NUCLEAR LAW Bulletin

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Nuclear Energy Agency

Organisation for Economic Co-operation and Development

LIST OF CORRESPONDENTS TO THE NUCLEAR LAW BULLETIN

ARGENTINA	-	Mr. MARTINEZ PAVINI, Head of Legal Department, National Atomic Energy Commission
AUSTRALIA	-	Office of External Relations, Australian Atomic Energy Commission
AUSTRIA	-	Dr. STEINWENDER, Director at the Federal Chancellery
BELGIUM	-	Mr. STALLAERT, Social Security Administration, Ministry of Employment
	-	Mr. DE SMEDT, Legal Counsellor, Ministry of Economic Affairs
BRAZIL	-	Mr. AYRTON SA PINTO DE PAIVA, Legal Adviser, Comissao Nacional de Energia Nuclear
CANADA	-	Mr. MacISAAC, Legal Adviser, Atomic Energy Control Board
DENMARK	-	Mr. ØHLENSCHLAEGER, Chief of Division, National Health Service
FINLAND	-	Mr. AHO, Managing Director of the Federation of Finnish Insurance Companies
	-	Mr. PAAERMAA, Legal Adviser, Ministry of Trade and Industry
FRANCE	-	Mr. VERGNE, Legal Adviser of the Atomic Energy Commission
GERMANY (Federal Republic)	-	The Institute of Public International Law of Göttingen University, Department of Nuclear Law (Dr. PELZER)
GHANA	-	Mr LEBRECHT HESSE, State Attorney, Ministry of Justice
GREECE	-	External Relations Office, Greek Atomic Energy Commission
INDONESIA	-	Mrs. SOEPRAPTO, Head of Legal Division, National Atomic Energy Agency
IRELAND	-	Mr. SWEETMAN, Barrister-at-Law, Dublin
	-	Department of Transport and Power
ISRAEL	-	Dr. MEIR ROSENNE, Legal Adviser of the Ministry of Foreign Affairs
ITALY	-	Mr. MARCHETTI, President of Session, Supreme Court
	-	Dr. NOCERA, National Committee for Nuclear Energy, Central Directorate for Nuclear Safety and Health Protection, Legal Section

JAPAN	-	The Head of the Policy Division, Atomic Energy Bureau, Science and Technology Agency (Mr. MIYAMOTO)
	-	Mr. SHIMOYAMA, Deputy Manager of Financial and Purchasing Department, Japan Atomic Power Company
MEXICO	-	Mr. ORTIZ-MONASTERIO, Legal Adviser, National Nuclear Energy Commission
NETHERLANDS	-	Mr. VAN GALEN LAST, Head of the Bureau of Atomic Affairs, Ministry of Foreign Affairs
	-	Mr. CORNELIS, Chief, Directorate of Nuclear Energy and Radiation Protection, Ministry of Public Health and Environmental Hygiene
NEW ZEALAND	-	Mr.O'LEARY, Executive Secretary of the Atomic Energy Committee
NORWAY	-	Mr. SKARPNES, Head of Division, Department of Legislation, Ministry of Justice
PHILIPPINES	-	Mr. CRISTOBAL, Legal Counsel for Nuclear Matters, National Power Corporation
PORTUGAL	-	Junta de Energia Nuclear
SPAIN	-	Mr. DE LOS SANTOS LASURTEGUI, Legal Adviser, Junta de Energia Nuclear
SWEDEN	-	Mr. JACOBSSON, Legal Adviser, Ministry of Justice
	-	Mr. ECKERED, Deputy Director, Swedish Nuclear Power Inspectorate
SWITZERLAND	-	Mr. PFISTER, Deputy, Office of Energy Economy, Federal Department for Transport, Communications and Energy
TURKEY	-	Mrs KIPER, Head of External Relations, Turkish Atomic Energy Commission
UNITED KINGDOM	-	Mr. COLEMAN, Assistant Treasury Solicitor, Treasury Solicitor's Department, Department of Energy
	-	Mr. RITCHIE, Deputy Legal Adviser of the Atomic Energy Authority of the United Kingdom
UNITED STATES	-	Mr. BRUSH, Office of the General Counsel, Energy Research and Development Administration
	-	Mr. STAENBERG, Nuclear Regulatory Commission
ZAIRE	-	Mr. MALU WA KALENGA, Commissioner for Nuclear Science
IAEA	-	Mr. HA VINH PHUONG, Legal Division, International Atomic Energy Agency
EURATOM	-	Mr. PRELLE, Ispra Joint Research Centre, Commission of the European Communities
WHO	-	Dr. COOPER, Principal Editor, Periodicals, World Health Organisation.

