food processing industry voluntarily suspended shipments. Tokai is a major supplier of food to the Tokyo metropolitan area.

Information on the amounts of compensation paid in respect of agricultural and industrial activities is contained in the table reproduced in Annex II.

ANNEX I

Legislation governing the compensation of nuclear damage

Compensation of nuclear damage

The principles governing compensation of nuclear damage in Japan are set out in the Law on Compensation for Nuclear Damage [Law No. 147 of 17 June 1961] as amended (“the Compensation Law”), its implementing ordinance [Cabinet Order No. 44 of 6 March 1962] as amended, and the Law on the Indemnity Agreement for Compensation of Nuclear Damage [Law No. 148 of 17 June 1961] as amended (“the Indemnity Law”).

Japan is not a Party to either the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy or the 1963 Vienna Convention on Civil Liability for Nuclear Damage. It has, however, incorporated in its legislation a number of the principles embodied in both Conventions.

The Compensation Law provides for the strict, exclusive and unlimited liability of the operator of a nuclear installation [Sections 3 & 4] in respect of nuclear damage caused, *inter alia*, by the manufacture of nuclear fuel material [Section 2(1)(ii)]. Nuclear damage is defined as any damage caused by the effects of the fission process of nuclear fuel material, or of the radiation from nuclear fuel material etc., or by the effects of the toxic nature of such material [Section 2].

The Ordinance on the Enforcement of the Compensation Law establishes in Section 2(iv) that the manufacture of such nuclear fuel elements must be covered by financial security of JPY 1 billion [approximately 9.3 million US dollars (USD)]. The Ordinance was amended in December 1999 to increase the amount of financial security which the operator of a nuclear installation is obliged to maintain. The compulsory financial security to cover a facility such as the JCO uranium conversion plant at Tokai-mura was raised to JPY 12 billion (approximately USD 114.4 million). The Amending Ordinance entered into force on 1 January 2000.

The Indemnity Law provides that the government may conclude an agreement with the operator, under which the government undertakes to indemnify the operator from his loss arising from compensating nuclear damage not covered by his financial security, in return for an annual indemnity fee. This legislation does not apply to the Tokai-mura incident, as the damage is covered by the insurance policy.

Section 16 of the Compensation Law provides that if the total damage exceeds the funds available from insurance cover, the government may provide financial assistance to victims if approved by the Parliament.

Since there is no specific provision governing the limitation period during which claims for compensation for nuclear damage should be entered, the general rules¹³ governing prescription under the law of tort pursuant to the Civil Code are applicable.

13. Under Section 724 of the Civil Code, the right to compensation for damage shall be extinguished if an action is not brought within three years from the date on which the person suffering damage had knowledge both of the damage and of the person liable for such damage. The right to compensation shall also be fully extinguished twenty years after the date on which a tort occurs.

Section 18 of the Compensation Law governs the possibility of establishing a Dispute Reconciliation Committee for Nuclear Damage Compensation, which shall mediate in any dispute arising from compensation of nuclear damage, and shall investigate and assess nuclear damage as necessary to settle such disputes.¹⁴ Cabinet Order No. 281, adopted on 16 November 1979, further provided that the Committee members shall consist of a maximum of ten specialists in the legal, nuclear engineering, medical or other fields related to nuclear energy. These members shall be appointed by the Minister of Science and Technology.

Compensation regime for radiation workers

Radiation workers in Japan are subject to the general workers' compensation regime. This is comprised of the Labour Standards Law [No. 49 of 7 April 1947], which governs the relationship between employers and employees, and the Workers' Accident Compensation Insurance Law [No. 50 of 7 April 1947], which regulates insurance issues between the government – through the Ministry of Labour, Labour Standards Offices and Labours Standards Inspection Offices – and employees.

The Labour Standards Law in Chapter VIII [Sections 75-88] lays down principles governing the right to compensation of workers in the event of a work-related accident. Under this Law, the right to introduce a compensation claim shall be prescribed if an action is not brought within two years. The Workers' Accident Compensation Insurance Law regulates terms and conditions for the implementation of compensation awards under the Labour Standards Law.

Pursuant to the Workers' Accident Compensation Insurance Law, in the event of a work-related accident, the government indemnifies the employees with funds arising from insurance premiums contributed by employers and some government subsidies. However, if the compensation amount exceeds the limit calculated pursuant to the Workers' Accident Compensation Insurance Law,¹⁵ the employer pays compensation beyond such limit on the basis of the Law on Compensation for Nuclear Damage.

The Workers' Accident Compensation Insurance Law provides for a right of recourse of the government against the employer if the accident resulted from the employer's wilful act or serious negligence.

14. Such a Committee was set up on 22 October 1999 (see *supra*).

15. The Law does not establish a maximum limit, as this amount varies according to the worker's situation. The Law describes, however, the manner in which this limit should be calculated on the basis of different factors including *e.g.* age. It should be noted, however, that there is no limit for expenses incurred in respect of medical treatment.

ANNEX II

Compensation paid by JCO in respect of the accident of 30 September 1999¹⁶

<i>Type of industry</i>	<i>Number of claims settled</i>	<i>Percentage of total number of claims settled</i>	<i>Amount paid (in billions of yen)</i>	<i>Percentage of total amount</i>
Agriculture	735	10.7	1.26	10
Fisheries	22	0.3	0.29	2.3
Manufacture of foodstuffs	1 178	17.1	3.82	30.1
Manufacture (except foodstuffs)	402	5.8	0.78	6.2
Transportation (people/goods)	222	3.2	0.24	1.9
Wholesale, retail sale	1 218	17.7	1.76	13.9
Food and drink industry (e.g. restaurants, bars)	905	13.1	0.81	6.4
Tourism	501	7.3	2.03	16
Others	1 702	24.7	1.69	13.3
Total	6 885	100	12.68	100

16. Situation at 22 September 2000.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

Brazil

*Judgement of the Federal Court in the Public Civil Action concerning the Goiânia Accident (2000)*¹

The Facts

On 13 September 1987, two scrap metal dealers, Roberto Santos Alves and Wagner Mota Pereira broke into a derelict medical clinic called *Instituto Goiano de Radioterapia* (IGR), in the city centre of Goiânia, state capital of Goiás, and with the aid of a wheelbarrow, removed a large piece of lead, which in fact contained a Caesium 137 source, to Alves' domicile close to the IGR.

On the same day, Pereira broke open the Caesium source when he tried to separate the lead in the section where the radioactive source was located. That day he started to feel ill, but sought medical assistance only two days later, in respect of burning sensations in his hands and arms.

On 19 September, Roberto and Wagner sold part of the lead piece, which contained the Caesium source, to another scrap metal dealer, Devair Alves Ferreira. He broke it down and fully opened the Caesium 137 capsule, becoming fascinated with the blue brightness emitted by the dust. Devair received visitors over the next four days who wished to view the blue shining dust. His wife, Gabriela Maria Ferreira was hospitalised due to vomiting and diarrhea. On 23 September, Wagner was hospitalised.

Also on 23 September, one of Devair's employees, Israel Baptista dos Santos, was sent to disassemble the 25 kg lead cylinder, which contained the unprotected Caesium 137 source.

On the next day, Ivo Alves Ferreira, Devair's brother, put a small quantity of the dust in his pocket, and his daughter Leide das Neves Ferreira, ate a small portion of the dust during the meal. The 25 kg lead cylinder and part of the equipment used to disassemble it had been transferred to another scrap metal junkyard belonging to Devair. On 26 September, Kardec Sebastião dos Santos, Ivo's employee, took the 300 kg lead outer shield from IGR to Ivo's scrap metal junkyard.

Two days later, Devair's wife, Gabriela Maria, together with one of their employees, Geraldo Guillerme da Silva, transported the Caesium source without its capsule, in a plastic bag, to the

1. This case note was kindly submitted by Mr. Edson Damasceno of the National Nuclear Energy Commission (CNEN) and Ms. Denise Fischer of the Brazilian Association of Nuclear Law.

Sanitary Monitoring Agency (affiliated to the State Health Department), by bus. On this same day, Wagner was transferred to the Tropical Illnesses Hospital, where the physicians requested the presence of a nuclear physicist, as they considered the symptoms may have resulted from contact with radioactive material.

The accident was then discovered on 29 September. The Sanitary Monitoring Agency authorities immediately isolated the scrap metal junkyard, where the 300 kg lead outer shield was located, and also Roberto's house, where the Caesium capsule was kept.

A group of technicians from the National Nuclear Energy Commission – CNEN – arrived in Goiânia the following day. They isolated the area around the scrap metal junkyard and Devair's house. An emergency plan was implemented, in which governmental entities such as the CNEN, FURNAS Centrais Elétricas S.A., NUCLEBRÁS, the Civil Defence and the Nuclear Emergency Section of the Navy Hospital in Rio de Janeiro participated.

Radioactivity had spread, contaminating people and the environment in an area of approximately 2 500m².

By 1 October, six people had been taken to the Navy Hospital, in Rio de Janeiro. Devair's 6-year-old girl who had consumed the dust and Gabriela Maria Ferreira both died on 23 October. On 27 and 28 October respectively, two other persons died.

Besides the four deaths, fifteen people were seriously injured and thirty others suffered minor injuries.

The Public Civil Action brought by the Federal Public Prosecution Service and the State of Goiás' Public Prosecution Service

Following the tragedy which, in the space of a few days, had killed four people, left many others wounded, caused general panic and emotionally shocked the population of Goiânia, and which furthermore had serious repercussions on the State economy for several months, the Federal Public Prosecution Service and the State of Goiás' Public Prosecution Service took various different actions both in terms of federal and of state justice.²

A public civil action for damages to the environment was brought in September 1995 by the Federal Public Prosecution Service (Department of Justice) together with the State of Goiás' Public Prosecution Service, before the 8th Federal Court of Goiânia, in relation to the environmental damage caused by the radiological accident.

Legal proceedings were brought against the Federal Union; the National Nuclear Energy Commission; the State of Goiás (through its Health Department); the Social Security Institute for Civil Servants in the State of Goiás – IPASGO, which at the time of the accident was the private owner of the land where the IGR was located; the four medical doctors who owned IGR and the clinic's physicist, who was also supervisor, with a view to obtaining compensation and the restoration of the environment to its natural state.

2. A study of the criminal and civil actions taken may be found in the article by Marie-Claude Boehler "Reflections on Liability and Radiological or Nuclear Accidents: The Accidents at Goiânia, Forbach, Three Mile Island and Chernobyl", *Nuclear Law Bulletin* No. 59 (June 1997).

The Legal Proceedings

The legal proceedings were based on the strict civil liability of the State pursuant to Article 37 §6 of the 1988 Federal Constitution. This provision states that public entities and private entities rendering public services are liable for the damages caused to third parties by their agents, in such capacity and by holders of licences granted by them. It provides the State, however, with a right of recourse against the liable agent in cases of intent or fault.

With regard to the ecological damage, legal proceedings were based on Law No. 6.938 of 23 August 1981 on the National Environment Policy, which entitles the Public Prosecution Service of the Federal Union and of the states to bring public civil actions for damages to the environment. This law establishes the principle of strict liability, compelling the polluter, whether the government or a third party, to indemnify or repair damages caused, irrespective of the existence of fault.

In order to demonstrate the strict civil liability of the Union, the Federal Public Prosecution Service referred to the constitutional rights granted to the Union, pursuant to both the former Constitution of 1967 and the 1988 Constitution, to operate nuclear installations and services of any nature, and to exert a state monopoly over the research, mining, enrichment, reprocessing, commercialisation and trade of nuclear ore and their by-products. The Union is furthermore entitled to authorise, pursuant to a concession or licence, the use of radioisotopes for research, or for medicinal, agricultural or industrial uses and analogous activities [Article 21, XXIII (b)], and to establish a monopoly over prospecting, mining, enrichment, reprocessing, commercialisation and trade of nuclear mineral ores and minerals and their by-products [Article 177, V].

To prove the civil liability of the CNEN, the Federal Public Prosecution Service based its arguments on the founding law of the CNEN [Law No. 4.118 of 1962, modified by Law No. 6.189 of 1974] claiming that its obligations include the regulation of the use of nuclear energy and any implementation and control which may be required with regard to the use of radioactive and nuclear materials.

According to the Prosecution, the civil liability of the State of Goiás was based on the jurisdiction of the Sanitary Monitoring Agency (linked to the State Health Department), pursuant to federal and state legislation, to exercise both the regulation and the control over radioactive materials in hospitals, in particular over devices that may be of harm to human health.

In relation to IPASGO, the Federal Public Prosecution Service alleged that it was liable as the owner of the land where IGR was located, due to its knowledge that there were devices containing radioactive materials on the premises, its failure to take the necessary steps to monitor the place until such abandoned equipment was removed, and its failure to notify the authorities of this situation.

With regard to the owners of IGR, jointly with the clinic's physicist and supervisor, the Federal Public Prosecution Service alleged that they failed to observe a series of CNEN norms on radiological protection, licensing of nuclear installations and management of radioactive waste in radioactive installations.

Compensation Claims

Compensation was sought for the following amounts: conviction of the Federal Union for 2 million Brazilian reals (BRL); of the CNEN for BRL 1 million and of the four owners and the supervisor of IGR, the State of Goiás and IPASGO for BRL 100 000 each, totalling BRL 3.7 million.

It was requested that these sums be lodged with the “Defence of the Diffused Rights Fund” – a federal fund for the compensation of damage to the environment, consumers, property and rights of artistic, historic, or cultural value and other collective rights.

Claims were also entered against the Union, the CNEN and the State of Goiás in respect of their obligation to guarantee health and psychological care for accident victims and their descendants to the third generation born with any anomaly following the proven exposure of their parents; to identify the victims eligible to receive treatment and lifetime pensions; to create a special educational and social care programme for contaminated children; to monitor the health of the neighbouring population who were exposed to the radioactive materials; to publish a quarterly report in the Federal Official Journal and in the State of Goiás’ Official Journal on the condition of radioactive materials existing in the State and their exact location; and to create a population data base concerning the mortality rate due to cancer since the accident and to maintain permanent epidemiological monitoring of the population of Goiânia.

The CNEN was also requested to establish a Care Centre in Goiânia for the accident victims, providing permanent assistance from physicians and specialised medical doctors; to carry out periodic environmental monitoring in the region where the accident occurred and to send the results to the State Health Department and to both Federal and State Public Prosecution Services.

The State of Goiás was asked to pay lifetime pensions to the direct victims of the accident, to transfer the titles of the real estate acquired by the State and already occupied by the said victims, and to organise, together with the CNEN, environmental monitoring of the contaminated region through the Environment Foundation of the State of Goiás.

The Judgement

The defendants were ordered by the 8th Federal Court of Goiás in its judgement of 17 March 2000 to pay compensation of BRL 1.3 million [equivalent today to approximately 675 000 US dollars (USD)] to the above-mentioned Defence of the Diffused Rights Fund.

The CNEN, IPASGO, one of the owners of the clinic and the clinic’s physicist were found guilty. In his sentence, the Judge excluded the state of Goiás and the Federal Union from the payment of compensation. Also, the other three owners of IGR were excluded from civil liability because the suit was brought against them as individuals and not against IGR, the legal entity. The court found that the Caesium 137 source had been acquired in 1972 by the legal entity IGR, and not by the individual owners of the clinic, and for this reason the clinic stood to be convicted. As the accidents occurred before the promulgation of the current Federal Constitution of 1988, the court could not declare the owners of IGR liable.

Although the two scrap metal dealers were not included as defendants in the public civil suit, the judgement of the court found them directly responsible for the accident involving the Caesium 137. If they had been arraigned as defendants, they certainly would have been convicted, as their actions led to strict (no-fault) liability. However, in terms of criminal intent, they were not aware of the seriousness of their actions in removing the Caesium source from its location, and they had no knowledge of the dangers of the radiological device; moreover, there was no danger sign erected in the abandoned clinic in order to ward off intruders.

The CNEN

The CNEN was ordered to pay to the above-mentioned fund the amount of BRL 1 million, equivalent today to approximately USD 519 000, and also to guarantee medical, psychological and technical-scientific treatment for the direct and indirect victims of the accident and for their descendants to the third generation. Furthermore, the CNEN was also ordered to ensure the transport to bring the most serious victims to their examinations, and was deemed responsible for the medical follow-up of the population of Abadia de Goiás city, where the final repository was constructed to store the hazardous waste from the Caesium 137 accident.

In the event that any further contamination occurs, medical assistance is to be provided by the CNEN, which will also be responsible for identifying and pursuing any cases for concern in the region, and for notifying any sudden changes in the number of illnesses in collaboration with the epidemiological control service maintained today by the State of Goiás' Health Department.

In the event of interruption of this service by the State Health Department, the CNEN shall ensure its continuation, and likewise, if IPASGO or the State of Goiás' Health Department interrupt their services, the CNEN shall be responsible for maintaining a centre of permanent treatment in Goiânia, with physicians and specialised medical doctors.

In the event of breach of any of these obligations, the CNEN is to pay a daily fine of BRL 10 000, equivalent today to approximately USD 5 187.

The Social Security Institute for Civil Servants in the State of Goiás – Ipasgo

The Social Security Institute for Civil Servants in the State of Goiás – IPASGO, was ordered to pay a fine of BRL 100 000, equivalent today to approximately USD 51 867, plus interest as of 13 September 1987, the date of removal of the Caesium 137 capsule.

The Owner of IGR and the Clinic's Physicist

One of the medical doctors owning IGR and the clinic's physicist were ordered to pay the same fines as IPASGO.

The former was found liable for the abandoned state of the IGR building where the Caesium source was kept, including the removal of gates, windows, timberwork and the roof in May 1987. As was stated in the judgement, "... his participation in the recklessness that came to provoke the damages caused by Caesium has been proved, therefore".

The clinic's physicist was condemned because he was the technician responsible for the control of the medical manipulation of the radiological device.

Should there be delays in payment, the fines will increase on a daily basis by BRL 10 000.

All those defendants who were sentenced to fines have appealed their sentences to the Federal Regional Tribunal, located in Brasilia.