LEGISLATIVE AND REGULATORY ACTIVITIES

• *Finland*

NUCLEAR LEGISLATION

Amendment of the Atomic Energy Act of 25th October 1957

The Atomic Energy Act of 25th October 1957, as amended in 1973 and 1975, was again amended by Act No 74 of 21st January 1977, which was accompanied by an implementing Decree made on the same date.

These amendments came into force on 1st February 1977. They concern, inter alia, enforcement of the bilateral agreement between Finland and Canada on the use of nuclear materials, equipment and facilities, as well as exchange of information between both countries. Furthermore, the competent licensing authorities have been given wider powers to amend licensing conditions. (A translation of the Atomic Energy Act was published in Nuclear Law Bulletin No 11).

RADIATION PROTECTION

Order of 14th February 1975 relating to the competence of the Institute for Radiation Protection

Order 104, made in implementation of Section 3 of Act No 174 of 26th April 1957 on Radiation Protection (see Nuclear Law Bulletin No 17) was published in the Finnish Official Gazette No 100-109 of 18th February 1975 and came into force on 1st March 1975. It lays down that the Institute is competent for issuing the licences, which, under Section 2 of the Act, are required for the production, transport, import, export, possession and trade in radioactive substances, as well as for the use of all radiation-generating facilities and equipment, except for those needed for medical purposes.

Licences concerning activities referred to in the Atomic Energy Act of 25th October 1957 will continue to be issued by the Ministry of Trade and Industry.

THIRD PARTY LIABILITY

Nuclear Liability Act of 8th June 1972

Following accession of Finland on 14th January 1977 to the Brussels Convention Supplementary to the Paris Convention on Third Party Liability in the Field of Nuclear Energy (see "Agreemens" in this issue), a Decree published on 28th January 1977 declared that Sections 30 to 32 of the 1972 Nuclear Liability Act would come into force on 14th April 1977, which is the date of entry into force for Finland of the Brussels Supplementary Convention. Furthermore, another Decree of 28th January 1977 also implemented an Act of 7th January 1977 amending Section 30 of the Nuclear Liability Act, in application of the Brussels Supplementary Convention, to the effect that individuals having their habitual residence in Finland are assimilated to Finnish nationals.

The full text of the Nuclear Liability Act as amended is reproduced in the Supplement to this Bulletin.

• *France*

REGIME OF RADIOACTIVE MATERIALS

Order of 28th March 1977 concerning support for uranium prospection

This Order, published in the Official Gazette of 1st April 1977, lays down that undertakings conducting uranium prospecting programmes will receive subsidies, to be reimbursed in case of success. Such subsidies will be granted by decision of the Minister of Industry and Research, following the opinion of the Mining Committee of the Commissariat à l'Energie Atomique. In return for this support, the beneficiary undertakes to propose, in priority to meet national needs, its right of access to the ores mined from the deposit discovered, subject to the conditions prescribed by the producing country (other than France) regarding the destination of such production.