Canada

Judgement of the Federal Court on Environmental Assessment of Proposed Used Fuel Dry Storage Project (2000)

On 23 May 2000, the Federal Court of Canada, Trial Division, dismissed an application for judicial review concerning the environmental assessment of a used fuel dry storage project proposed by the former Ontario Hydro, now Ontario Power Generation. The issue was whether the assessment process complied with the Canadian Environmental Assessment Act, proclaimed on 19 January 1995, particularly in respect of the information that was required to be made available and the factors to be considered as part of the assessment process. The Court found that the environmental assessment process that was followed by the former Atomic Energy Control Board (now the Canadian Nuclear Safety Commission) did comply with the requirements of the above legislation. The Court also noted that the scope of judicial review was narrow and that judicial review of a ministerial decision was not a forum in which to debate environmental science. The applicant has appealed the decision to the Appeal Division of the Federal Court of Canada.

France

Judgement of the Council of State confirming the definitive shut-down of Superphénix (2000)

The Council of State, in its judgement of 20 March 2000, rejected both the application to declare Decree No. 98-1305 of 30 December 1998 on the first step of the definitive shut-down of the major nuclear installation located at Creys-Malville (called “Superphénix”) to be *ultra vires*, and the application to annul the implicit decision of the Prime Minister rejecting the plaintiffs’ application to recommence operations at the plant.

The Council of State, interpreting several provisions of Decree No. 63-1228 of 11 December 1963 on Major Nuclear Installations (see *Nuclear Law Bulletin* Nos. 9, 10, 12, 45 and 52), ruled that the adoption of Decree No. 98-1305 did not require either a public enquiry or consultations with the local information commission at the plant.

Finally, the Council of State ruled that the decision to proceed with the first step of the definitive shut-down of the plant, which has not been operated since December 1996, was not null and void due to bad judgement “with regard to the cost of recommencing operations and to the lack of profitability of the plant, and despite the financial burden ensuing from the shut-down of the plant and the economic and financial consequences which it causes for the state, the local communities and the inhabitants”.

Germany

Decision of the Nürnberg-Fürth Regional Court rejecting a compensation claim for a work-related accident (2000)

A former contract employee at the *Reaktor-Brennelement-union mbH* (RBU), a Siemens-owned fuel fabrication plant, sued Siemens for 3 million German marks (DEM) in damages for non-

compliance with radiation protection standards. He alleged that the lung ailments from which he suffers resulted from an accident which occurred at the plant in 1971 involving uranium oxide powder. Ten years after the alleged accident, the employee was diagnosed with acute pulmonary fibrosis and the German authorities responsible for health and safety at work recognised the disease as having been work-related.

On 26 July 2000, the Twelfth Civil Chamber of the Nürnberg-Fürth Regional Court rejected this claim on the grounds that the claim was time-barred under the applicable statute of limitations. The attorney for the plaintiff responded by asserting that he was in possession of evidence demonstrating that Siemens AG and its affiliated companies had not complied with radiation protection standards and that further claims for compensation against the company would likely be filed.

Siemens furthermore denied that the 1971 accident occurred. When announcing its decision to reject the case, the court stated that there was a “certain probability” that the accident “did in fact take place”, but they considered that there was “no reason to conclude” that Siemens had thereafter denied the plaintiff medical care, as he had alleged.

The plaintiff has stated his intention to lodge an appeal against the court’s decision.

Netherlands

Decision of the Council of State rejecting licences for transport of nuclear fuel (2000)

On 7 July 2000, the Council of State, the supreme administrative court in the Netherlands, again suspended licences issued by the government for transport of spent fuel through Dutch territory. This ruling concerned the shipment of spent fuel originating from the High-Flux Reactor at Petten and due to be transported to the COVRA (*Centrale Organisatie voor Radioactief Afval* or Central Organisation for Radioactive Waste) storage site at the Borssele nuclear power plant, and further shipments of spent nuclear fuel from the decommissioned Dodewaard BWR to BNFL’s Sellafield for reprocessing.

An earlier decision of the Council (see *Nuclear Law Bulletin* No. 65) ruled in favour of the plaintiff, Greenpeace, stating that the licences issued by the ministries involved (the Ministries of the Environment and of Economic Affairs) had failed to comply with the Nuclear Energy Act as they contained insufficient justification and incomplete information for the public on the chosen transport routes. Besides the fact that the licences did not demonstrate that the transports were justified in terms of radiation protection, nor did they provide details on the route from Dodewaard to the port of Vlissingen, the Council was obliged to reject these licences due to the absence of two essential signatures – those of the Ministry of the Interior and the Ministry of Foreign Affairs. Following the above-mentioned decision, the ministries concerned duly provided the necessary signatures, but however they also modified the content of the licences. This was deemed to constitute a procedural error which, in turn, obliged the Council of State to rule against the ministries again on procedural grounds. Before it could decide on the merits of the case, the Council, in its decision of 7 July 2000, considered that earlier procedural inaccuracies, in particular relating to mistakes in the details concerning the shipping route, had not been correctly amended. Thus the licences were suspended once more, until the ministries revise the licences in accordance with the ruling of the Council.

Shut-down of the Borssele's nuclear power plant (2000)

The Dutch Ministry of Economic Affairs has decided to take out proceedings against EPZ, the operating utility of Borssele NPP, in order to ensure that Borssele is closed by the end of 2003. The government is of the opinion that an agreement was made with SEP, at that time the parent company of EPZ, in 1994 according to which an upgrade programme should first be carried out, and then Borssele should be closed by 30 December 2003, in return for a sum of compensation (70 million Dutch guilders or approximately USD 170 million) to be paid to EPZ. However, EPZ does not consider itself to be bound by the agreement to shut down the plant by the end of 2003, on the grounds that the agreement was made with SEP rather than directly with EPZ. The Council of State ruled on 24 February 2000 that the Dutch Government had no legal basis for limiting the validity of the Borssele operating licence in return for such compensation (see *Nuclear Law Bulletin* No. 65). Therefore the amended operating licence was declared invalid, automatically reinstating the old licence which was not subject to a limitation in time. The Ministry is thus taking out a civil law action and hopes to obtain an expedient procedure, in light of the time constraints in this case.

United States

Decisions of US Court of Appeals for the Federal Circuit relating to the DOE's obligations under the NWPA to accept spent nuclear fuel and high-level radioactive waste from nuclear power plants (2000)

On 31 August 2000, in two related decisions, the US Court of Appeals for the Federal Circuit held that nuclear utilities are not limited to contractual administrative remedies and can bring damage suits in court for the government's breach of the 1983 Standard Contract under which the Department of Energy (DOE), pursuant to its obligations under the 1982 Nuclear Waste Policy Act (NWPA) (see *Nuclear Law Bulletin* Nos. 26 and 31), agreed to commence disposal of nuclear waste no later than 31 January 1998.

In the first case, *Maine Yankee v. United States*, the Court of Appeals affirmed the decisions of the US Court of Federal Claims³ allowing utilities (Yankee Atomic Electric Co., Connecticut Yankee Atomic Power Co., and Maine Yankee Atomic Power Co.) to sue the federal government over its failure to accept spent nuclear fuel (see *Nuclear Law Bulletin* Nos. 63 and 64).

The Court of Appeals concluded that the DOE's failure to begin taking spent nuclear fuel did not constitute a "resolvable delay" under the Standard Contract, that the utilities were not obliged to seek resolution under the Standard Contract for damages caused by the DOE's failure to perform, and lastly that the DOE has breached its contractual obligation under the 1982 NWPA.

These three cases now return to the Court of Federal Claims in order to determine the amount of damages which the DOE should pay.

In a related decision, the Court of Appeals reversed the decision of the US Court of Federal Claims in the case *Northern States Power Co. v. United States*⁴ (see *Nuclear Law Bulletin* Nos. 63 and

3. *Yankee Atomic Electric Co. v. United States*, case No. 98-126C of 29 October 1998; *Connecticut Yankee Atomic Power Co. v. United States*, case No. 98-154C of 30 October 1998 and *Maine Yankee Atomic Power Co. v. United States*, case No. 98-474C of 3 November 1998.

4. Case No. 98-484C of 6 April 1999.

64). The Court of Federal Claims had concluded that the utility (in that case Northern States Power Co.) had an obligation to pursue remedies with the DOE under the contract and had dismissed the utility's claim for damages.

The Court of Appeals, resolving the apparent inconsistency between the two above-mentioned decisions of the lower court and the issue of whether utilities must first file administrative claims with the DOE under the contractual dispute provision before seeking judicial relief, concluded that the unavoidable delays provisions under the Standard Contract applies to delays arising after the performance of the contract has begun and does not bar a suit in court for damages for the government's failure to commence performance by 1998. While the Court recognised the distinction between the Maine Yankee utility whose reactors are shutdown and the Northern States utility which, having continued to operate nuclear plants and pay fees, might receive an equitable adjustment of charges, it concluded that these factual differences did not warrant a different outcome.

ADMINISTRATIVE DECISIONS

Finland

Decision of the Administrative Court concerning the construction of a permanent repository for spent nuclear fuel (2000)

This decision of the Administrative Court concerns the application by a Finnish company, *Posiva Oy*, to construct a permanent repository for spent fuel originating from two Finnish companies: *Teollisuuden Voima Oy* and *Fortum Power and Heat* (formerly known as *Imatran Voima Oy*) which also own *Posiva Oy*.

Pursuant to Section 11 of the Finnish Nuclear Energy Act, such constructions require the Council of State's decision in principle that the construction project is in line with the overall good of society ("positive decision"). Before making such decision, the Council of State shall ascertain:

1. that the municipality where the facility is planned to be located (in our case, the municipality of Eurajoki) is, in its statement, in favour of the facility; and
2. that the Finnish Radiation and Nuclear Safety Authority (STUK) does not, in its statement, indicate that factors have arisen which indicate that insufficient safety prerequisites have been fulfilled for the construction of such a facility.

A negative decision by the Council of State terminates the project. A positive decision must be submitted to Parliament for examination. Parliament may maintain or reverse a positive decision.

In the case under discussion, *Posiva Oy* applied for a decision in principle on 26 May 1999. All of the necessary background documents were acquired, a general hearing took place, and the statements listed above under (1) and (2) were issued. However, certain residents of Eurajoki challenged the statement issued on 24 January 2000 by the Municipality of Eurajoki which confirmed that the municipality was in favour of the facility. These claims were rejected by the Administrative Court of Turku on 19 May 2000, and the appeal against this ruling is currently pending before the Supreme Administrative Court.

Switzerland

Votes on new energy taxes and early closure of the Mühleberg nuclear power plant (2000)

On 24 September 2000, the Swiss electorate voted to reject three proposals aiming to establish new taxes on non-renewable energy sources, including nuclear-generated electricity, in order to promote, *inter alia*, the use of solar energy.

On the same day, voters in Bern were requested to decide between the continued operation of the Mühleberg nuclear power plant or its early closure in 2002. This cantonal initiative had been launched after the federal government's decision of 28 October 1998 to extend Mühleberg's operating licence until 31 December 2012 (see *Nuclear Law Bulletin* No. 63). The electorate rejected the proposal to close the plant by a majority of 64%.

In the wake of these elections, the Swiss Government issued a statement on 2 October 2000 providing *inter alia* that no limit in duration should be established for the operation of Swiss nuclear installations, as long as prescribed safety levels are observed. This recommendation will be sent to Parliament by March 2001 in the context of the adoption of the revised Atomic Law.

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Argentina

Radiation Protection

Resolution on the Nuclear Emergency Response System (1999)

Resolution No. 25 of the Nuclear Regulatory Authority, adopted on 11 November 1999 (Official Journal of 16 November 1999), aims to establish a system governing procedures to be followed in emergency situations in nuclear installations (SIEN).

Pursuant to the Resolution, the nuclear emergency response system shall be administered and co-ordinated by an Emergency Cabinet, established within the Nuclear Regulatory Authority. The Secretariat of this Cabinet and a Centre for Control of Emergencies, headed by a Director, are also established under the aegis of the Authority. Finally, a Head of Operations is entrusted with the management, at local level, of relations with the representatives of the operator, civil protection bodies and the security forces.

The tasks of the Emergency Cabinet and its Secretariat, the Director of the Centre for Control and the Head of Operations are described in the four annexes accompanying this Resolution.

Radioactive Waste Management

Resolution approving the Standards on the Management of Radioactive Waste (1999)

On 26 November 1999, the Nuclear Regulatory Authority adopted Resolution No. 29 approving Standards AR-10.12. These Standards aim to establish the conditions necessary to ensure the safe management of radioactive waste originating from all nuclear installations and from activities subject to the control of the Regulatory Authority. It does not apply to materials which contain sources of natural radioactivity and which have not been subject to technological processes to concentrate or otherwise alter their natural properties.

The Resolution defines a number of terms related to radioactive waste management, for example, conditioning, confinement, multiple barriers, radioactive waste management, radioactive waste, the system of disposal, processing etc.

The Resolution also describes criteria for management. In particular, it provides for a transfer of liability from the entity responsible for radioactive waste (the holder of a licence to carry out an

activity which produces waste) to the body for radioactive waste management (*Gestionadora de Residuos Radiactivos*).

These Standards entered into force on the date of their publication in the Official Bulletin, *i.e.* 1 December 1999.

Armenia

Organisation and Structure

Decision approving the Statute of ANRA (2000)

On 22 June 2000, the government approved the Statute of the Armenian Nuclear Regulatory Authority (ANRA) in its Decision No. 385. According to this Statute, ANRA reports directly to the government, and the Head of ANRA is appointed and dismissed by the Prime Minister.

ANRA is responsible for the state regulation of nuclear and radiation safety of nuclear facilities and radioactive waste facilities. In this respect, it develops and submits safety regulations and rules to the government; issues and withdraws licences; accredits persons involved in safety activities; performs state accounting of nuclear materials and radioactive waste; etc. ANRA is empowered to enter into and inspect nuclear facilities and sites. It is also responsible for nuclear and radiation emergency response systems.

ANRA submits quarterly reports to the President, the National Assembly and the government on the nuclear and radiation safety situation at installations, and provides both the public and the authorities with information on nuclear and radiation safety.

Belgium

Organisation and Structure

Royal Order setting out the fees to be paid to ONDRAF to establish and maintain an inventory of all nuclear installations and all sites where radioactive substances are located (2000)

The above-mentioned Royal Order, which was adopted on 31 May 2000 and entered into force on 27 July 2000 (*Moniteur belge* of 27 July 2000), is based on the Act of 12 December 1997, which entrusted the National Organisation for Radioactive Waste and Enriched Fissile Material (ONDRAF) with the task of drawing up and maintaining an inventory of all nuclear installations and all sites where radioactive substances are located. This inventory covers all nuclear installations, whether major installations, such as nuclear power plants, or minor installations, such as ionising radiation sources used in hospitals or industry, and irrespective of whether they are in operation, shut down or being decommissioned.

This Order provides ONDRAF with the necessary financial means to carry out this task. For this purpose, it establishes an annual fee payable by operators, licensees or owners of such installations.

These fees shall be used exclusively to cover expenses related to the establishment and maintenance of the inventory.

Third Party Liability

Amendment of the Act on Third Party Liability in the Field of Nuclear Energy (2000)

The Act of 22 July 1985 on Third Party Liability in the Field of Nuclear Energy (see *Nuclear Law Bulletin* Nos. 28, 36 and 37), which establishes the liability of operators of nuclear installations pursuant to the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Supplementary Convention, was amended on 8 June 2000 (*Moniteur Belge* of 4 October 2000). The amendment will enter into force on 1 January 2001.

The maximum amount of the operator's liability is raised from 4 to 12 billion Belgian francs (*i.e.* to just over 200 million Special Drawing Rights) per nuclear accident. Furthermore, where several installations are located on the same site and have the same operator, they are now considered as one single installation.

In addition, the King is authorised to raise or reduce the amount of liability of the operator in order to take into account Belgium's international commitments, or for low-risk installations or transport, on condition that the amount chosen is not less than the minimum amount established by the Paris Convention.

Canada

General Legislation

Nuclear Safety and Control Act (1997)

On 31 May 2000, Canada's new Nuclear Safety and Control Act came into force. Although the Act itself had actually been adopted by the Canadian Parliament on 20 March 1997 (see *Nuclear Law Bulletin* Nos. 60 and 65 for a description of this legislation, and the Supplement to *Nuclear Law Bulletin* No. 60 which reproduces the text of the Act), stakeholder consultations on a wide range of technical and administrative regulations associated with the Act, followed by the requisite regulation approval procedure, took some three years to conclude. The implementing regulations cover in particular nuclear safety and control, radiation protection, Class I nuclear facilities, Class II nuclear facilities and equipment, uranium mines and mills, nuclear substances and radiation devices, packaging and transport of nuclear substances, nuclear security, and import and export control for nuclear non-proliferation purposes.

Together, the new Act and regulations constitute a major modernisation of Canada's nuclear regulatory regime, a regime that now reflects an increased focus on health, safety, security and environmental protection. The Act provides a much stronger legislative base for regulating nuclear activities by giving the newly established regulatory agency, the Canadian Nuclear Safety Commission (CNSC), the necessary powers to regulate all aspects of the nuclear industry. The Act also enables the Commission to help ensure Canada complies with its international commitments with

respect to nuclear non-proliferation, safeguards and security. The new regulations are in keeping with current legal, technical and financial standards, including international standards, particularly in areas such as radiation protection, transportation and physical security.

Under the Act, the CNSC is established as an independent agency of the Government of Canada. Its objectives are to prevent unreasonable risk to the environment, to the health and safety of workers and the public and to national security; to achieve compliance with international treaties and obligations on the peaceful use of nuclear energy; and to provide objective scientific, technical and regulatory information to the public concerning the Commission's activities and concerning the effects of the nuclear industry on health, safety and the environment.

The CNSC has the authority to regulate a broad scope of activities involving nuclear energy or nuclear materials in Canada. These include nuclear power plants, nuclear research reactors and testing establishments, uranium mines and mills, uranium refining and conversion facilities, fuel fabrication facilities, heavy water production plants, radioisotope production and processing facilities, particle accelerators, radioactive waste management facilities, prescribed substances, equipment, information and radioisotopes. In addition, the CNSC is authorised to control the import, export and transportation of nuclear materials and other prescribed substances, nuclear equipment and technology.

In order to recognise the wide range of risks associated with different types of nuclear facilities and to ensure that comparable facilities are licensed and regulated to the same standards, nuclear facilities are now divided into two categories, Class I and Class II: Class I is further divided into IA and IB with the former covering major facilities such as reactors while the latter covers such facilities as medical isotope producers and uranium processors; Class II facilities, which present lower risks, include accelerators and medical and industrial irradiators.

Some of the more important features of the new legislation include:

- strengthened provisions for compliance and enforcement of its requirements, including the power to issue orders, a broader range of offences and sentencing options;
- a re-certification requirement for reactor operators every five years and increasing the ceiling on fines from 10 000 Canadian dollars (CAD) to CAD 1 million;
- mechanisms to ensure that taxpayers are protected from calls on the public purse where licensees are unable to provide decommissioning and waste management costs for their licensed facility due to financial default, such mechanisms consisting of guarantees to be provided by licensees of all major nuclear facilities;
- the establishment of more stringent regulations to ensure the protection of public health, such as the reduction in occupational dose limits, generally based upon the latest recommendations of the International Commission on Radiological Protection (ICRP) from 50 millisievert (mSv) per year to 100 mSv over five years for nuclear energy workers, from 10 mSv per year to 4 mSv per year for pregnant nuclear energy workers, and from 5 mSv per year to 1 mSv per year for members of the public;
- measures requiring hospitals to provide radiation protection information to patients who undergo nuclear medicine therapy;

- the establishment of more stringent regulations to ensure public safety, such as strengthening the requirements governing the packaging and transportation of nuclear materials and tighter security requirements at reactor sites;
- requirements that licence applicants submit information on the effects of their operations on the environment, both for radioactive and non-radioactive hazardous substances so as to help in establishing the operating parameters for a particular nuclear facility.

As a result of Canada's federal system, certain nuclear activities have sometimes been subjected to overlapping or duplicative regulation by both the federal and provincial governments. This has become an issue of particular importance for uranium mining and milling activities and for environmental regulatory requirements for all facilities. The new Act includes provisions that will allow the CNSC to minimise overlap and duplication with provincial requirements. The new legislation, for example, authorises the CNSC to enter into agreements with other jurisdictions that may provide for an integrated regulatory regime in respect of specific activities. It also recognises the possibility of incorporating provincial laws, standards and codes into the Commission's regulations.

The Nuclear Safety and Control Act replaces the Atomic Energy Control Act (see *Nuclear Law Bulletin* Nos. 14, 21, 26, 29, 30, 32, 33, 37, 44 and 49), the legislation governing the nuclear industry since its adoption in 1946. To ensure a smooth transition to the new regime and in recognition of the nuclear industry's need for time to adapt to the new regulations, some of the changes will be phased in over time. Furthermore, given that there are in excess of 4 000 nuclear licences administered by the CNSC, those licences will be revised on a progressive basis, with current licences issued by the CNSC's predecessor the Atomic Energy Control Board, continuing to apply until they expire or are amended. As a result, temporary exemptions from some of the new regulatory requirements will be in effect for a period of between six months and two years, although no temporary exemption will be granted if it would pose an unreasonable risk to health, safety, security or protection of the environment.

Like its predecessor, the CNSC is committed to operating in an open and transparent manner so that the public has the opportunity of becoming involved in the regulatory process for nuclear facilities. The CNSC is required to give notice to the public at least 60 days before the start of a public hearing. CNSC hearings are open to the public, including the media, and both oral and written presentations to the Commission can be made at those public hearings. In keeping with this philosophy, the CNSC is also committed to taking into account the views, concerns and opinions of interested parties and intervenors when establishing policy, making licensing decisions, and implementing programmes.

People's Republic of China

Third Party Liability

Amendment of the Law on Product Quality (2000)

The Law on Product Quality, adopted on 22 February 1993, was amended on 8 July 2000 with effect from 1 September 2000. The amendment contains a new provision (Section 2 of Article 73) relating to nuclear products, which provides that liability for damage caused by nuclear installations and nuclear products shall only be governed by the Law on Product Quality if no specific legislation

on the subject is in force. In this respect, the statement made by the State Council, entitled “Official Written Reply of the State Council concerning the Handling of Third-Party Liability” (Guo Han 1986, No. 44) (see *Nuclear Law Bulletin* No. 61) could be considered to constitute such specific legislation. This is the only legal instrument which addresses nuclear third party liability in China, and it refers to the major principles of the international instruments on nuclear third party liability, in particular the limited, strict and exclusive liability of the operator.

France

Organisation and Structure

Decree on the Atomic Energy Commission (2000)

Decree No. 2000-599 of 29 June 2000 modifies the membership of the Atomic Energy Commission, set out under Section 3 of Decree No. 70-878 of 29 September 1970 on the Atomic Energy Commission (see *Nuclear Law Bulletin* Nos. 6, 28, 30 and 33). The Atomic Energy Commission is now comprised of twelve permanent members under the chairmanship of the Prime Minister or a Minister delegated by him. These twelve members are the General Administrator, the Chief of Staff of the Army, the Secretary General of the Ministry of Foreign Affairs, the General Delegate for Armaments, the Secretary General of the administration of the Ministry of Defence, the Director General for Energy and Raw Materials, the Director General of the Information Technology Industry and the Post Office, the Director of the Budget, the Director for the Safety of Nuclear Installations, the Director for Research, the Director of Technology, the Chairperson of the Board of Governors of the National Centre for Scientific Research, one person chosen by the Prime Minister, one person chosen by the Minister for the Environment and three members qualified in the scientific and industrial field, one of whom assumes the role of High Commissioner.

Decree delegating power of signature to the High Commissioner for Atomic Energy (2000)

Pursuant to Section 2 of the Decree of 11 October 1999 on Major Nuclear Installations Classified as Secret (*installations nucléaires de base secrètes – INBS*) (see *Nuclear Law Bulletin* No. 65), which entrusted the High Commissioner for Atomic Energy with the responsibility of ensuring the safety of all major nuclear installations, both under the aegis of the Ministry for Defence and the Ministry for Industry, the above-mentioned Decree was adopted on 17 July 2000. The purpose of this Decree is to delegate the powers of the Minister for Defence to the High Commissioner, in his role as safety authority, in relation to those INBS which are under the aegis of the Defence Ministry. The Decree specifies that acts or decisions which do not have a direct effect on the availability and the operational application of military nuclear means are excluded from the scope of these delegated powers.

Radiation Protection

Amendment of the Decree on Emergency Plans (2000)

Decree No. 2000-571 of 26 June 2000 amends Decree No. 88-622 of 6 May 1988 on Emergency Plans, adopted in implementation of the 1987 Act on the Organisation of Public Safety Measures, Forestry Protection and the Prevention of Major Risks (see *Nuclear Law Bulletin* No. 40). It aims to extend the application of the 1988 Decree to Major Nuclear Installations Classified as Secret (*installations nucléaires de base secrètes – INBS*) and to amend the provisions concerning special action plans (*plans particuliers d'intervention*). In this respect, all nuclear sites where at least one nuclear installation is located, irrespective of whether or not it has been classified as secret, and which present certain characteristics, should have a special action plan. The definition of such a plan will also concern two new types of installations: units for the production of radioactive materials for military use and units for the fabrication, assembly or implementation of elements containing radioactive material for military use.

Circular on the Prevention of Major Accidents involving Dangerous Substances or Preparations Present in Certain Categories of Installations Classified for Environmental Protection Subject to Licencing (2000)

This Circular of 10 May 2000 aims to clarify the new requirements introduced by Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances (Seveso II Directive) (see *Nuclear Law Bulletin* No. 59) in relation to the following areas:

- the major-accident prevention policy and the safety management systems;
- hazard studies;
- the use of outside experts;
- land-use planning;
- inventory of establishments.

Regime of Nuclear Installations

Decree on the Final Shut-down and Dismantling of the Installation for the Fabrication of Nuclear Fuel Operated by the Franco-Belgian Fuel Fabrication Society at Pierrelatte (2000)

This Decree No. 2000-434, adopted on 22 May 2000 (Official Journal of 25 May 2000), approves the provisions governing activities related to the final shut-down and dismantling of the nuclear fuel fabrication installation at Pierrelatte, in the Drôme region, as established in various texts, subject to the conditions described below. The objective of these provisions is to render the premises of this facility free from any of the obligations which apply to a nuclear installation, in particular through the decontamination of all material or equipment which has a significantly high rate of contamination, discarding or re-cycling such material or equipment, and ensuring the radioactive decontamination of the entire premises.

Pursuant to this Decree, the Franco-Belgian Fuel Fabrication Society (*Société franco-belge de fabrication du combustible*) is required throughout these operations, as operator of the installation, to ensure that the rules governing the protection against the risk of dissemination of radioactivity in the installation or into the environment, and those concerning the protection of workers and the public against exposure to ionising radiation are observed, that the personnel involved in these operations receives adequate training and that all necessary measures are taken to limit radioactive and chemical wastes. It is also responsible during this period for radioactive and non-radioactive waste, and in this respect it must attempt to reduce the volume of such waste and ensure its optimal management. The disposal of radioactive waste should take place at latest six months after the publication of the Decree.

The Decree also establishes the limits of residual activity of the premises and the equipment of the installation. Finally, it provides that when all the activities involving the shut-down and dismantling have been concluded, the installation shall be removed from the list of Major Nuclear Installations.

Germany

General Legislation

Agreement on the future role of nuclear energy (2000)

On 14 June 2000, the Federal Government of Germany and the four main electrical utility companies signed this Agreement in order to restrict the future utilisation of existing nuclear power plants, while guaranteeing however the uninterrupted operation of such plants and the disposal of waste generated therefrom, as long as high safety standards are maintained and the requirements of German nuclear law are met.

The Agreement provides for the application of a residual electricity volume, *i.e.* the maximum volume of electricity which each plant is allowed to generate from 1 January 2000 until its decommissioning, which is calculated on the basis of a standard operating life of 32 calendar years from the commencement of commercial power operation. The right to operate a nuclear power plant will cease when the residual electricity volume, or that volume revised as a result of transfer from another installation, has been generated.

The Parties undertake to apply internationally-recognised high safety standards for the duration of the residual operating life of plants. The utility companies shall carry out safety reviews and submit the results to the supervisory authorities.

The Agreement also sets out requirements in relation to the interim storage, reprocessing and transport of radioactive waste.

On the basis of this Agreement, the government shall prepare a draft Act to Amend the 1959 Atomic Energy Act (see *Nuclear Law Bulletin* Nos. 1-4, 6, 9, 14-18, 34, 37, 44, 45, 47, 54, 59 and 61) to introduce provisions which will ban the construction of new nuclear power plants and provide for the compulsory establishment and use of storage facilities located in the immediate vicinity of nuclear power plants.

The text of this Agreement is available on the web-site of the Federal Environment Ministry at: www.bmu.de/english/fset1024.htm

Ireland

Radiation Protection

Radiological Protection Act 1991 (Ionising Radiation) Order (2000)

The above Order was adopted as Statutory Instrument No. 125 on 11 May 2000, and came into force two days later. It provides for the implementation of 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 ionising radiation (see *Nuclear Law Bulletin* No. 58). The Order also incorporates into domestic law the provisions of Council Directive 90/641/Euratom of 4 December 1990 on the operational protection of outside workers exposed to the risk of ionising radiation during their activities in controlled areas. This Order replaces the provisions of the European Communities (Ionising Radiation) Regulations 1991 (see *Nuclear Law Bulletin* No. 47), the Radiological Protection Act 1991 (General Control of Radioactive Substances, Nuclear Devices and Irradiating Apparatus) Order 1993 (see *Nuclear Law Bulletin* No. 55) and the European Communities (Protection of Outside Workers from Ionising Radiation) Regulations 1994. The above-mentioned 1991 and 1994 European Communities Regulations were revoked following the adoption on 16 May 2000 of Statutory Instrument No. 131.

The main changes introduced in this Order are:

- the inclusion of work activities involving exposure to natural sources of radiation;
- stricter application of existing radiation protection principles through the introduction of lower dose limits, the use of dose constraints in keeping doses as low as reasonably achievable (*i.e.* the optimisation process) and extended application of justification principles;
- the introduction of radiation protection principles for intervention in cases of radiological emergencies or lasting exposures.

Italy

Organisation and Structure

Establishment of the Nuclear Installation Management Company (1999)

Parliamentary Decree No. 79 of 16 March 1999 implements Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity. Certain provisions of this Decree deal with nuclear-generated electricity. It thus provides for the establishment by the National Electricity Company (*Ente Nazionale per*

l'Energia Elettrica – ENEL) of a body responsible for the management of activities related to the shut-down of nuclear power plants, namely the Nuclear Installation Management Company (*Società per la Gestione degli Impianti Nucleari* – SOGIN). SOGIN then formed a consortium with the *Fabbricazioni Nucleari* Company and the National Agency for New Technologies, Energy and the Environment (ENEA) with a view to ensuring the planning and co-ordination of the dismantling of research installations involved in the nuclear fuel cycle belonging to ENEA.

Radiation Protection

Decrees implementing the most recent Euratom Directives in the field of radiation protection (2000)

Parliamentary Decrees Nos. 187 and 241 were adopted on 26 May 2000 (Official Gazette of 7 July and 31 August 2000) pursuant to Community Law No. 25/99 (see *Nuclear Law Bulletin* No. 63).

These Decrees aim to implement Council Directives 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionising radiation in relation to medical exposure and 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 ionising radiation.

Decree No. 187/2000 will enter into force on 1 January 2001 and will repeal the provisions on medical exposure contained in Decree No. 230/95 on the implementation of the Euratom Directives on radiation protection (see *Nuclear Law Bulletin* No. 56 and Supplement to *Nuclear Law Bulletin* No. 58). Decree No. 241/2000, which will also enter into force on 1 January 2001, will amend and complete Decree No. 230/95 taking into account the provisions of Directive 96/29, in particular with regard to natural sources of ionising radiation, intervention and possible exposure.

A note providing further details on these Decrees will be published in the next edition of the *Bulletin*.

Japan

Organisation and Structure

Reorganisation of the Japanese Government in the nuclear sector (2001)

Pursuant to the Government Reorganisation Basic Law (Law No. 103 of 12 June 1998) and various laws related to the administrative reform of central government adopted in July 1999, the structure of the Japanese Government will be re-organised on 1 January 2001. This re-structuring aims to reduce operating costs, to improve efficiency by streamlining the government's structure, and to strengthen the role of the newly-established Cabinet Office.

With regard to the administration of nuclear activities, the Nuclear Safety Commission (NSC) will be transferred from the Nuclear Safety Bureau of the Science and Technology Agency (STA) to the Cabinet Office. The Atomic Energy Commission (AEC) will also be placed within the Cabinet Office. Both Commissions will continue to play a central role in the administration of nuclear

activities, while responsibility for the definition and implementation of policy in this field will be shared by related ministries.

The Ministry of International Trade and Industry (MITI) and the Science and Technology Agency (STA) will also be re-organised. MITI will become the Ministry of Economy, Trade and Industry, and will deal with the uses of nuclear energy, including policy making in this field, technology development and safety regulation of nuclear power plants and the nuclear fuel cycle. STA will merge with the Ministry of Education to become the Ministry of Education, Culture, Sports, Science and Technology. This new Ministry will be responsible for the science and technology aspects of nuclear energy, including policy making in this field; the development of nuclear technologies; safety regulations governing research reactors; protection against radiation hazards; the use and transportation of nuclear materials; the use, storage and transportation of radioisotopes and peaceful uses of nuclear energy (safeguards).

Approval for the establishment of the Nuclear Waste Management Organisation (2000)

In October 2000, the Ministry of International Trade and Industry (MITI) (which will become the Ministry of Economy, Trade and Industry as of 1 January 2001) approved the application to establish a Nuclear Waste Management Organisation. This application was submitted to the MITI by the Federation of Electric Power Companies (FEPCO) on 4 October 2000 pursuant to Article 40 of the Law on Final Disposal of High-Level Radioactive Waste described below. The Organisation is responsible for the final disposal of high-level radioactive waste in Japan as described above.

Radioactive Waste Management

Law on Final Disposal of High-level Radioactive Waste (2000)

On 31 May 2000, the Parliament adopted Law No. 117 on the Final Disposal of High-Level Radioactive Waste, which was published in the Official Gazette on 7 June 2000 and entered into force on 1 November 2000.

This Law provides a legislative framework governing the underground disposal of high level radioactive waste in Japan. It contains provisions governing the definition and implementation of policy and the final disposal plan, the funds to finance such disposal activities and the entity responsible for carrying them out and procedures to be used for site selection. Safety regulations governing final disposal are to be prescribed in other legislation.

The main provisions are as follows:

- The Cabinet shall decide upon the Basic Policy for Final Disposal and the Final Disposal Plan based on a draft submitted by the Ministry of International Trade and Industry (MITI) (which will become the Ministry of Economy, Trade and Industry as of 1 January 2001) and taking into consideration the opinions of both the Atomic Energy Commission and the Nuclear Safety Commission. The Basic Policy shall examine *inter alia* the approach taken in relation to disposal plans, preliminary studies, policy measures designed to promote the understanding of local inhabitants, and development of technology for final disposal of high level radioactive waste.
- The Nuclear Waste Management Organisation is to be established as a private law company, with no funds provided by the government, and is to be licensed and supervised by the Ministry. This Organisation is entrusted with the task of implementing the final disposal of high-level radioactive waste. The operators of nuclear power plants shall pay a specific fee, determined by the Ministry, to this Organisation every year. The final disposal cost per 1 kWh of nuclear power generated is estimated at approximately 0.14 yen (JPY), for the disposal of 40 000 canisters of vitrified waste (the amount of vitrified waste generated from nuclear power generation in Japan from its inception to 2015), the estimated cost will be JPY 3 trillion. High-level waste originating from research and experimental reactors is not subject to an annual fee, but may be accepted by the Organisation for final disposal if this does not disrupt normal business activity.
- In selecting the final disposal site, the Organisation shall follow a three-step procedure. First, it shall select a Preliminary Survey Site, following the results of a survey taking into account geological disturbances caused by earthquakes or other natural phenomena. At that site, tests shall be carried out to determine the stability of the geological stratum, resulting in the choice of a Specific Survey Site. Finally, the Organisation shall select a Final Disposal Site where the final disposal facilities are to be constructed. The Ministry is to review the Final Disposal Plan upon selection of the Final Disposal Site by the Organisation, taking into account the opinions of the governor, the mayor and the head of the village where the site is located.
- The Law specifies that should the Organisation encounter difficulties in continuing operations, the Ministry shall take over its responsibility until such time as appropriate measures, such as the transfer of its operations, shall be established by legislation.