• *F.R. of Germany*

RADIATION PROTECTION

Correction of the Radiation Protection Ordinance of 13th October 1976

The Radiation Protection Ordinance described in Nuclear Law Bulletin No 18 was corrected on 21st January 1977 (BGBl. I, page 184). The correction replaces, in particular, Annex IV containing the exemption

limits, derived maximum values for annual activity intake by inhalation and ingestion, and derived maximum concentrations in air. A minor error was further corrected on 1st February 1977 (BGBl. I, page 269).

REGIME OF NUCLEAR INSTALLATIONS

Nuclear Installations Ordinance of 18th February 1977

The Ordinance concerning the procedure for licensing nuclear installations pursuant to Section 7 of the Atomic Energy Act (Nuclear Installations Ordinance) was promulgated on 18th February 1977 and published in the Federal Gazette of 23rd February 1977 (BGBl. I, page 280). A translation of the Ordinance is reproduced in the Supplement to this Bulletin.

It entered into force, pursuant to Section 22, on 1st March 1977. On the same date, the Nuclear Installations Ordinance, in the version published on 29th October 1970 (see Nuclear Law Bulletin Nos 6 and 7), ceased to have effect.

Pursuant to Section 7, sub-section 4 of the Revised Atomic Energy Act, the licensing procedure for nuclear installations is to be governed by a statutory ordinance to be issued by the Federal Minister competent for nuclear safety and radiation protection, at present the Federal Minister for the Interior, with the consent of the Federal Council (Section 54). The same applies to the procedure concerning a provisional decision under Section 7a of the Atomic Energy Act. This Ordinance is based on the principles laid down in certain provisions of the Federal Act on the Protection Against Nuisances and referred to in Section 7, sub-section 4 of the Atomic Energy Act.

Following the principles of the Federal Act on Protection Against Nuisances, the Nuclear Installations Ordinance contains, in particular, detailed provisions concerning the application for a licence, the documents to be submitted on the application and participation by third persons in the licensing procedure. The new Ordinance streamlines the licensing procedure by laying down precise provisions on the documents supporting the application and their public inspection, on the procedural requirements for a partial licence and provisional decision and on the public service of summons and decisions, if more than 300 persons having lodged objections have to be served. The position of third persons participating in the licensing procedure has been improved by public inspection of adequate documents which inform the public not having a technical background about the character and effects of the project, and by extending the inspection period. Furthermore, the provisions on the hearing to be held in order to discuss objections lodged(especially those dealing with the object and purpose, the procedure, the role of the presiding officer and his powers) have been expanded and improved.

The first four parts of the Ordinance contain provisions applicable to all licensing procedures. Part V deals with special provisions for partial licences and preliminary decisions, while the sixth part contains the final provisions.

THIRD PARTY LIABILITY

1977 Ordinance concerning financial security

This Ordinance concerning financial security pursuant to the Atomic Energy Act, a translation of which was reproduced in the Supplement to Nuclear Law Bulletin No 18, was promulgated on 25th January 1977 and published in the Federal Gazette on 3rd February 1977 (BGBl. I, page 220). Pursuant to Section 22, the Ordinance entered into force on 1st March 1977. At the same time, the Financial Security Ordinance, in the version published on 10th November 1970 (see Nuclear Law Bulletin Nos 6 and 7), ceased to have effect.

• *Italy*

RADIATION PROTECTION

Decree of the President of the Republic of 25th November 1976 implementing the Act of 30th December 1971 on the welfare of working mothers

DPR No 1026 of 25th November 1976 published in the Italian Official Gazette of 16th March 1977 contains the provisions implementing Act No 1204 of 30th December 1971 on the welfare of working mothers. It should be noted that Section 32 of the Act lays down that within ninety days of its coming into force, special standards will be made in implementation of the Act by President of the Republic according to proposals by the Minister of Labour and Social Security. DPR No 1206 provides furthermore that no working woman may be assigned to activities implying exposure to radiation, as specified in Section 65 of DPR No 185 of 13th February 1964, during pregnancy and for seven months after delivery.