Kazakhstan

Radiation Protection

Requirements for the Quality Assurance Programme on Radiation Safety for Certain Activities connected with the Use of Atomic Energy (1999)

These Requirements, which aim to comply with ISO quality assurance standards, were adopted by the Atomic Energy Committee (AEC) on 1 December 1999. All enterprises using atomic energy under the supervision of AEC are required to comply with this quality assurance programme.

Transport of Radioactive Materials

Regulation on Safe Transport of Radioactive Materials (1999)

This Regulation, adopted by the Atomic Energy Committee on 1 March 1999, is based on the IAEA Safety Standards Series No. ST-1/Requirements – Regulations for the Safe Transport of Radioactive Material – 1996 Edition.

Regulations on the Elimination of Effects of an Accident during the Transportation of Nuclear Materials by Rail and Road (1999)

These Regulations, adopted on 12 October 1999, are based on IAEA Recommendations. They define the main principles and procedure governing interaction between the local and central executive organisations responsible for transportation of radioactive materials by rail and road. They also establish the procedure for eliminating effects of accidents occurring during transportation.

Lithuania

Regime of Nuclear Installations

Law on the Decommissioning of Unit 1 at Ignalina NPP (2000)

Law No. VIII-1661, adopted on 2 May 2000, sets out the legal basis for the decommissioning of Unit 1 at the Ignalina Nuclear Power Plant (INPP). It states that preparatory activities for the decommissioning of Ignalina 1 shall end no later than 1 January 2005. The exact date of its final shut-down shall be decided by the government, following its consideration of a decommissioning programme and a decommissioning plan, including the future financing of such decommissioning by the Republic of Lithuania and sources of international financial assistance.

The government was requested to prepare and approve a decommissioning programme before 1 November 2000. This programme shall provide for the legal, organisational, financial and technical means for the final shut-down of Unit 1, including the decommissioning, dismantling and conservation of the installations; radioactive waste management and disposal; safety measures for the continued operation of Unit 2, and measures to mitigate the negative social, economic and possibly health consequences which may result from the early closure of Ignalina 1. Pursuant to this programme, INPP is to develop a detailed decommissioning plan.

Decommissioning of Ignalina 1 shall be financed from the INPP Decommissioning Fund (established by Decree No. 1403 of 2 November 1995), international financial assistance and bank loans.

Luxembourg

Regulations on Nuclear Trade

Provision on nuclear energy import ban in the Law on the Liberalisation of the Electricity Market (2000)

The Law on the Liberalisation of the Electricity Market, adopted on 23 May 2000, aims to open the market for electricity in Luxembourg to competition. The Law contains a provision which allows the government to reject contracts for the supply of electricity from countries outside the European Union where it is demonstrated that the electricity is generated by facilities whose technology is not state of the art, and which pose a direct or indirect threat to persons, or if the supplier fails to demonstrate a state-of-the-art waste management plan or concept. This provision, inspired by the Austrian Law on the Electricity Market, aims to ban energy imports, including nuclear energy imports, from installations whose safety and waste management do not comply with the standards applied in the European Union, in particular from Soviet-designed nuclear installations.

Netherlands

Organisation and Structure

Transfer of Nuclear Safety Department to Ministry for Housing, Regional Development and the Environment (2000)

Following the adoption of a Royal Decree, the Dutch Nuclear Safety Department (*Kernfysische Dienst – KFD*) was transferred with effect from 1 June 2000 from the Ministry of Social Affairs and Employment to the Ministry for Housing, Regional Development and the Environment.

Portugal

Organisation and Structure

Decree-Law on the National Uranium Undertaking (1999)

Decree-Law No. 376/90 of 30 November 1990, which transformed the National Uranium Undertaking (ENU) into a limited company, also acknowledged its exclusive right to prospect for, extract and market uranium ores in Portugal (see *Nuclear Law Bulletin* Nos. 20 and 44).

On 6 November 1999, Decree-Law No. 468/99 was promulgated in order to extend ENU's rights in this respect to other companies, with a view to ensuring that the Nisa mining project progresses satisfactorily. The companies concerned are required, however, to associate ENU in their work, and must hold a joint licence from the Ministries of Finance and Economic Affairs.

This Decree entered into force on 6 November 1999 when it was published in the Official Journal.

Romania

Radiation Protection

Order on Basic Standards for Radiological Safety (2000)

The President of the National Commission for the Control of Nuclear Activities (CNCAN) issued Order No. 14 approving the Basic Standards for Radiological Safety on 24 January 2000 (published in Official Bulletin Nos. 404 and 404bis/29 August 2000). This Order incorporates into Romanian legislation the principles established in 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 ionising radiation. The standards also take into account the latest recommendations of the International Atomic Energy Agency, Safety Series No. 115/1996, and the International Commission on Radiological Protection (ICRP No. 60/1992).

Regime of Radioactive Materials

Order on Fees for Licensing Activities (2000)

On 26 April 2000, the President of the National Commission for the Control of Nuclear Activities (CNCAN) issued Order No. 104 to approve the Fees for Licensing Activities in the Nuclear Field (published in Official Bulletin No. 358/1 August 2000). This text was adopted in order to adjust the existing fees in relation to the inflation rate. Values in US dollars, however, remain unchanged. Pursuant to Governmental Decree No. 135/1997, published in Official Bulletin No. 73/2 April 1997, all taxes in respect of activities in the nuclear field, which in Romania amount to 10% of the fees, are paid into the state budget, whereas only 50% of the fees are lodged to the state budget and the remaining 50% go to the budget of the regulatory body.

Slovak Republic

To implement the 1998 Law on the Peaceful Use of Nuclear Energy (see *Nuclear Law Bulletin* Nos. 60 and 61, and the Supplement to *Nuclear Law Bulletin* No. 62), the Nuclear Regulatory Authority adopted a series of Decrees and Regulations described below.

Radiation Protection

Decree on Emergency Planning in the Event of a Nuclear Incident or Accident (1999)

The above-mentioned Decree No. 245, which was adopted on 6 September 1999 and entered into force on 1 October 1999, regulates on- and off-site emergency planning; emergency transport

procedures; measures and procedures for the prevention, elimination and mitigation of the effects of accidents; public information; identification of hazardous areas in the vicinity of nuclear facilities; and frequency of emergency exercises.

The nuclear and radiation emergency response system will be put into operation in the event of a release of radioactive materials into the environment from a nuclear facility, spent nuclear fuel or radioactive waste on national territory or abroad, or from nuclear materials during transportation.

The Decree sets out in detail the content of the on-site emergency plan to be developed by the operator, as well as the off-site emergency plan and the emergency transport procedure. It differentiates between three emergency levels (alert, site area emergency and general emergency), setting out measures to be taken at each level. Measures include notification of authorities, public warnings, public protection measures such as recommendations to shelter indoors or evacuation and monitoring of the radiological situation.

Regime of Nuclear Installations

Decree on the Qualifications of Personnel of Nuclear Installations (1999)

The above-mentioned Decree, which was adopted on 21 July 1999 and entered into force on 1 August 1999, sets out the list of nuclear activities which may only be carried out by duly qualified personnel. It further establishes methods and procedures to verify the particular safety qualifications of personnel. The Decree also provides that the Nuclear Regulatory Authority shall issue a certificate to personnel for this purpose, which is valid for two years.

Regulation on Events Occurring in Nuclear Installations (2000)

The above-mentioned Regulation No. 31, which was adopted on 20 January 2000 and entered into force on 15 February 2000, classifies events occurring in nuclear installations into the following categories:

- failures: such as fire on the site of the nuclear installation, or loss or theft of nuclear materials, etc;
- incidents: covers events included in the above category where they cause damage of a non-serious nature to the nuclear installation, damage to the health of employees, contamination or irradiation of persons, leakage of radioactive substances on the premises and the site, etc;
- accidents: serious damage to the nuclear installation, serious health injury, leakage of radioactive substances into the environment, etc.

The Regulation also describes the method of notifying such events to the Nuclear Regulatory Authority, including the time period allowed to provide reports and the content of such reports, methods of determining the cause of events through investigations and reporting to the public on incidents and accidents.

Decree on Documentation on Nuclear Installations during Decommissioning (1999)

The above-mentioned Decree No. 246, which was adopted on 13 September 1999 and entered into force on 1 October 1999, provides details on the scope and contents of documentation which must be submitted by the operator to the Nuclear Regulatory Authority during the evaluation of the revised conceptual plan for the decommissioning of a nuclear installation, for the issue of a decommissioning permit and licences for each individual phase of decommissioning, the renewal of a licence or issue of a permit to change the purpose of a nuclear installation through its reclassification.

Regime of Nuclear Materials (including Physical Protection)

Decree on Accounting for and Control of Nuclear Materials (1999)

The above-mentioned Decree No. 198, which repealed a 1977 Decree of the Czechoslovak Atomic Energy Commission on the same topic, was adopted on 26 July 1999 and entered into force on 1 September 1999.

This Decree defines in detail how to maintain accounting and operating records, carry out inspections of nuclear materials and provide reports and notifications of nuclear materials.

Decree establishing Requirements for the Physical Protection of Nuclear Facilities, Nuclear Materials and Radioactive Waste (1999)

Decree No. 186, which was adopted on 13 July 1999 and entered into force on 1 August 1999, sets out requirements to ensure the physical protection of nuclear facilities, nuclear materials and radioactive waste including the issue of a permit to enter into protected areas. It also lays down criteria to categorise nuclear facilities, nuclear materials and radioactive waste.

Radioactive Waste Management

Regulation establishing Requirements for the Management of Radioactive Waste and Spent Nuclear Fuel (2000)

Regulation No. 190, which entered into force on 1 July 2000, establishes requirements governing the safe management of radioactive waste and spent nuclear fuel. It sets out the procedure and safety requirements to be followed by organisations and their employees who design, build, produce, commission, operate, repair, and decommission nuclear installations during the handling, processing, storage or transport of radioactive waste or during the handling, storage and reprocessing of spent nuclear fuel.

Transport of Radioactive Materials

Decree establishing Requirements for Transport of Radioactive Materials and Waste (1999)

The above-mentioned Decree No. 284, which was adopted on 13 October 1999 and entered into force on 15 November 1999, is based on the IAEA Safety Standards Series No. ST-1 – Regulations for the Safe Transport of Radioactive Material (1996 Edition). It sets out the conditions governing road, rail, water and air transport of radioactive materials, radioactive waste from nuclear facilities and spent nuclear fuel. The Decree establishes the scope and content of the documentation required in order to obtain a permit for the transport of radioactive material. In particular, it establishes prescriptions governing safety and physical protection during the transport of radioactive materials.

Slovenia

Regulations on Nuclear Trade

Act on Export Control of Dual-Use Goods (2000)

This Act was adopted in March 2000 (Official Gazette No. 31/00) in order to enforce the export control of equipment, material and technology which may be used for the production of nuclear, chemical and biological weapons or missile technology ammunition and explosives. In particular, the Act provides that a licence, issued by the Ministry of Economic Relations and Development after consultation of various ministries, is required to export dual-use goods. This licence, which is issued for a renewable period of one year, may be modified or revoked.

In addition to the licensing procedure, the Act determines the obligations of exporters. The Ministry is required to keep a record of licences issued and export operations carried out, and to inspect the dual-use goods and the related documentation, while the customs authorities are responsible for monitoring the export of dual-use goods and assessing exporters' compliance with the terms of the licence.

Finally, the Act provides for penalties in the event of breach of its provisions.

On 18 May 2000, pursuant to the above-mentioned Act, the government issued a Decision setting out the list of dual-use goods, the export of which is subject to licensing.

The new export control regime governing dual-use goods has taken into account the Nuclear Supplier Group measures for nuclear non-proliferation, as set out in IAEA document INFCIRC 254/Parts I and II, as well as the European Union regime for the control of exports of dual-use goods, established in Council Regulation (EC) No. 3381/94 of 19 December 1994.

Spain

Organisation and Structure

Transfer of responsibilities in the field of nuclear energy (1999)

Since May 2000, the activities of the Ministry of Industry and Energy in the field of nuclear energy have been transferred to the Ministry of Economy. The Minister is now responsible for granting licences in respect of nuclear power plants. All other operations involving licences, authorisations and permits, and in general, the previous responsibilities of the Directorate-General for Energy (within the Ministry of Industry and Energy), are now assumed by the Directorate-General for Energy Policy and Mines (within the Ministry of Economy). This Directorate-General is comprised of a number of Sub-directorates, including the Sub-directorate of Nuclear Energy.

Redefinition of the tasks of the Nuclear Safety Council (1999)

Pursuant to Act No. 14/1999, adopted on 4 May 1999, the tasks of the Nuclear Safety Council (NSC) as established in Act No. 15/1980 (see *Nuclear Law Bulletin* No. 25) have been re-defined and broadened. This Act extends the current functions of the NSC in relation to inspection and control of radioactive installations to other tasks related to radioactive waste management and nuclear and radiological emergencies, even where such emergencies do not take place in nuclear or radioactive installations.

In particular, the NSC has now been attributed tasks related to the surveillance of radioactivity in the environment, and to the licensing and control of entities which provide services to nuclear and radioactive installations.

Regime of Nuclear Installations

New Regulations on Nuclear and Radioactive Installations (1999)

Pursuant to Royal Decree No. 1836/1999, adopted on 3 December 1999, new Regulations on Nuclear and Radioactive Installations were approved. These Regulations repeal and replace the Regulations of the same name adopted on 21 July 1972 by Decree No. 2869/1972, as amended on several occasions (see *Nuclear Law Bulletin* Nos. 3, 8, and 10).

The new Regulations introduce a number of changes into the licensing procedures. Nuclear installations are still subject to three different licences: site (preliminary), construction and operating licences. Operators of storage facilities may request and obtain both site and construction licences in one step. The Minister of Economy is now responsible for granting these licences, whereas the Directorate-General for Energy Policy and Mines within the Ministry of Economy delivers other licenses and permits, including those which are necessary for the dismantling and decommissioning of nuclear installations.

Radioactive installations are divided into three categories, and only those in the first category, *i.e.* installations related to the nuclear fuel cycle, are subject to the same procedure as for nuclear

installations. The other two categories are governed by a simplified procedure, which contains nevertheless sufficiently stringent radiological protection provisions to ensure that safety conditions prevail. To this end, the Regulation includes provisions implementing Council Directive 96/29/Euratom laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation (see *Nuclear Law Bulletin* No. 58), and other EU standards. The Minister of Economy is responsible for issuing licences for the first category of radioactive installations; the second and third categories receive their licences from the Directorate-General for Energy Policy and Mines, or in certain cases, this task has been entrusted to the authorities of the Autonomous Communities (regions).

The Nuclear Safety Council (NSC) plays an important role in the above procedure, as no licence, authorisation or permit may be delivered without its prior favourable opinion. Furthermore, the NSC is responsible for inspecting and controlling nuclear and radioactive installations during their life cycle.

Ukraine

Regime of Nuclear Installations

Law on the Licensing of Activities in the Field of Nuclear Energy (2000)

This Law was adopted on 11 January 2000 and entered into force on the same date (see *Nuclear Law Bulletin* No. 65). The text of this legislation is reproduced in the Supplement to this *Bulletin*.

United Kingdom

Organisation and Structure

Re-organisation of the regulatory body responsible for the physical security of the civil nuclear industry (2000)

The Directorate of Civil Nuclear Security within the UK Atomic Energy Authority (UKAEA), responsible for the physical security of the civil nuclear industry, has been renamed the Office for Civil Nuclear Security (OCNS), given new status, and placed under the auspices of the Department of Trade and Industry (DTI). This Office, which operates as an independent unit within the DTI, acts as the government's security regulator and accordingly is responsible for protecting the civil nuclear industry against the threats of terrorism and the dangers of nuclear weapons proliferation. One of its specific tasks is to set out security requirements for nuclear sites and the use, storage and transport of special nuclear materials. This role includes, for instance, setting the right staffing levels for the police who guard the various sites. In light of the changes to the role of the UKAEA, the UK Government believes that it is no longer appropriate for such security assessment functions to be carried out under the auspices of the UKAEA. The OCNS will report annually to the Minister for Energy, and will be advised by an advisory board.

United States

Organisation and Structure

Establishment of the National Nuclear Security Administration (2000)

Pursuant to Title 32 of the National Defence Authorisation Act for Fiscal Year 2000 (Public Law 106-65), the National Nuclear Security Administration (NNSA) was established as a separate agency within the US Department of Energy (DOE) on 1 March 2000.

The mission of the NNSA is to carry out the national security responsibilities of the DOE including maintenance of a safe, secure and reliable stockpile of nuclear weapons and associated materials capabilities and technologies; promotion of international nuclear safety and non-proliferation; and administration and management of the naval nuclear propulsion programme.

To this end, the NNSA is required to:

- enhance US national security through the military application of nuclear energy;
- maintain and enhance the safety, reliability, and performance of the US nuclear weapons stockpile, including the ability to design, produce, and test, in order to meet national security requirements;
- provide the US Navy with safe and militarily effective nuclear propulsion plants and to ensure the safe and reliable operation of those plants;
- promote international nuclear reactor safety and non-proliferation;
- reduce the global danger posed by weapons of mass destruction; and
- support programmes for the storage and disposal of surplus fissile materials, including highly enriched uranium and plutonium.

The NNSA is headed by an Administrator for Nuclear Security who is the DOE Under Secretary for Nuclear Security.

Environmental Protection

Cross-Border Co-operation and Environmental Safety in Northern Europe Act (2000)

This Act (Public Law 106-255), adopted on 2 August 2000, aims to supplement the programme entitled “The United States Northern Europe Initiative (NEI)”, established pursuant to the 1997 Agreement between the United States and the countries of Northern Europe (*i.e.* Belarus, Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Poland, the north-west region of the Russian Federation and Sweden). This programme aims to promote stability in the Baltic Sea region and to strengthen key institutions and security structures of the US and the countries of Northern

Europe. The Initiative focuses in particular on environmental problems in the region, in particular those posed by nuclear waste and spent nuclear fuel management.

The Act provides that the United States will provide (a) Eastern Europe and the Baltic States and (b) the Independent States of the Former Soviet Union with an amount of not less than 2 million US dollars for each group to assist them in implementing NEI projects.

The Act furthermore calls upon the Russian Federation to rapidly conclude pending nuclear waste management agreements to enable assistance programmes to go forward.

Third Party Liability

Energy Employees Occupational Illness Compensation Programme Act (2000)

On 6 October 2000, the Congress adopted this Act to ensure that persons having performed activities related to nuclear weapons production and testing programmes of the Department of Energy (DOE) receive uniform and adequate compensation for illnesses and diseases resulting from exposure to beryllium or ionising radiation. For this purpose, the Act provides for the establishment of an Energy Employees Occupational Illness Compensation Programme and Fund. This Fund will be financed by the General Fund of the Treasury.

Pursuant to this Act, the President is required to submit a bill to Congress no later than 15 March 2001 in order to implement the compensation programme. This bill will determine in particular the types of compensation and benefits, including lost wages and medical benefits, to be provided under the compensation programme; and whether to expand the regime to include other illnesses associated with exposure to toxic substances.

Under this legislation and from 31 July 2001, an employee or his survivors will be eligible to receive 150 000 US dollars (USD) in compensation for disability or death resulting from an occupational illness, plus prospective medical payments. Uranium miners and millers with cancer and lung disease will also be eligible to receive, in addition to the sum awarded under the 1990 Radiation Exposure Compensation Act (see *Nuclear Law Bulletin* No. 47), USD 50 000 plus medical benefits.

INTERNATIONAL REGULATORY ACTIVITIES

International Atomic Energy Agency

Resolutions adopted by the IAEA General Conference (2000)

The 44th Session of the IAEA General Conference was held in Vienna from 18 to 22 September 2000 with delegations from 130 Member States and representatives of various international organisations in attendance. Resolutions were adopted *inter alia* in the following areas.

Nuclear, Radiation and Waste Safety

The Conference adopted a number of Resolutions to strengthen international co-operation in these fields. In Resolution No. 11, “Measures to Strengthen International Co-operation in Nuclear, Radiation and Waste Safety”, the General Conference appeals to all Members which have not taken the necessary steps to become Party to the Convention on Nuclear Safety, and to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, to do so as well as to consider means of ensuring wide application of the Code of Conduct on the Safety and Security of Radioactive Sources. It also urges the Agency Secretariat to complete the corpus of IAEA safety standards. Resolution No. 12, “The Safety of Radioactive Waste Management”, invites Member States to take the decisions necessary for the implementation of a national radioactive waste management policy. Resolution No. 13, “Education and Training in Radiation Protection and Nuclear Safety and Waste Management”, stresses the importance of education and training in this area and urges the Secretariat to strengthen its current efforts in this field. Resolution No. 14, “The Safety of Nuclear Research Reactors”, calls upon all Member States with research reactors to ensure that those reactors are subject to strict safety and radiation protection arrangements. Resolution No. 15, “Radiological Criteria for Long-lived Radionuclides in Commodities (especially Foodstuffs and Wood)”, requests the Secretariat to develop such radiological criteria in collaboration with the competent organs of the United Nations and with the specialised agencies concerned. Lastly, Resolution No. 17, “Safety of Transport of Radioactive Materials”, encourages Member States to bring their national regulatory documents governing such transport into line with the 1996 edition of the IAEA Transport Regulations, and also requests that Member States make use where appropriate of the Transport Safety Appraisal Service established by the IAEA Secretariat with a view to achieving the highest possible levels of safety during the transport of radioactive materials.

Strengthening IAEA Technical Co-operation Activities

Resolution No. 18 encourages the continuation of the Agency’s Technical Co-operation Strategy on the development of effective programmes aimed at improving the scientific, technological and regulatory capabilities of developing countries, through provision of support regarding peaceful uses of atomic energy and nuclear technologies and production of nuclear energy. The Resolution

emphasises that these programmes should contribute to the achievement of sustainable development, particularly in the least developed countries.

Strengthening the IAEA's Safeguards System

In Resolution No. 19, "Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System and Application of the Model Protocol", the General Conference welcomes the fact that 53 states and other parties to safeguards agreements have signed Additional Protocols aimed at strengthening the effectiveness and improving the efficiency of the safeguards systems. It urges all Signatories to bring these Protocols into force as soon as possible. In Resolution No. 25, "Outcomes of the NPT Review Conference Relevant to the Activities of the IAEA", the General Conference notes with appreciation that the Parties to the NPT were able to adopt by consensus a final document which includes both forward-looking elements and a thorough review of the operation of the Treaty.

Safeguards in the Democratic People's Republic of Korea (DPRK)

Resolution No. 26 expresses the General Conference's concern that the Agency remains unable to verify the correctness and completeness of the initial declaration of nuclear material made by the DPRK. It urges the DPRK to come into full compliance with its 1992 Safeguards Agreement with the IAEA, to co-operate fully and promptly with the Agency in its implementation and to take all steps the Agency deems necessary to preserve information relevant to verifying the accuracy and completeness of the DPRK's initial report on the inventory of nuclear material subject to safeguards, until the DPRK comes into full compliance with the Agreement.

Application of IAEA Safeguards in the Middle East

Resolution No. 28 reaffirms the urgent need for states in the Middle East to accept forthwith the application of full-scope Agency safeguards to all their nuclear activities as a step towards establishing a nuclear-weapon-free zone in that region. In this respect, it calls upon all states concerned to take the steps required for the establishment of such a zone and to adhere to international non-proliferation regimes.

Illicit Trafficking in Nuclear Materials

Resolution No. 20 welcomes the Agency's ongoing activities in the fields of prevention, response and information exchange in support of efforts against illegal trafficking and invites all states to participate in the illicit trafficking database programme.

Nuclear Inspections in Iraq

In Resolution No. 27, the General Conference invites Iraq to implement all relevant UN Security Council resolutions and to guarantee the necessary access to enable the Agency to carry out its mandate. It urges Iraq to submit the semi-annual declarations required by the Agency's ongoing monitoring and verification plan, and requests the IAEA to focus initially on regaining a level of knowledge of the status of Iraq's nuclear-related assets, along with any other aspect of Iraq's clandestine nuclear programme that may come to its attention.

European Union

Amendments to the 1990 Regulation on Imports of Agricultural Products originating in Third Countries following the Chernobyl Accident (2000)

The European Commission has adopted two Regulations modifying the provisions relating to the application of Council Regulation (EEC) No. 737/90 on the conditions governing imports of agricultural products originating in third countries following the accident at the Chernobyl nuclear power station (see *Nuclear Law Bulletin* No. 45).

First, Commission Regulation (EC) No. 1609/2000 of 24 July 2000 (EC OJ L 185, 25 July 2000) establishes a new list of products excluded from the application of Regulation (EEC) No. 737/90. Most agricultural products currently imported from third countries into the European Union are free of radioactive contamination from the Chernobyl accident or are so slightly contaminated as to pose a negligible risk to health.

Secondly, Commission Regulation (EC) No. 1627/2000 of 24 July 2000 (EC OJ L 187, 26 July 2000) amends Commission Regulation (EC) No. 1661/1999 of 27 July 1999 laying down detailed rules for the application of Council Regulation (EEC) No. 737/90 (see *Nuclear Law Bulletin* No. 64) by adding a number of customs offices on French territory to the list of customs offices in which products listed in Annex I of the Council Regulation may be declared for free circulation in the European Union.

Commission Recommendation on the Monitoring of the Levels of Radioactivity in the Environment by the Member States of the European Union (2000)

On 8 June 2000, the European Commission adopted Recommendation 2000/473/Euratom on the application of Article 36 of the Euratom Treaty concerning the monitoring of the levels of radioactivity in the environment for the purpose of assessing the exposure of the population as a whole (EC OJ L 191, 27 July 2000).

The Member States are required to inform the Commission of the levels of radioactivity to which the population as a whole is exposed in every Member State. The Recommendation lays down details as regards this reporting procedure. It includes *inter alia* requirements for the monitoring networks, types of measurements and periodicity.

Transfer of responsibilities for nuclear safety issues (2000)

In September 2000, the European Commission adopted a decision which aims to withdraw responsibilities for nuclear safety issues from its Directorate General for the Environment. Nuclear safety issues will now be assigned to the following Directorates: the Directorate General for Transport and Energy will be responsible for nuclear safety within the European Union; the Directorate General for Enlargement for safety issues in the framework of assistance to EU candidate countries; and the Directorate General for External Relations for nuclear safety issues in the New Independent States.

AGREEMENTS

BILATERAL AGREEMENTS

Argentina – Bulgaria

Co-operation Agreement in the Field of Peaceful Use of Nuclear Energy (2000)

Argentina and Bulgaria signed this Agreement on 1 August 2000. Co-operation extends to the following activities:

- theoretical and practical research related to the peaceful use of nuclear energy;
- research, development, design, construction and operation of research and power reactors and nuclear fuel cycle facilities;
- management of radioactive waste and spent nuclear fuel;
- industrial production of components, equipment and materials to be used in nuclear reactors and the nuclear fuel cycle;
- nuclear technology in medicine, agriculture, industry and hydrology;
- radiation protection and nuclear safety and their regulation, assessment of the radiological impact of nuclear energy and the nuclear fuel cycle;
- technology on nuclear safeguards and physical protection.

Under the Agreement, such co-operation may take place through mutual assistance related to education and training of scientific and technical personnel; exchange of experts, scientists, technicians and lecturers; reciprocal consultations on scientific and technological problems; establishment of working groups to carry out specific studies and projects for the development of scientific and technological research; reciprocal supply of materials, equipment and services; and exchange of information and documentation.

Argentina – Romania

Memorandum of Understanding for Co-operation in the Peaceful Uses of Nuclear Energy (1999)

Pursuant to the provisions of the Agreement for Co-operation in the Peaceful Uses of Nuclear Energy signed by the Government of Romania and the Government of Argentina on 27 November 1990 (see *Nuclear Law Bulletin* No. 53), the National Commission for the Control of Nuclear Activities of Romania (CNCAN) and the National Atomic Energy Commission of Argentina (CNEA) signed a separate Memorandum of Understanding on 15 July 1999. It entered into force on 8 May 2000. This Memorandum aims to develop bilateral co-operation in the following fields:

- nuclear fuel cycle;
- nuclear reactor technology;
- personnel training;
- radioactive waste management and spent nuclear fuel storage; and
- heavy water production.

With regard to the nuclear fuel cycle, the Parties shall collaborate in the fields of the processing of uranium ores, optimisation of the UO₂ fabrication process, and quality assurance of zircaloy tubes.

The Memorandum also provides for exchange of information on CANDU technology.

In the field of radioactive waste management, the Parties shall exchange experience in relation to management of the shut-down of uranium mines and uranium processing plants and to environmental reinstatement. Joint studies on the dry storage of spent nuclear fuel and on strategies for the final disposal of nuclear fuel are also planned.

Australia – New Zealand

Agreement concerning the Transfer of Uranium (1999)

On 14 September 1999, the Governments of Australia and New Zealand signed this Agreement to ensure the non-proliferation of nuclear weapons. It was concluded as a result of New Zealand's decision to import small quantities of uranium oxide U₃O₈ for commercial use.

The Agreement specifies the maximum quantities of uranium which will be transferred from Australia to New Zealand and the conditions of this transfer. Australia shall have the right to undertake such verification activities as it considers appropriate to ensure that New Zealand complies with all the obligations and terms of the Agreement. New Zealand shall provide Australia on request with written reports on the quantity, location and utilisation of uranium and on any verification activities conducted by the IAEA under the Safeguards Agreement between IAEA and New Zealand.

This Agreement is concluded for an unlimited period.

Australia – United States

Agreement for Co-operation concerning Technology for the Separation of Isotopes of Uranium by Laser Excitation (SILEX Agreement) (1999)

This Agreement was signed by the Government of Australia and the Government of the United States on 28 October 1999 to extend their peaceful nuclear co-operation concerning research on and development and use of SILEX technology, while protecting the environment from radioactive, chemical and thermal contamination.

The Agreement provides for transfer of restrictive data, sensitive nuclear technology, sensitive nuclear facilities and major critical components related to SILEX technology. These transfers will be accomplished through reports, data banks, computer programmes, conferences, visits and assignment of staff to facilities. Fields covered by such transfers will include *inter alia* research and development, design, construction, operation, maintenance and use of sensitive nuclear facilities for SILEX technology.

The Agreement also sets out restrictions regarding the reprocessing, alteration and enrichment of material used in or produced through the use of sensitive nuclear facilities. Also, major critical components shall not be reprocessed.

The Parties are required to maintain adequate physical protection with respect to special nuclear material used in or produced through the use of sensitive nuclear facilities and major critical components.

The use of facilities, components, material, data and technology transferred for any nuclear explosive device, for research on or development of any nuclear explosive device or for any military purpose is forbidden.

The Parties undertake to consult to identify the international environmental implications arising from such activities and shall co-operate in protecting the international environment from radioactive, chemical and thermal contamination arising from nuclear activities under this Agreement, and in related matters of health and safety.

The Agreement contains annexes governing in particular access to restricted data, sensitive nuclear technology, sensitive nuclear facilities, and major critical components, and control of information and equipment.

This instrument is valid for a period of 30 years, which may be extended for additional periods.

Australia – Euratom

Implementing Arrangement concerning Plutonium Transfers (1998)

This Arrangement, which was signed by the Government of Australia and Euratom on 28 May 1998 and entered into force on 7 May 1999, implements the Agreement concerning Transfers of Nuclear Material from Australia to Euratom of 21 September 1981.

Pursuant to this Arrangement, Australia expresses its consent to the retransfer from Euratom to Japan of plutonium, including plutonium contained in MOX fuel elements, where such plutonium is subject in Euratom to the Agreement on Nuclear Transfers and has been recovered from spent fuel which was subject in Japan to the 1982 Agreement between Australia and Japan for Co-operation in the Peaceful Uses of Nuclear Energy (see *Nuclear Law Bulletin* No. 30).

The Agreement also sets out the conditions under which such retransfers shall take place.

Austria – Belarus

Agreement on Exchange of Information in the Field of Nuclear Safety and Protection against Ionising Radiation (2000)

Austria and Belarus signed this Agreement of unlimited duration on 9 June 2000. Under the Agreement, each Party undertakes to notify the other of any nuclear accident, or any significant incident which is non-nuclear in nature but which may result in a nuclear incident or accident, without delay. The Agreement also provides that meetings of experts of the Parties shall be held biannually.

Canada – Romania

Administrative Understanding implementing the Agreement for Co-operation in the Development and Application of Atomic Energy for Peaceful Purposes (2000)

Pursuant to the provisions of the Treaty on the Non-Proliferation of Nuclear Weapons, the Government of Romania and the Government of Canada signed an Agreement for Co-operation in the Development and Application of Atomic Energy for Peaceful Purposes on 24 October 1977. This Agreement provided that the governmental authorities should conclude an administrative understanding to facilitate the effective implementation of the obligations assumed by the Parties. Therefore the former Atomic Energy Control Board of Canada, now the Canadian Nuclear Safety Commission, and the National Commission for the Control of Nuclear Activities of Romania signed the above-mentioned Administrative Understanding on 23 and 29 May 2000 respectively.

The Administrative Understanding provides that each Party shall provide the other with an annual report on all equipment, facilities, material, nuclear material, and information subject to IAEA safeguards. It establishes guidelines on how this report should be drafted, and sets out the procedure for its submission. This Administrative Understanding also determines how the principles of equivalence and proportionality should be applied when reporting on nuclear material, and describes specific procedures for transfers of equipment, material, facilities or information, both directly and through third parties, and for retransfers.

The Annexes contain standard forms for notification of transfers.

People's Republic of China – Russian Federation

Co-operation Agreement on the Construction of a Fast-breeder Reactor in China (2000)

In April 2000, the People's Republic of China and the Russian Federation signed an Agreement on assistance to be provided by the Russian Federation to the People's Republic of China for the construction of an experimental fast-breeder reactor. The Agreement entered into force on the day of signature thereof for a period of ten years.

Under the Agreement, the Russian Federation shall supply the People's Republic of China with certain equipment and provide assistance in carrying out specific work. The reactor is due to be commissioned in 2005.

The Agreement provides that the People's Republic of China shall not use nuclear material, technology, equipment and special non-nuclear materials exported by the Russian Federation, or any of their derivatives, to manufacture nuclear weapons or for military purposes.

France – Italy

Addendum to Co-operation Agreement on Reactors of the Future and Advanced Technology (2000)

A Co-operation Agreement on Reactors of the Future and Advanced Technology was signed by the French Atomic Energy Commission (CEA) and the Italian National Agency for New Technologies, Energy and the Environment (ENEA) on 11 April 1990. The third Addendum to this Agreement, signed on 21 July 2000, aims to widen the co-operation between the two bodies in the field of general research on energy, in particular on renewable energy sources, fossil and non-fossil fuels and energy savings. This co-operation is to be developed in three fields of research as follows:

- energy;
- innovative technologies for energy;
- protection of man and the environment.

France – Russian Federation

Agreement on Third Party Liability for Nuclear Damage (2000)

This Agreement was signed on 20 June 2000 by the French Secretary of State for Industry and the Russian Ministry of Atomic Energy. It governs questions of third party liability for nuclear damage caused on Russian territory as a result of deliveries from the French Republic for nuclear installations in the Russian Federation.

It establishes the responsibilities of each Party in the event of faulty operation of equipment. It provides in particular that the liability for nuclear damage is channelled to the Russian Party in the

event of a nuclear accident involving equipment or technology provided by France. The Russian Party exempts the French Party from its third party liability, except in the case of deliberate action on the part of France or French suppliers, or where the French Party does not inform the Russian Party of claims for compensation within reasonable time limits.

This Agreement shall cease to have effect upon the entry into force, for the Russian Federation, of an international treaty on third party liability for nuclear damage, to which France is a Party, or alternatively 12 months after the date of reception of a written notification from one of the Parties.

This Agreement is reproduced in the Chapter “Texts” of this edition of *the Nuclear Law Bulletin*.

France – Slovenia

Arrangement for the Exchange of Information and Co-operation in the Field of Nuclear Safety (2000)

The Slovene Nuclear Safety Administration and the French Directorate for the Safety of Nuclear Installations signed this Arrangement on 18 February 2000. Pursuant to its terms, information shall be exchanged in the form of letters, reports and other documents. Periodical visits and meetings shall also be organised. Information received may be freely disseminated as long as any applicable property rights or confidentiality provisions are applied.