Ministerial Decree of 23rd December 1976 updating the list of insanitary industries

By Decree published in the Italian Official Gazette of 12th January 1977, the Minister for Health approved the updated list of insanitary industries under Section 216 of the Unified Text of Health Laws. This Decree replaces the Ministerial Decree of 12th July 1912 on the subject and its successive amendments.

This list, divides these industries into classes 1 and 2, according to their hazard; nuclear research and power reactors, nuclear fuel reprocessing and fabrication plants, high and medium level nuclear laboratories are classified as insanitary class 1 industries, while low-level nuclear laboratories are included in class 2. Finally, Section 216 of the Unified Text lays down that any person engaging in the activities concerned is required to notify the competent authority in advance, thus giving rise where necessary, to a prohibition or to special conditions regarding such activities.

• *Philippines*

ORGANISATION AND STRUCTURE

Transfer of the Atomic Energy Commission to the Office of the President

By Presidential Decree No 606, (Official Gazette, Volume 70 of 30th December 1974) the Philippines Atomic Energy Commission was transferred from the National Science Development Board to the Office of the President. The Commission was created by the Science Act of 1958 (Act No 2067 as amended by Act No 3589) under the supervision of the Board. Presidential Decree No 606 provides that the Commission shall maintain its powers and continue to discharge the functions given to it under the Science Act of 1958 and the Atomic Energy Regulatory and Liability Act of 1968. In addition, the Decree charges the Commission with other functions, in particular in the field of research and development and dissemination of information. The Decree took effect on 1st July 1974

REGIME OF NUCLEAR INSTALLATIONS

1974 Regulations for the licensing of atomic energy facilities

These Regulations, issued by the Philippine Atomic Energy Commission pursuant to the Atomic Energy Regulatory and LiabilityAct of 1968 (Act No 5207 - see Nuclear Law Bulletin No 6) were published in the Official Gazette, Volume 70 of 3rd June 1974, and entered into force on 18th June 1974.

The general provisions state the purpose and definitions used in the Regulations, and lay down the general principle that no person shall start the construction or operation of a production or utilisation facility on any site unless an appropriate licence has been issued by the Commission in accordance with the Regulations. Three different types of permits and licence are distinguished·

- a provisional permit allowing the starting of construction of the building foundations;
- a construction permit for any further construction work;
- an operating licence.

Each application for a provisional permit shall include a preliminary site investigation report describing the safety assessment of the site, together with a complete investigation of the geological, seismic hydrological and engineering characteristics of the site and its environment. The application must further include a description of the preliminary design of equipment to be installed for the purpose of maintaining control over radioactive materials in gaseous and liquid effluents produced during normal operation and possible incidents. The application has further to identify the design objectives and the means to be employed for keeping levels of radioactive material and effluents to unrestricted areas as low as practicably achievable.

The application for a construction permit shall include a preliminary safety analysis report describing the safety assessment of the site and the facility. The report has to take account of the Commission's Atomic Energy Facility Site Criteria, the General Design Criteria for Nuclear Power Plants, and the Quality Assurance Criteria for Nuclear Power Plants and the Emergency Plans for Atomic Energy Facilities which are set forth in Appendices A to D to the Regulations. Furthermore, the application must be accompanied by an environmental report prepared in accordance with the Commission's Guide for Environmental Considerations (Appendix E).

Applications for operating licences shall include a final safety analysis report and an updated environmental report. They must also contain plans for pre-operational testing and initial operations based on the Commission's "Guide for the Planning and Pre-Operational Testing Programs" and "Guide for the Initial Startup Program".

The Regulations lay down the technical specifications to be proposed by an applicant for an operating licence, as well as the technical requirements regarding effluents from nuclear power plants in addition to the applicable provisions of the Commission's Standards for Protection Against Radiation.