The Arrangement is concluded for a period of five years, which may be extended by written notice of the Parties.

France – United States

Memorandum of Understanding on Co-operation relating to Future Nuclear Technology (2000)

The US Department of Energy (DOE) and the French Atomic Energy Commission signed this Memorandum of Understanding on 18 September 2000 with a view to developing advanced nuclear reactor technology and accelerator transmutation of waste. The Memorandum provides for joint planning of the use of existing research and development resources and the establishment of a joint research programme on fuel and materials for reactors of the next generation and of the future. Such co-operation also covers research and development on innovative transmutation systems and on medical and industrial applications of radioisotopes.

A Joint Supervisory Committee shall be created to supervise the implementation of this Memorandum. Under its authority, groups of experts shall be responsible for implementing co-operation activities.

France – CERN

Convention on the Safety of Research Installations situated on French Territory (2000)

This Convention, signed on 11 July 2000 between France and the European Organisation for Nuclear Research (CERN), is complementary to the Convention of 28 April 1972 on Protection against Ionising Radiation. It aims in particular to guarantee the safety of operations related to the dismantling of the Large Electron-Proton Collider (LEP) and the safety of the Large Hadron Collider (LHC) and the Super Proton Synchrotron (SPS). This Convention will remain in force until these installations are dismantled and the site completely rehabilitated.

Japan – Russian Federation

Memorandum of Understanding on Co-operation in the Fields of Denuclearisation, Disarmament and Non-proliferation in the Russian Federation (2000)

This Memorandum was signed by the Japanese Minister of Foreign Affairs and the Russian Minister for Atomic Energy on 4 September 2000 in order to continue co-operation between both Parties and to implement a programme of assistance for the Russian Federation, as already provided for by an Agreement signed in October 1993 by the same Parties.

According to the Memorandum, both governments undertake to pursue their joint research projects related to the dismantling and disposal of decommissioned Russian nuclear submarines in the naval bases of Eastern Siberia and to the safe management and disposal of MOX fuel deriving from Russian surplus weapons grade plutonium.

In addition, the Japanese Government will continue to support the activities of the International Science and Technology Center (ISTC) in order to promote the conversion of military resources to the private sector in Russia and expand its assistance for the re-education of military personnel in the Far East.

Furthermore, the Russian Government will make every effort to accede to the 1993 Amendment to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, and to cease dumping of radioactive waste into the sea pending its accession.

Kazakhstan – United States

Agreement for Co-operation concerning the Peaceful Uses of Nuclear Energy (1997)

This Agreement, signed by Kazakhstan and the United States on 18 November 1997, covers the following fields of activity:

- development, design, construction, operation, maintenance, use, and decommissioning of reactors;

- use of radioactive material in physical and biological research, medicine, agriculture and industry;
- the fuel cycle, including nuclear fuel supply and appropriate techniques for radioactive waste management;
- safeguards and physical protection of materials, equipment and components;
- protection of public health and the environment.

Republic of Korea – Slovenia

Arrangement for the Exchange of Information and Co-operation in the Field of Nuclear Safety (2000)

On 7 January 2000, the Slovene Nuclear Safety Administration and the Government of the Republic of Korea signed the above-mentioned Arrangement which implements the Agreement on Scientific and Technological Co-operation concluded between the Government of Slovenia and the Government of the Republic of Korea in 1994. The Arrangement provides for the exchange of technical information relating to safety of nuclear facilities and training of safety personnel.

The Arrangement is concluded for a period of five years which may be extended by written agreement of the Parties.

Russian Federation – United States

Agreement related to the Disposal of Weapons-grade Plutonium (2000)

In June 2000, the Russian Federation and the United States signed an Agreement providing for the disposal of weapons-grade plutonium. Under this Agreement, each Party shall dispose of at least 34 metric tonnes (MT) of weapons-grade plutonium by using it as fuel in reactors or by immobilising it with high-level radioactive waste, and then ultimately disposing of it in a geological repository. Each Party is to seek to commence operation of such plutonium conversion and MOX fabrication facilities by 2007, to achieve a disposition rate of at least 2 MT of weapons-grade plutonium per year and, working with other States, to identify additional capacities to double that rate.

The Agreement bans reprocessing of the MOX fuel until all 34 MT have been disposed of. After that, any reprocessing of MOX fuel shall be done under mutually agreed monitoring measures. Any additional plutonium designated in the future as excess with regard to defence needs can be disposed of under these same terms and conditions.

The Agreement recognises the need for international financing and assistance for the Russian Federation to fulfil the obligations of the Agreement.

Slovak Republic – United States

Renewal Arrangement for the Exchange of Technical Information and Co-operation in Nuclear Safety Matters (2000)

This Arrangement was signed by the Nuclear Regulatory Authority of the Slovak Republic (UJDSR) and the Nuclear Regulatory Commission of the United States (USNRC) on 21 September 2000 to extend a previous Arrangement on the same subject signed on 10 November 1994.

The new Arrangement provides for:

- exchange of technical information relating to the regulation of safety, safeguards, radioactive waste management and the environmental impact of nuclear facilities, and to nuclear safety research programmes;
- co-operation on joint programmes and projects for nuclear safety research and development;
- assistance granted by the USNRC to the UJDSR related to training of UJDSR safety personnel.

The exchange of information will be performed through exchange of letters, reports and other documents and by visits and meetings. An administrator will be designated by each Party to coordinate its participation in the overall exchange.

This Agreement entered into force upon its date of signature for a period of five years, which may be extended for a further period of time by written agreement of the Parties.

Slovenia – South Africa

Arrangement for the Exchange of Technical Information and Co-operation in the Regulation of Nuclear Safety (1999)

This Arrangement was signed by the Slovene Nuclear Safety Administration (SNSA) and the Council for Nuclear Safety of South Africa on 15 December 1999. On the basis of a mutual interest in, and in compliance with the provisions of, the Convention on Nuclear Safety, the Parties shall exchange reports and documents on technical safety, operating experience, and relevant procedures, as well as safety-related decisions and regulatory standards. It also provides for the early notification of significant events, and the Parties shall inform each other on intervention levels and emergency planning to the extent permitted under domestic legislation.

Periodical meetings shall be held and information received may be disseminated freely subject to its confidential nature or any applicable property rights.

The Arrangement is concluded for a period of five years, which may be extended by written agreement of the Parties.

MULTILATERAL AGREEMENTS

Convention for the Protection of the Marine Environment of the North-East Atlantic: Annual Meeting of the OSPAR Commission (2000)

The Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention), which was adopted on 22 September 1992 and entered into force on 25 March 1998 (see *Nuclear Law Bulletin* Nos. 50 and 61), established the so-called OSPAR Commission, which is responsible for the administration of this Convention. During its Annual Meeting held in June 2000, the Contracting Parties¹ agreed to adopt national plans aiming to reduce or to eliminate discharges of radioactive substances into the sea. The objective is to implement the OSPAR Strategy with regard to Radioactive Substances, adopted at the Meeting of the Commission in July 1998. This Strategy states that, by 2020, the Commission must ensure that discharges, emissions and losses of radioactive substances are reduced to levels where the additional concentrations in the marine environment are close to zero.

With a view to reducing and eliminating discharges, emissions and losses of radioactive substances, especially from nuclear fuel reprocessing, the Contracting Parties also decided to review current authorisations for discharges or releases of radioactive substances from reprocessing facilities so as to implement the non-reprocessing option (such as dry storage) for spent nuclear fuel. However, the two countries operating reprocessing plants, *i.e.* France (facility at La Hague) and the United Kingdom (facility at Sellafield), abstained from voting and accordingly are not bound by this Decision.

Status of Conventions in the Field of Nuclear Energy

1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and its 1996 Protocol

As of 7 November 2000, there are 78 states Party to this Convention and 11 to its 1996 Protocol, as set out in the table below.

Status of ratifications, acceptances, approvals, accessions or successions

State	Date of ratification of the Convention	Date of ratification of the Protocol
Afghanistan	2 April	1975
Antigua and Barbuda	6 January	1989
Argentina	11 September	1979
Australia	21 August	1985
Azerbaijan	1 July	1997

1. Belgium, Denmark, European Community, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Spain, Switzerland and United Kingdom.

State	Date of ratification of the Convention		Date of ratification of the Protocol	
Barbados	4 May	1994		
Belarus	29 January	1976		
Belgium	12 June	1985		
Bolivia	10 June	1999		
Brazil	26 July	1982		
Canada	13 November	1975	15 May	2000
Cape Verde	26 May	1977		
Chile	4 August	1977		
China, People's Rep. of	14 November	1995		
Congo, Democratic Rep. of	16 September	1975		
Costa Rica	16 June	1986		
Côte d'Ivoire	9 October	1987		
Croatia	8 October	1991		
Cuba	1 December	1975		
Cyprus	7 June	1990		
Denmark	23 October	1974	17 April	1997
Dominican Republic	7 December	1973		
Egypt	30 June	1992		
Finland	3 May	1979		
France	3 February	1977		
Gabon	5 February	1982		
Georgia			18 April	2000
Germany	8 December	1977	16 October	1998
Greece	10 August	1981		
Guatemala	14 July	1975		
Haiti	28 August	1975		
Honduras	2 May	1980		
Hungary	5 February	1976		
Iceland	24 May	1973		
Iran, Islamic Republic of	13 January	1997		
Ireland	17 February	1982		
Italy	30 April	1984		
Jamaica	22 March	1991		
Japan	15 October	1980		
Jordan	11 November	1974		
Kenya	7 January	1976		
Kiribati	12 May	1982		
Korea, Republic of	21 December	1993		
Libyan Arab Jamahiriya	22 November	1976		
Luxembourg	21 February	1991		
Malta	28 December	1989		

State	Date of ratification of the Convention		Date of ratification of the Protocol	
Mexico	7 April	1975		
Monaco	16 May	1977		
Morocco	18 February	1977		
Nauru	26 July	1982		
Netherlands	2 December	1977		
New Zealand	30 April	1975		
Nigeria	19 March	1976		
Norway	4 April	1974	16 December	1999
Oman	13 March	1984		
Pakistan	9 March	1995		
Panama	31 July	1975		
Papua New Guinea	10 March	1980		
Philippines	10 August	1973		
Poland	23 January	1979		
Portugal	14 April	1978		
Russian Federation	30 December	1975		
Saint Lucia	23 August	1985		
Seychelles	29 October	1984		
Slovenia	25 June	1991		
Solomon Islands	6 March	1984		
South Africa	7 August	1978	23 December	1998
Spain	31 July	1974	24 March	1999
Sweden	21 February	1974		
Switzerland	31 July	1979	8 September	2000
Surinam	21 October	1980		
Tonga	8 November	1995		
Trinidad and Tobago			6 March	2000
Tunisia	13 April	1976		
Ukraine	5 February	1976		
United Arab Emirates	9 August	1974		
United Kingdom of Great Britain and Northern Ireland	17 November	1975	15 December	1998
United States	29 April	1974		
Vanuatu	22 September	1992	18 February	1999
Yugoslavia	25 June	1976		

1979 Convention on Physical Protection of Nuclear Material

Since the last update in *Nuclear Law Bulletin* No. 53, 18 states have become Contracting Parties to this Convention. As of 7 November 2000, there are 68 Parties to this Convention, as set out in the table below.

Status of signatures, ratifications, acceptances, approvals, accessions or successions

State	Date of Signature		Date of Deposit of Instrument	
Antigua and Barbuda			4 August	1993 (accession)
Argentina	28 February	1986	6 April	1989 (ratification)
Armenia			24 August	1993 (accession)
Australia	22 February	1984	22 September	1987 (ratification)
Austria	3 March	1980	22 December	1988 (ratification)
Belarus			9 September	1993 (succession)
Belgium	13 June	1980	6 September	1991 (ratification)
Bosnia and Herzegovina			30 June	1998 (succession)
Botswana			19 September	2000 (accession)
Brazil	15 May	1981	17 October	1985 (ratification)
Bulgaria	23 June	1981	10 April	1984 (ratification)
Canada	23 September	1980	21 March	1986 (ratification)
Chile			27 April	1994 (accession)
China, People's Rep. of			10 January	1989 (accession)
Croatia			29 September	1992 (succession)
Cuba			26 September	1997 (accession)
Cyprus			23 July	1998 (accession)
Czech Republic			24 March	1993 (succession)
Denmark	13 June	1980	6 September	1991 (ratification)
Dominican Republic	3 March	1980		
Ecuador	26 June	1986	17 January	1996 (ratification)
Estonia			9 May	1994 (accession)
Euratom	13 June	1980	6 September	1991 (confirmation)
Finland	25 June	1981	22 September	1989 (acceptance)
France	13 June	1980	6 September	1991 (approval)
Germany	13 June	1980	6 September	1991 (ratification)
Greece	3 March	1980	6 September	1991 (ratification)
Guatemala	12 March	1980	23 April	1985 (ratification)
Haiti	9 April	1980		
Hungary	17 June	1980	4 May	1984 (ratification)
Indonesia	3 July	1986	5 November	1986 (ratification)
Ireland	13 June	1980	6 September	1991 (ratification)
Israel	17 June	1983		
Italy	13 June	1980	6 September	1991 (ratification)
Japan			28 October	1988 (accession)

State	Date of Signature		Date of Deposit of Instrument	
Korea, Republic of	29 December	1981	7 April	1982 (ratification)
Lebanon			16 December	1997 (accession)
Libyan Arab Jamahiriya			18 October	2000 (accession)
Liechtenstein	13 January	1986	25 November	1986 (ratification)
Lithuania			7 December	1993 (accession)
Luxembourg	13 June	1980	6 September	1991 (ratification)
Macedonia, Former Yugoslav Rep. of			20 September	1996 (succession)
Mexico			4 April	1988 (accession)
Moldova, Republic of			7 May	1998 (accession)
Monaco			9 August	1996 (accession)
Mongolia	23 January	1986	28 May	1986 (ratification)
Morocco	25 July	1980		
Netherlands	13 June	1980	6 September	1991 (acceptance)
Niger	7 January	1985		
Norway	26 January	1983	15 August	1985 (ratification)
Pakistan			12 September	2000 (accession)
Panama	18 March	1980	1er April	1999 (ratification)
Paraguay	21 May	1980	6 February	1985 (ratification)
Peru			11 January	1995 (accession)
Philippines	19 May	1980	22 September	1981 (ratification)
Poland	6 August	1980	5 October	1983 (ratification)
Portugal	19 September	1984	6 September	1991 (ratification)
Romania	15 January	1981	23 November	1993 (ratification)
Russian Federation	22 May	1980	25 May	1983 (ratification)
Slovak Republic			10 February	1993 (succession)
Slovenia			7 July	1992 (succession)
South Africa	18 May	1981		
Spain	7 April	1986	6 September	1991 (ratification)
Sudan			18 May	2000 (accession)
Sweden	2 July	1980	1 August	1980 (ratification)
Switzerland	9 January	1987	9 January	1987 (ratification)
Tajikistan			11 July	1996 (accession)
Tunisia			8 April	1993 (accession)
Turkey	23 August	1983	27 February	1985 (ratification)
Ukraine			6 July	1993 (accession)
United Kingdom of Great Britain and Northern Ireland	13 June	1980	6 September	1991 (ratification)
United States	3 March	1980	13 December	1982 (ratification)
Uzbekistan			9 February	1998 (accession)
Yugoslavia	15 July	1980	14 May	1986 (ratification)

1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency

Since the last update in *Nuclear Law Bulletin* No. 65, three states, namely Iran, Lithuania and Luxembourg, have become Contracting Parties to this Convention, bringing to 83 the number of Parties as of 7 November 2000.

1986 Convention on Early Notification of a Nuclear Accident

Since the last update in *Nuclear Law Bulletin* No. 65, two states have become Contracting Parties, namely Iran and Luxembourg. As of 7 November 2000, there are 87 Parties to this Convention.

1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

Since the last update in *Nuclear Law Bulletin* No. 65, six states have become Contracting Parties, namely Bulgaria, France, Greece, Netherlands, Poland and Ukraine. As of 7 November 2000, there are 22 Parties to this Convention.

BELGIUM

Act Amending the Act of 22 July 1985 on Third Party Liability in the Field of Nuclear Energy

Adopted on 8 June 2000

Section 1

This Act regulates a matter governed by Article 78 of the Constitution.

Section 2

Section 4 of the Act of 22 July 1985 on Third Party Liability in the Field of Nuclear Energy is replaced by the following provision:

“Section 4: Where two or more nuclear installations, or a nuclear installation and any other installation where radioactive material is stored, are run by one operator and located on the same site, they shall be considered for the purposes of this Act as being one single nuclear installation.”

Section 3

Section 7 of that same Act is replaced by the following provision:

“Section 7: The maximum amount of damage caused by a single nuclear incident for which the operator is liable shall be 12 billion francs.

By order made in the Council of Ministers, the King may increase or reduce the figure established in the first sub-paragraph for one of the following reasons:

1. in order to keep its value constant in real terms;
2. to take account of the capacity and nature of the nuclear installations or the amounts of materials being transported;
3. to fulfil the international obligations of the Kingdom and the international recommendations which it receives from competent bodies pursuant to the Paris Convention.

The amount established pursuant to the second sub-paragraph may not be less than the minimum amount specified in Article 7(b) of the Paris Convention.”

Section 4

This Act will enter into force on the first day of the third month following the month of its publication in the *Moniteur belge*.

FRANCE AND RUSSIAN FEDERATION

Agreement between the Government of the French Republic and the Government of the Russian Federation on Third Party Liability for Nuclear Damage Caused in Connection with Deliveries from the French Republic for Nuclear Installations in the Russian Federation

The Government of the French Republic and the Government of the Russian Federation,

hereinafter referred to as “the Parties”,

- desiring to develop bilateral co-operation in the field of the peaceful uses of atomic energy and in particular in relation to the improvement of the nuclear and radiological safety of nuclear installations in the Russian Federation,
- seeking to regulate bilateral relations in this field, and in order to facilitate nuclear-related scientific, technical and industrial exchanges between the French Republic and the Russian Federation,

have agreed as follows:

Article I

1. this agreement shall govern issues of liability for nuclear damage in the event of a nuclear incident within the territory of the Russian Federation that results from deliveries from the French Republic to nuclear installations in the Russian Federation. The agreement shall only apply in cases where the competent authorities designated in paragraph (3) below have notified each other in writing of the deliveries in question. Once notification of the delivery in question has been received from the French competent authority, the Russian competent authority shall confirm in writing to the French competent authority and to the supplier in question the application of the provisions of this Agreement to the supplier in question. A model letter of confirmation is annexed to this Agreement.
2. in order to accomplish the purposes set out in this Agreement, the French Party shall endeavour to ensure that the deliveries are of high quality and satisfy the safety requirements that apply to the nuclear installation in question.
3. the competent authorities for this Agreement are:
 - (a) The French Ministry responsible for Energy for the French Party;
 - (b) The Ministry of Atomic Energy of the Russian Federation for Atomic Energy for the Russian Party.

Article II

For the purposes of this Agreement:

- (a) the expression “Vienna Convention” means the Vienna Convention on Civil Liability for Nuclear Damage of 21 May 1963;
- (b) the term “delivery” means deliveries and provisions of all kinds, made by the supplier and concerning all or part of a nuclear installation, delivery of means of transport, including containers for the transport of radioactive materials, components, spare parts and other equipment and goods required for nuclear installations and means of transport, as well as the transfer of know-how and the provision of services for the construction, exportation, modernisation or dismantling of nuclear installations in the Russian Federation;
- (c) the term “supplier” means any natural or legal person with their domicile, headquarters or permanent residence in the French Republic, including their branch offices, companies in which they own participating interests and associated companies (subsidiaries, joint ventures) in France or abroad, as well as their sub-contractors, including their staff, that make deliveries of agreed quantities, ranges and quality to agreed deadlines to the recipient on the basis of this Agreement and in accordance with the national legislation of the Parties, except in those cases where the recipient is simultaneously the supplier;
- (d) the term “recipient” means a Russian national or a Russian legal person who receives a delivery in accordance with this Agreement and the legislation of the Russian Federation;
- (e) the expressions “nuclear incident”, “nuclear damage” and “nuclear installation” are to be understood as defined in the Vienna Convention.

Article III

1. The Russian Party shall bring no claims against the French Party or against suppliers on grounds of nuclear damage resulting from a nuclear incident which has taken place within the territory of the Russian Federation.
2. The Russian Party shall grant the French Party and the suppliers appropriate legal protection and shall exempt them from liability for damages in the event of claims by third parties on grounds of nuclear damage resulting from a nuclear incident which has taken place within the territory of the Russian Federation.
3. The Russian Party shall not exempt the French Party and suppliers from liability for damage pursuant to paragraphs (1) and (2) above if:
 - (a) the nuclear incident and the resulting nuclear damage can be attributed to deliberate action on the part of the French Party or the supplier;

- (b) the French Party and the suppliers have not immediately informed the Russian Party of the claims for compensation brought against them or of judicial action taken against them.
- 4. The obligations undertaken by the Russian Party pursuant to this Article shall remain in force regardless of any subsequent transfer of ownership of nuclear installations.
- 5. The provisions of the present Article shall not be interpreted as an obstacle to judicial proceedings or claims vis-à-vis nationals of the Russian Federation or persons with permanent residence in the Russian Federation.
- 6. This Article shall not prevent either Party from providing compensation in accordance with their respective national legislation.
- 7. The provisions of this Article shall not be interpreted as recognition of the jurisdiction of a court or any other authority outside the Russian Federation with respect to claims by third parties where paragraph (2) above applies, unless the Russian Party has undertaken to recognise and to enforce its decisions on the basis of international agreements to which the Russian Federation is a Party.

Nothing in this Article shall be understood as a renunciation by the Russian Federation of its immunity relating to possible claims against it by third parties.

- 8. As and when necessary, the Parties may hold consultations in connection with claims and judicial proceedings, which may arise under the terms of this Article.

Article IV

- 1. Any dispute arising between the Parties concerning the application and interpretation of this Agreement will be resolved by the Parties which shall commence consultations within one month after notification of one of the Parties.
- 2. If the consultations do not lead to the resolution of the dispute within three months, the Parties shall transfer the dispute to an ad-hoc arbitral tribunal pursuant to the Arbitration Rules of the UNCITRAL (United Nations Commission on International Trade Law). The result of the arbitral tribunal proceedings shall be binding for both Parties.

Article V

- 1. This Agreement shall be applied on a provisional basis from the date of signature thereof, and shall enter into force upon reception of the last written notification regarding the completion by the Parties of the internal governmental procedures necessary for its entry into force.
- 2. This Agreement shall cease to have effect upon the entry into force, for the Russian Federation, of an international treaty, to which the French Republic is a Party, establishing rules on third party liability for nuclear damage. The Russian Party will address an appropriate written notification thereof to the French Party.

3. Notwithstanding to the provisions of Paragraph 2 of the present Article, each Party may at any time notify the other Party in writing of its intention to terminate this Agreement. In such an event, this Agreement shall cease to have effect upon expiration of a period of twelve months from the date of reception of this notification by the other Party.
4. In the event of termination of this Agreement for the reasons set out in Paragraph 3 of this Article, this Agreement shall continue to apply to nuclear damage due to a nuclear incident caused by a delivery between a supplier and a recipient before termination of this Agreement.

Done in Paris on 20 June 2000 in duplicate in the French and Russian languages, both texts being equally authentic.

Annex to the Agreement between the Government of the French Republic and the Government of the Russian Federation on Third Party Liability for Nuclear Damage caused in connection with deliveries from the French Republic for Nuclear Installations in the Russian Federation

*Model Letter of Confirmation
(Headed paper of the supplier of equipment)*

Ministry of the Russian Federation for Atomic Energy
109 180 Moscow, Staromonetny per., 26

cc: French Ministry responsible for energy
(address)

Re: Exemption of suppliers of equipment and services for nuclear installations in the Russian Federation from liability for nuclear damage

Dear Sirs,

The Government of the Russian Federation and the Government of the French Republic on (date) concluded an Agreement on third party liability for nuclear damage caused in connection with deliveries from the French Republic for nuclear installations in the Russian Federation (hereinafter referred to as the “Agreement”).

In accordance with Article III of the Agreement, the Government of the Russian Federation has agreed to provide appropriate legal protection to those suppliers notified by the French competent authority who make deliveries to nuclear installations in the Russian Federation, and to exempt them from liability claims by third parties in connection with nuclear damage resulting from a nuclear incident occurring within the territory of the Russian Federation.

We hereby inform you that (supplier’s name) has concluded a delivery contract within the meaning of this Agreement with (recipient’s name) of (date). Please find enclosed a copy of this contract.

Our understanding is that:

- (a) the supplier within the meaning of the Agreement shall be exempted from third party liability pursuant to Article III of the Agreement;
- (b) the Government of the Russian Federation has agreed that, with regard to its obligations to the supplier pursuant to Article III of the Agreement and in the event that bilateral consultations fail to resolve the dispute within three months, any dispute, difference or legal action arising in connection with the Agreement or this letter of confirmation, including questions related to their application, shall be finally resolved by an arbitral tribunal pursuant to the Arbitration Rules of the UNCITRAL. The appointing authority within the meaning of the UNCITRAL Arbitration Rules shall be the Arbitration Institute of Stockholm Chamber of Commerce in Sweden. The seat of the arbitral tribunal shall be Stockholm, Sweden. Unless the UNCITRAL Arbitration Rules provide for any specific procedure, the arbitral tribunal shall determine its own procedure;
- (c) the provisions of Article III of the Agreement relating to exemption from claims for damages are referred to in this letter of confirmation and are binding on (supplier's name) and the Government of the Russian Federation.

Please sign this document in the place indicated to confirm that the foregoing constitutes an agreement between us.

Yours faithfully,

Date:
(Authorised representative of the supplier)

ACCEPTED AND AGREED

Date:
(Authorised representative of the Ministry of the Russian Federation for Atomic Energy)

Enclosures:
Copy of the contract list of sub-contractors

BIBLIOGRAPHY AND NEWS BRIEFS

BIBLIOGRAPHY

OECD Nuclear Energy Agency

Overview of Nuclear Legislation in Central and Eastern Europe and the NIS, Paris, 2000, 194 pages

This study presents the current state of legislation and regulations governing the peaceful uses of nuclear energy in the central and eastern European countries (CEEC) and the New Independent States (NIS). It also contains information on the national bodies responsible for the regulation and control of nuclear energy.

Since the last edition of this study published in 1998, numerous other legislative instruments have been adopted, and new international conventions have entered into force in the CEEC and the NIS. It thus appeared timely to produce a fully revised edition of this Overview, while also enlarging its scope.

This update follows a systematic format in order to facilitate research and comparison of information among the countries covered.

Update of the Compendium of Nuclear Safety Related Co-operation Agreements, Paris, 2000, 147 pages

During the past decade, a number of bilateral agreements were concluded with the Russian Federation and Ukraine, to facilitate the setting up of specific assistance projects in the field of nuclear safety. Such Agreements contain provisions governing exoneration from nuclear liability and indemnity protection of western contractors, and of states and international organisations. Some of these Agreements also contain provisions on exemptions from tax and customs duties.

This Compendium of Bilateral Agreements, published for the first time in 1999, was updated in September 2000. Prepared by the NEA Secretariat, its purpose is to serve as a source of information and reference for those involved in the administration of nuclear safety assistance programmes. Persons interested in obtaining a copy of this Compendium should address their request directly to the NEA Secretariat.

Nuclear Law Bulletin Index Nos. 1 to 65, Paris, 2000, 212 pages

The Nuclear Law Bulletin Index Nos. 1 to 65 assembles the references to all of the information concerning legislative and regulatory activities, case law and bilateral agreements, as well as the work of international organisations, multilateral agreements, studies and articles published in the 65 issues of the Bulletin issued from 1968 to date.

In order to provide readers with a more up-to-date reference tool, the Index will no longer be issued as an official publication every two and a half years (*i.e.* every five issues of the NLB), as we have done in the past, but rather it will be updated and posted on the web in .pdf format on a more regular basis. The Index is available on the NEA website at <http://www.nea.fr/html/law/nlb/NLB-00EN-INDEX.pdf>

France

Control of the Safe Transport of Radioactive Material in France, Mr. Luc Chaumette, IPSN, France, 2000, 515 pages

This thesis, published in the French language only by the French Institute for Protection and Nuclear Safety, examines the regulation of transport of radioactive and fissile material for civilian purposes, which aims to protect man and the environment against the radiological risk posed by the materials transported. The author of this thesis, Mr. Luc Chaumette, analyses the coherence of the regulations, as well as the goals and responsibilities of bodies competent in the field of transport of radioactive materials.

Although it is a branch of nuclear law, the regulations in question come under the framework of the law governing the transport of goods, due to the activities which they regulate and the persons to whom they are addressed, and the law governing the transport of dangerous goods, in light of the requirements ensuing from the nature of the substances transported.

According to the author, the regulation of nuclear transport in France, which is examined in the first chapter of this thesis, is relatively complex due to the specific requirements related to the obligation to ensure the safety of such transports. First, rules from the international order are implemented into domestic law and establish harmonised regulations for transport operations which pose particular risks. Secondly, rules belonging exclusively to the domestic legal order complete the first category. These orders form two distinct categories which in turn constitute a complex technical regulatory framework.

The author observes, in the second chapter, that pursuant to the regulations, operators are required to ensure the safety of transport and the public authorities are responsible for exercising control over such safety. Following an analysis of the powers and responsibilities of each of these bodies, the author examines the procedures of supervision and verification used by operators and the control exercised by the public authorities, along with developments which could be explored in this field.

NEWS BRIEFS

OECD Nuclear Energy Agency

International School of Nuclear Law

An International School of Nuclear Law has been established within the University of Montpellier 1, in co-operation with the NEA and with the support of the International Nuclear Law Association. The objective of this School, which will hold its first session from Monday 28 August to Friday 8 September 2001 inclusive, is to provide a high quality course of education on the various aspects of this discipline both to law students who wish to follow an introductory course on nuclear law and familiarise themselves with career opportunities open to them in this field, and also to young legal professionals who are already active in the nuclear sector and wish to expand their knowledge.

The educational programme of the School will consist of an introductory course on nuclear law and classes on more specific issues. The programme for Summer 2001 will include the following classes: protection against ionising radiation (including the use of radiation sources); safety of nuclear installations; radioactive waste management; transport of nuclear materials; physical protection (including the illicit trafficking of nuclear materials); non-proliferation; regulation of trade; third-party liability and the indemnification of nuclear damage.

Further information on the School may be obtained from the NEA Secretariat, Legal Affairs, 12 bvd des Iles, 92130 Issy-les-Moulineaux, France, or on the NEA website at: <http://home.nea.fr/html/law/lawschool/brochureeng.pdf>

International Nuclear Law Association

Nuclear Inter Jura 2001

The International Nuclear Law Association (INLA) will hold its 15th congress from 3 to 8 June 2001 in Budapest, Hungary.

These congresses, organised on a two-yearly basis, provide INLA Members, along with other interested persons, with an opportunity to review recent developments in nuclear law, thus serving as a forum to discuss legal questions concerning the peaceful uses of nuclear energy.

As in the past, the congress will be divided into five sessions based on the following well-known themes: licensing and decommissioning; radiological protection; international nuclear trade; third party liability and insurance; and management of radioactive waste.

Further information may be obtained from Professor Vanda Lamm, the Chairperson of INLA, by writing to the Institute for Legal Studies, Hungarian Academy of Sciences, 1, Orszaghaz utca 30, POB 25, H-1250 Budapest, Hungary.

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NEA Publications of General Interest

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NUCLEAR LAW Bulletin

SUPPLEMENT TO No. 66

Ukraine

*Law on the Licensing of Activities in the Field of Nuclear Energy
(11 January 2000)*

December 2000

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

UKRAINE

Law on the Licensing of Activities in the Field of Nuclear Energy*

adopted on 11 January 2000

The present Law defines the legal, organisational and economic framework governing the licensing of activities in the field of nuclear energy, as well as basic provisions for the regulation of public relations arising while carrying out such activities, by way of exception to the basic provisions set forth in the Law on Enterprise Activity.

The licensing regime governing the uses of nuclear energy aims to protect national security interests, to prevent individuals from over-exposure and to prevent the contamination of environment beyond established limits, and to observe the requirements of non-proliferation of nuclear weapons.

Chapter I

GENERAL PROVISIONS

Section 1

Basic Terms and Definitions

The terms and definitions that are used in the present Law have the following meaning:

Type of activity in the field of the use of nuclear energy (hereinafter referred to as “type of activity”) shall denote an activity for which additional radiation sources are introduced, or additional groups of individuals are exposed, or the direction of exposure from existing sources is changed which leads to an increase in dose, or the probability of radiation exposure of staff or the number of individuals that are exposed.

Stages of the service life cycle of a nuclear facility shall denote siting, design, construction, commissioning, operation and decommissioning.

Stages of the service life cycle of a storage facility designed for radioactive waste disposal shall denote siting, design, construction, operation and closure.

The Operating organisation (Operator) shall denote a legal entity designated by the state which performs activities related to siting, design, construction, commissioning, operation or decommissioning of a nuclear facility or siting, design, construction, commissioning, operation or closure of a storage facility designed for radioactive waste disposal; which is responsible for nuclear and radiation safety and is liable for nuclear damage.

* This unofficial English translation was kindly provided by the Ukrainian authorities.

The service life cycle of a nuclear facility or storage facility designed for radioactive waste disposal shall denote a combination of interrelated gradually changing processes in the status of a facility or a storage facility, starting with siting and ending where the site is returned to normal use after decommissioning.

Licence of an Operating organisation shall denote a permit officially issued by the state nuclear and radiation safety regulatory authority, which is authorised to do so by the Cabinet of Ministers of Ukraine, confirming the right of the Operating organisation to perform, by its own means or with the involvement of contracted organisations, a series of activities and actions related to the stages of the service life cycle of a nuclear facility or storage facility designed for radioactive waste disposal as defined.

Licence in the field of nuclear energy shall denote a permit officially issued by the state nuclear and radiation safety regulatory authority, confirming the right of an Applicant to perform relevant types of activity provided that conditions governing nuclear and radiation safety are observed.

State nuclear and radiation safety regulatory authority shall denote the central executive authority specifically authorised by the Cabinet of Ministers of Ukraine to perform state regulation of nuclear and radiation safety.

Radioactive materials shall denote any materials containing radio-nuclides where their specific activity or the total activity of the shipment exceeds the limits established by norms, rules and standards of nuclear and radiation safety.

Subject of an activity in the field of nuclear energy (hereinafter referred to as “subject of an activity”) is a legal entity (enterprise, institution or organisation with any type of enterprise activity) or a physical person who performs or has indicated their intention to perform an activity in the field of nuclear energy in respect of which the present Law establishes requirements concerning compulsory licensing, certification or registration.

Section 2

Aims of this Law

The main aims of this Law are:

- legal regulation of relations during all activities subject to licensing in the field of nuclear energy;
- establishment of a legal regime governing the licensing of activities in the field of nuclear energy.

Section 3

Scope of this Law

The present Law shall apply to relations which arise whilst carrying out activities subject to licensing in relation to the use of nuclear energy.

A licensed activity in the field of nuclear energy shall be the activity that is subject to state regulation of nuclear and radiation safety.

Section 4

Objective of Licensing Activities in the Field of Nuclear Energy

The objective of licensing activities in the field of nuclear energy is:

- to ensure that only those nuclear facilities, radiation sources and facilities designed for radioactive waste management, the safety level of which is understood to meet internationally recognised requirements on the basis of a comprehensive assessment of all factors impacting on safety including physical protection, are used;
- to ensure that activities in the field of nuclear energy are performed only by those physical and legal entities which can guarantee fulfilment of requirements of legislation, norms, rules and standards of nuclear and radiation safety.

Section 5

Main Principles governing Activities Subject to Licensing in the Field of Nuclear Energy

The main principles governing activities subject to licensing are:

- ensuring the priority of nuclear and radiation safety above other interests;
- taking a differential approach to different types of activity and radiation sources taking into account the potential nuclear and radiation hazard associated with them;
- ensuring the independence and objectivity of state nuclear and radiation safety regulatory bodies in the assessment of safety levels and in the decision-making process;
- fulfilment of the set criteria, requirements and conditions ensuring safety in the field of nuclear energy, taking into account all combinations of ecological, economical and social factors;
- the responsibility of state nuclear and radiation safety regulatory bodies to ensure the respect of the set procedures governing the licensing of activities and the fulfilment of conditions and limits stated in the procedures to perform activities in the field of nuclear energy.