The standards provided will guide the Commission in determining the granting of a permit or licence and include an examination as to whether the applicant has financial security to cover his liability for nuclear damage. Each licence will be issued for a fixed period of time, to be specified in the licence, which in no case shall exceed 35 years from the date of issuance. Upon completion of the construction or modification of the facility, in accordance with the terms and conditions of the construction permit, and subject to any necessary testing of the facility, the application shall be referred to the Nuclear Safety Advisory Board for review; this Board was established under the Atomic Energy Regulatory and Liability Act of 1968. At least 30 days notice shall be given on each such application in a newspaper of general circulation, and a hearing shall be held upon the request of any person whose interests may be affected by the application.

The Regulations also lay down special provisions concerning the amendment of permits or licences, revocation, suspension, modification of permits and licences, emergency operations by the Commission and backfitting.

Further provisions deal with nuclear fuel requirements for facilities and the application of safeguards in compliance with the international obligations of the Philippines, and the safety transport of radioactive materials.

Each holder of a construction permit or operating licence is required to allow inspection by duly authorised representatives of the Commission of his premises, records, activities and licensed materials in his possession. He is required to maintain records and to report to the Commission as laid down in the conditions of the permit or licence or Commission Regulations.

• *Sweden*

RADIATION PROTECTION

1975 Circular concerning the licence to possess and use X-ray equipment for dental diagnosis

A Circular of 23rd October 1973 issued by the State Institute for Radiation Protection deals with the licensing system for possession and use of X-ray equipment for dental diagnosis. This Circular, which repeals the previous Circular of 19th February 1959, was made in implementation of Act No 110 of 14th March 1958 on Radiation Protection. The Act prescribes that no radiological work may be carried out without a licence from the State Institute for Radiation Protection.

REGIME OF NUCLEAR INSTALLATIONS

Act of 1977 on special permits to charge nuclear reactors with nuclear fuel

The Swedish Parliament, following detailed discussions, recently approved a bill submitting the supply of fuel for nuclear reactors to a special permit, subject to the question of reprocessing and final disposal of irradiated fuel being settled. This Act was published in the Official Gazette of 3rd May 1977 and came into force on 17th May.

According to the generally accepted principle that any person carrying out industrial operations should also be responsible for ensuring that any problems arising from such operations are solved, the Act lays down that, prior to the entry into service of a nuclear reactor, adequate guarantees must be given concerning the safe handling of the waste produced by its operation. Consequently, a special permit must be obtained before any future reactor is commissioned, apart from the licensing regime applicable to all nuclear installations in Sweden. This permit will only be granted if the nuclear operator produces a contract which adequately provides for the reprocessing of spent fuel and indicates satisfactory conditions for the final storage of high-level wastes resulting from such reprocessing or, if there are no plans to reprocess the irradiated fuel, proposes satisfactory conditions for final storage of such fuel.

Special provisions are laid down concerning reactors, the construction of which has been completed on the date of adoption of the Act, but which have not yet come into service. Their situation must be put right before the end of 1977.

However, owners of reactors which are being, or have been constructed may not be able to comply with these new stipulations, although before adoption of this Act, they had obtained a licence to construct or operate the reactors concerned, and this situation has raised the question of their compensation. The Act provides that a reactor operator will be entitled to compensation from the State if he has been refused this special permit or if the stipulations in the new Act will mean that in practice he has had to give up applying for this permit.

THIRD PARTY LIABILITY

Amendment of the 1968 Nuclear Liability Act

The "Texts" Chapter of this issue contains a translation of the Sections of the Act which were amended by Act No 249 of 29th May 1974 to enable Sweden to ratify the 1971 Brussels Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material.

NUCLEAR-POWERED SHIPS

Extension of the Act on compensation for damage caused by the operation of nuclear ships

Act No 1001 of 23rd December 1976 extended the validity of Act No 158 of 17th May 1963 on compensation for damage caused by the operation of nuclear ships, which after having already been extended in 1970 and 1973 was due to expire on 31st December 1976. The Act will now remain in force until 31st December 1979. It is recalled that legislation on the third party liability of operators of nuclear ships is based largely on the provisions of the old Act of 3rd June 1960 on the third party liability of operators of land-based nuclear installations, whose provisions therefore apply, mutatis mutandis, to operators of nuclear ships (see Nuclear Law Bulletin Nos 7 and 13).