Chapter II

PERFORMANCE OF LICENSED ACTIVITIES IN THE FIELD OF NUCLEAR ENERGY

Section 6

Particular Requirements governing the Performance of Licensed Activities in the Field of Nuclear Energy

The particular requirements governing the performance of licensed activities in the field of nuclear energy shall be defined in relation to the order of priorities for nuclear and radiation safety and associated with the need for a comprehensive safety assessment in order to make decisions on issuance or rejection of a licence.

The licensing of activities shall be an integral part of state regulation in the field of nuclear energy and shall include the following:

- licensing of certain types of activity in the field of nuclear energy;
- licensing of activities of the Operating organisation at different stages of the service life cycle of a nuclear facility or storage facility designed for radioactive waste disposal and issuance of permits to perform certain works or actions at various stages of commissioning, operation and decommissioning of nuclear facilities and at stages of operation and closure of storage facilities designed for radioactive waste disposal;
- licensing of activities related to the direct operation of NPP reactors by their personnel;
- compulsory certification of radiation sources, elements of nuclear facilities which are relevant to safety, packages for storage, shipment and disposal of radioactive waste, casks (packages) designed for transportation of radiation sources and nuclear materials; and
- state registration of radiation sources.

Section 7

Licensing of Certain Types of Activity in the Field of Nuclear Energy

In the field of nuclear energy the following types of activity shall be subject to compulsory licensing:

- design of a nuclear facility or storage facility for radioactive waste disposal;
- processing of uranium ore;
- transportation of radioactive material;
- processing, storage and disposal of radioactive waste;
- fabrication, storage and maintenance of radiation sources;
- utilisation of radiation sources;
- the training of personnel to operate nuclear facilities (in accordance with the list of positions and specialities defined by the Cabinet of Ministers of Ukraine);

- activities related to the physical protection of nuclear materials and nuclear facilities (in accordance with the list of types of activity defined by the Cabinet of Ministers of Ukraine).

Licensing of the afore-mentioned types of activity shall be carried out by the state nuclear and radiation safety regulatory authority which is authorised by the Cabinet of Ministers of Ukraine in accordance with the current legislation.

Activities related to the use of radiation sources shall be exempted from licensing under the following conditions:

- the safe use of radiation sources is ensured by their design;
- the use of radiation sources does not require special training of personnel on nuclear and radiation safety matters that are beyond the limits of their knowledge of instruction on use of such a radiation source;
- feedback and experience show that no records of accidents with radiation consequences are observed.

The list of radiation sources whose use is not subject to licensing shall be defined by the Cabinet of Ministers of Ukraine.

Section 8

Licensing of Activities of the Operating Organisation for Certain Stages of the Service Life Cycle of a Nuclear Facility or Storage Facility Designed for Radioactive Waste Disposal

The state nuclear and radiation safety regulatory authority shall grant to an Operating organisation of a nuclear facility or storage facility designed for radioactive waste which has submitted the relevant application (hereinafter referred to as “the Applicant”), on the basis of a comprehensive safety assessment of the nuclear facility or storage facility and the capability of the Applicant to perform all necessary safety measures, a licence to perform activities associated with a particular stage of the service life cycle of a nuclear facility or storage facility designed for radioactive waste disposal, in particular:

- design of a nuclear facility or storage facility designed for radioactive waste disposal;
- construction of a nuclear facility or storage facility designed for radioactive waste disposal after a comprehensive analysis of all safety aspects related to design;
- commissioning of a nuclear facility;
- operation of a nuclear facility or storage facility designed for radioactive waste disposal;
- decommissioning of a nuclear facility;
- closure of a storage facility designed for radioactive waste disposal.

The licence granted to an Applicant shall be the basis for commencing activities, actions and work related to the given stage of the service life cycle of a nuclear facility or storage facility designed for radioactive waste disposal, including all on-site facilities or storage facilities which are a part of technological processes. The licence shall establish conditions and limits governing such an activity, performance of work and actions, and shall define the technological processes and site borders that are covered by the licence. One single licence may be granted for a complex comprising of several nuclear facilities or storage facilities designed for radioactive waste disposal located within the boundary of one site.

The conditions attached to a licence granted to an Operating organisation to perform activities at a particular stage of the service life cycle shall define those types of activity or actions, the performance of which is allowed during stages of commissioning, operation and decommissioning of a nuclear facility, or during stages of operation and closure of a storage facility designed for radioactive waste disposal, on the basis of a special permit in writing issued by the state nuclear and radiation safety regulatory authority. The state nuclear and radiation safety regulatory authority shall define conditions and procedures for the issuance of these permits.

Section 9

Licensing of Personnel who Directly Operate the Reactor Facilities of a NPP

A list of those positions within the personnel directly involved in the operation of reactor facilities of a NPP and activities which are subject to licensing shall be approved by the Cabinet of Ministers of Ukraine.

The state nuclear and radiation safety regulatory authority shall define conditions and procedures governing the issue of licences to personnel to directly operate the reactor facilities of a NPP.

Section 10

Certification in the Field of Nuclear Energy

In the field of nuclear energy, the following shall be subject to compulsory certification within the legally-established procedure: radiation sources, packages for storage and disposal of radioactive waste, packages designed for the transportation of radioactive materials, elements of nuclear facilities which are relevant to safety.

Section 11

State Registration of Radiation Sources

Radiation sources shall be subject to compulsory state registration, the procedure governing which shall be determined by the Cabinet of Ministers of Ukraine.

Chapter III

PROCEDURE FOR THE LICENSING OF ACTIVITIES OF AN OPERATING ORGANISATION AT STAGES OF THE SERVICE LIFE CYCLE OF NUCLEAR FACILITIES AND STORAGE FACILITIES DESIGNED FOR RADIOACTIVE WASTE DISPOSAL

Section 12

Procedure for the Issue of Licences to an Operating Organisation at Stages of the Service Life Cycle of Nuclear Facilities and Storage Facilities Designed for Radioactive Waste Disposal

In order to receive a licence to perform licensed activities related to a particular stage of the service life cycle of nuclear facilities and storage facilities designed for radioactive waste disposal, an Operating organisation (Operator) shall submit an application to the state nuclear and radiation safety regulatory authority.

The application shall be accompanied both by copies of the statutes approved pursuant to the established procedure and by supporting documents demonstrating the safety level of the nuclear facility or storage facility designed for radioactive waste disposal, the list of which shall be established by the state nuclear and radiation safety regulatory authority.

Procedures and fees governing the performance of licensing procedures in the field of nuclear energy shall be defined by the Cabinet of Ministers of Ukraine in accordance with the legislation.

The state nuclear and radiation safety regulatory authority shall establish the list, requirements concerning presentation and the content of supporting documents for each stage of the service life cycle of a nuclear facility or storage facility designed for radioactive waste disposal.

The state nuclear and radiation safety regulatory authority shall carry out a preliminary review of the application in order to assess an Applicant's fulfilment of requirements for the nomenclature and content of the documents submitted.

The state nuclear and radiation safety regulatory authority shall notify an Applicant of the results of the preliminary review of the application within 30 days from the day of receipt.

An examination of the completeness and veracity of the documents submitted and their assessment shall be carried out by the state nuclear and radiation safety regulatory authority by performing state examinations of these documents and inspection (for stages of commissioning, operation and decommissioning of a nuclear facility and for stages of operation and closure of a storage facility designed for radioactive waste disposal).

Procedures governing the state examination of the documents submitted and the inspection of nuclear facilities or storage facilities designed for radioactive waste disposal shall be determined by norms, rules and standards of nuclear and radiation safety.

The examination of the completeness and veracity of the documents and their assessment shall be completed within three months from the day upon which a full set of supporting documents was received. In the event of circumstances resulting in the necessity to conduct additional studies, the

state nuclear and radiation safety regulatory authority may establish a longer period, but not more than six months.

A decision to grant or to reject a licence shall be made by the state nuclear and radiation safety regulatory authority within one month following receipt of the conclusions of the state examination of the documents submitted and of the Inspection Report (Act).

Not later than ten days after the decision is made, the state nuclear and radiation safety regulatory authority shall issue a licence to the Applicant or shall submit notification of a refusal in writing providing reasons for such a refusal and providing conditions for additional review.

Section 13

Refusal of a Licence

The state nuclear and radiation safety regulatory authority may refuse to grant a licence to an Applicant on the basis of inspection results and conclusions of the state examination in the following cases:

- in the absence or lack of documents confirming compliance of the safety level of such nuclear facility or storage facility designed for radioactive waste disposal, or of the financial, material and other resources, the organisational structure or the personnel of an Applicant with the established requirements;
- where documents submitted by an Applicant contain inadequate information or uncertainties.

An Applicant may appeal a refusal to grant a licence before the courts.

Section 14

Content of Licence and Procedure for Modification

The licence shall contain the following information:

- title of the authority which granted the licence;
- title and legal address of the licence-holder;
- identification of the area where the activity is being performed (site boundaries of nuclear facility or storage facility designed for radioactive waste disposal);
- a list of principal facilities and buildings which are part of the technological process of the nuclear facility or storage facility designed for radioactive waste disposal;
- a list of documents on the basis of which the licence is granted;
- a list of officials responsible for the safe performance of activities covered by this licence;

- conditions governing the performance of activities;
- registration number of the licence;
- date of issue and term of validity of the licence.

The licence shall be signed and sealed by the head of the state nuclear and radiation safety regulatory authority.

The term of validity of the licence shall be determined in accordance with the envisaged period of validity, established by the documents submitted, concerning the relevant stage of the service life cycle of the nuclear facility or storage facility designed for radioactive waste disposal.

During the term of validity of the licence, the state nuclear and radiation safety regulatory authority may introduce modifications.

The grounds upon which modifications may be made to the licence are:

- where an Operating organisation (Operator) applies for an extension of the scope of the licence to cover additional facilities, storage, buildings or installations, or to enlarge the territory of site covered by the licence; to prolong the term of validity of the licence;
- where new regulatory acts on nuclear and radiation safety enter into force;
- where feedback and experience or state supervision over the fulfilment of particular licence conditions provide evidence that there are cases where a modification in licence conditions is necessary.

Review of applications made by the Operating organisation (Operator) to introduce modifications into licence or to re-issue licences shall be subject to the same procedure as for the initial issue of licences.

Section 15

Supervision over Observance of Licence Conditions

The supervision over observance of licence conditions shall be performed by the state nuclear and radiation safety regulatory authority by means of inspections and analysis of the nuclear and radiation safety status based on reports and documentation submitted by the Operating organisation.

Procedures governing the performance of such inspections, their periodicity and reporting requirements shall be determined by the state nuclear and radiation safety regulatory authority.

Methods and means of inspection shall not impede the activities of the Operating organisation subject to inspection.

Section 16

Suspension or Cancellation of Licences

Licences may be suspended and, at the stage of design or construction of a nuclear facility or storage facility designed for radioactive waste disposal, may be cancelled by the state nuclear and radiation safety regulatory authority which issued the licence, in the following cases:

- where a relevant application has been submitted by the Operating organisation;
- where activities of a legal entity have been cancelled by verdict of a court or due to any other circumstances;
- breach of licence conditions;
- suspension of validity or non-fulfilment of requirements of documents that formed part of the application, and on the basis of which the conclusion was drawn as to the capability of the Applicant to perform activities in accordance with the established requirements.

In the case of suspension of a licence, the Operating organisation shall continue to bear responsibility for the safety of the nuclear facility or storage facility designed for radioactive waste disposal.

When a licence is suspended, the state nuclear and radiation safety regulatory authority shall inform the Operating organisation in writing providing reasons for the suspension and information as to the conditions under which the suspension could be lifted and the period of time necessary for the Operating organisation to eliminate the problems revealed. If these problems are not eliminated within the period of time determined at the design and construction stages, the licence shall be cancelled and the Operating organisation shall be informed in writing about this.

Following notification of the cancellation of the licence, the Operating organisation shall be obliged to do the following:

- immediately suspend the previously licensed activity and carry out measures to ensure the safety of working conditions, health protection of personnel and environmental protection;
- within ten days from the date of notification, submit both original documents and notification of the suspension of the licensed activity to the state nuclear and radiation safety regulatory authority which granted the original licence.

The state nuclear and radiation safety regulatory authority is obliged to submit information on the cancellation of licences to the state administrative authorities in the field of nuclear energy use and radioactive waste handling within five days from the date of cancellation.

Procedures governing the cancellation of licences for commissioning of a nuclear facility shall be defined by the licence conditions.

Licences for the operation or decommissioning of a nuclear facility and licences for the operation or closure of a storage facility designed for radioactive waste disposal may only be cancelled following a complete withdrawal of nuclear materials and radioactive waste from the facility or storage facility, or when a licence for this facility or storage facility has been issued to a third party.

Before a licence is granted to a third party for operation or decommissioning of a nuclear facility or for operation or closure of a storage facility designed for radioactive waste disposal, the Operating organisation holding the licence shall continue to bear responsibility for the safety of the nuclear facility or storage facility designed for radioactive waste disposal.

Chapter IV

RIGHTS AND OBLIGATIONS OF SUBJECTS OF ACTIVITY IN THE AREA OF NUCLEAR ENERGY UTILISATION

Section 17

Rights and Obligations of Subjects of an Activity in the Field of Nuclear Energy

Subjects of an activity have the right to:

- receive information about the progress and results of review of applications;
- provide the state nuclear and radiation safety regulatory authority and organisations involved in considering applications with additional explanations in writing or orally, comments, or recommendations on the issues in question;
- submit a petition to the state nuclear and radiation safety regulatory authority for changes in the list of expert organisations involved in considering the applications;
- make claims in respect of the unauthorised actions of certain officials in the event of breaches to the established procedure for consideration of applications and supporting documents, leading to a decision which is later questioned;

A subject of an activity in the field of nuclear energy is obliged to:

- provide information on their intention to perform activities subject to licensing in the field of nuclear energy;
- provide the state nuclear and radiation safety regulatory authorities and organisations involved in considering applications, with documentation and accompanying information necessary for comprehensive and objective analysis, assessment and decision making as to the activity concerned;
- assist the bodies and organisations concerned in the fulfilment of their duties;
- transfer, pursuant to the established terms, required documents, calculations, data, complimentary information related to the safety of licensed activities to the state nuclear and radiation safety regulatory authorities;

- notify the state nuclear and radiation safety regulatory authorities of changes in conditions governing the performance of the activity;
- pay a licence fee in accordance with the current legislation.

Chapter V

FINAL PROVISIONS

1. This Law shall enter into force upon the date of publication.
2. Licences to perform activities in the field of nuclear energy which were valid in the territory of Ukraine before the adoption of this Law shall lose their validity not later than three years after the entry into force of this Law. During the above-mentioned period of time, legal and physical entities which perform activities in the field of nuclear energy are obliged to re-register their licences in accordance with this Law.
3. Before other legislative instruments are brought into line with the norms of this Law, such instruments shall remain in effect to the extent that they do not contradict the terms of this Law.
4. The Cabinet of Ministers of Ukraine, within six months from the date of entry into force of this Law, shall:
 - prepare and submit proposals to the Verkhovna Rada (the Parliament) of Ukraine on introducing changes to legislative instruments of Ukraine resulting from this Law;
 - bring their own regulatory and legislative instruments into line with this Law;
 - ensure the adoption of regulations (normative and legislative instruments) envisaged by this Law by the competent authorities;
 - ensure that ministries and other central executive authorities review and cancel their regulations which are in conflict with this Law.
5. Section 33 of the Law of Ukraine on the Use of Nuclear Energy and Radiation Safety (Vedomosti of Verkhovna Rada of Ukraine, 1995, N12, 81 pages)** is amended to read as follows:

Section 33

Operating Organisation (Operator)

An Operating organisation (Operator) shall be a legal entity appointed by the government, which perform activities related to siting, design, construction, commissioning, operation, decommissioning of a nuclear facility or siting, design, construction, commissioning, operation, closure of a radioactive

** The full text of this Law in English was reproduced in the Supplement to *Nuclear Law Bulletin* No. 56 (December 1995).

waste disposal facility and shall ensure nuclear and radiation safety and bear liability for nuclear damage.

An Operating organisation (Operator) shall:

- obtain a permit to perform activities at certain stages of the service life of a nuclear facility or radioactive waste disposal facility pursuant to the legislation;
- develop and implement safety upgrading measures of a nuclear facility or radioactive waste disposal facility;
- be entitled to organise the occupancy of workplaces with a view to ensuring the safety of a nuclear facility or radioactive waste disposal facility;
- ensure radiation protection of personnel, the population, and the environment;
- be responsible for the physical protection of nuclear materials and radioactive waste;
- inform, on a timely basis and fully in accordance with established procedures, of any case of malfunction in the operation of nuclear facilities or radioactive waste disposal facilities;
- ensure financial coverage for its liability for nuclear damage in the amounts and on terms as are determined by the legislation of Ukraine;
- make contributions to the nuclear facility decommissioning fund;
- be liable for damage or loss incurred by personnel during their service in accordance with the legislation of Ukraine.

An Operating organisation (Operator) shall periodically and in accordance with nuclear and radiation safety regulations, rules, and standards, re-assess the safety of nuclear facilities or radioactive waste disposal facilities and submit the results thereof to the state nuclear and radiation safety regulatory authority.

When significant changes are made to the design of a nuclear facility or where the operating experience shows the invalidity of previous assessments, a safety re-assessment shall be performed at the request of the state nuclear and radiation safety regulatory authority.

An Operating organisation (Operator) shall not perform any acts or demonstrate any intentions thereof which may force personnel to violate the provisions of this Law, or of nuclear and radiation safety regulations, rules, and standards.

An Operating organisation (Operator) shall include in the electric energy production costs, expenses incurred for the following:

- implementation of safety improvement programmes for nuclear facilities;
- storage of spent nuclear fuel, processing and disposal of radioactive waste;
- scientific, technical, design and technological support for the operation of nuclear facilities;

- staffing, training and retraining of personnel;
- nuclear damage insurance coverage for personnel and the population;
- decommissioning and mothballing of a nuclear facility;
- social and economic development of the territory where a nuclear facility or a radioactive waste disposal facility is located.