• *Switzerland*

REGIME OF NUCLEAR INSTALLATIONS

Draft Order Supplementing the Act on Atomic Energy

The situation in the nuclear field has evolved considerably at many levels since adoption in Switzerland of the Basic Atomic Energy Act in 1959. This is why the need for an overall revision of this Act was decided in 1975. To this effect, the Federal Department of Transport and Communication and of Energy, in consultation with the Federal Council, instructed an Expert Committee to prepare this revision for eventual submission to the Federal Assembly (Parliament). However, in view of the importance and length of the exercise, as well as the procedural delays required for its adoption, the Expert Committee considered that since certain parts of the Act needed to be revised urgently, it might be possible to make amendments to the present Act by means of a Federal Order of a general scope, pending adoption of the revised Act. The draft Order is presently being considered by the various competent bodies and certain of its provisions have not yet been finalised.

The need to revise the 1959 Act is based on the following considerations. Switzerland has signed the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy and the 1963 Brussels Convention supplementing it. The two Conventions came into force in 1968 and 1974

respectively and when Switzerland ratifies them, the 1959 Act must be adapted accordingly. Also, large sectors of the population contend that the present licensing procedure makes no provision for consultation of the public concerned, who do not have access to sufficient information and cannot defend their interests. Although consequent application of the Federal Act of December 1968 on administrative procedures might well enable adaptation of the licensing procedure to more modern legal concepts, it is not totally suited to the specifications required for each particular licence; consequently, certain standard procedures are considered essential.

The 1959 Act presently provides that the applicant is entitled to a licence provided the legal requirements, mainly regarding safety, are met. However, given the present climate, it is felt that the competent licensing authority should be empowered to refuse construction of more nuclear power plants than are actually needed in the overall context of energy requirements. This concept has led various circles to ask for insertion of a provision to the effect that no nuclear power plant can be constructed unless it meets a need.

Finally, the present Act is silent on certain problems or does not solve them satisfactorily, those being, inter alia, the relationship between the federal and the cantonal authorities, radioactive waste disposal and dismantling of decommissioned nuclear installations.

It is now considered in Switzerland that the licensing of nuclear power plants and other nuclear installations has highly political connotations, and that the decision-making process in this field should be adapted to this evolution. The Expert Committee therefore proposes that the competent authority should be either the Federal Assembly, or alternatively, the Federal Council.

The authority competent for licensing of nuclear power plants and for fixing the safety conditions should also determine whether the projected plant meets a need in the overall context and should also assess all the interests involved. Therefore, the Committee's proposed Order includes a provision whereby a general licence may be refused or made subject to certain requirements to meet the public interest as laid down by the 1959 Act and may also be refused if it does not meet a need

The licensing procedure for electricity generating plants is presently entrusted to the Department of Transport and Communications and of Energy, while that for other nuclear establishments, e.g. research reactors, radioactive waste storage facilities etc is entrusted to the Office of Energy Economy. However, given the political evolution, the Expert Committee considers that, as mentioned above, the licensing of nuclear installations should henceforth be the responsibility of a political authority, namely the Federal Council or the Federal Assembly, with a preference for the first alternative, since the Federal Council is responsible for implementing Federal laws, and the procedure before the Council is faster.

However, parliamentary interventions, public petitions and initiatives at cantonal and federal level ask for greater participation by the public in nuclear decisions and this concern might therefore be met in part by entrusting the decision-making task to the Federal Assembly. In the light of the above, the Expert Committee believes that the licensing procedure should therefore be amended to involve the public further in the decision-making process.

The draft Order simply regulates the overall licensing procedure and prescribes a general licence for construction of a nuclear installation. It provides for publication of the application for a general licence to enable all interested parties to put forward their objections. Furthermore, the consultation procedure, presently limited to the Canton siting the plant will be extended to the other Cantons concerned. It is considered that these provisions are sufficient in this respect for the time being since the Federal Act on administrative procedures applies and the Federal Council is empowered to enact other procedural measures if required.

The draft Order therefore lays down the conditions of the general licence covering the following the site and outline of the project, and in the case of a nuclear reactor, its type, approximate power, principal cooling system and plan of buildings. This licence must be granted prior to the other licences, which are of a technical nature (construction, entry into service and operation) which will continue to be granted in compliance with the provisions of the 1959 Act. The present procedure for site approval does not require consideration of the need for or desirability of the installation for supplying electrical power or heat to Switzerland or to a particular area. This possibility is provided under the draft Order which also prescribes assessment of the various interests involved; and consequently this general licence will have a greater scope than the present procedure for site approval.

The application for a general licence will be published and submitted to public enquiry, under the responsibility of the Federal Council, which will order the required investigations and prepare a general report including its decisions on the objections put forward. According to which will be the competent authority, it will either submit the file to the Federal Assembly or take the final decision itself.

It should be noted that a general licence will not be required for plants or reactors in operation or for projects having obtained site approval and a construction licence, while an assessment will be made concerning the need for projects having simply obtained site approval. In essence, this general licence will therefore replace the approval procedure according to current legislation without in fact repealing it.

Finally, the period of validity of the Order, which is presently being considered will be limited to 31st December 1982, by which time the overall revision of the 1959 Act should be completed. If work progresses normally, in view of its brevity and its limited duration, it is envisaged that the Order will enter into force early in 1978, even taking a referendum into account.

• *United Kingdom*

ENVIRONMENTAL PROTECTION

The Control of Pollution (Radioactive Waste) Regulations 1976 (Statutory Instrument 1976 No 959)

The discharge into a public sewer of trade effluent from trade premises is governed by Sections 43 and 44 of the Control of Pollution Act 1974, under which water authorities in England and Wales have certain

powers to regulate such discharges. These provisions have not however applied hitherto to radioactive waste, the disposal of which requires the authorisation of the Secretary of State for the Environment (and for Wales, the Secretary of State for Wales) and, in certain cases, the Minister of Agriculture, Fisheries and Food, under the Radioactive Substances Act 1960. The present Regulations apply Sections 43 and 44 of the 1974 Act to radioactive waste so as to give water authorities control over liquid discharged into their sewers notwithstanding that it contains radioactive waste, while retaining the Secretary of State's power to control the disposal of the radioactive parts of such waste under the 1960 Act.

THIRD PARTY LIABILITY

The Congenital Disabilities (Civil Liability) Act 1976

This Act now governs civil liability where a child is born disabled in consequence of some person's fault. Sections 3 and 4 of the Act amend the Nuclear Installations Act 1965 so that children born disabled in consequence of a breach of duty under the 1965 Act may claim compensation.

The Act gives effect to recommendations in a report on injuries to unborn children published in 1974 by the Law Commission, a body set up by statute in 1965 for the purpose of promoting the reform of the law.

Section 1 of the 1976 Act sets out the general rules which are to govern liability when a child is born disabled as the result of an occurrence before its birth. This is a matter which hitherto has been governed by the common law of England.

Section 3 amends the Nuclear Installations Act 1965 - the Act which gives effect in the United Kingdom to the Paris Convention on Third Party Liability in the Field of Nuclear Energy. In general it follows the provisions of the general rules laid down in Section 1, but begins by providing that these general rules do not in themselves affect the operation of the special regime of liability laid down by the 1965 Act

Section 3(2) then provides that anything which -

(a) affects a man in his ability to have a normal healthy child,

or

(b) affects a woman in that ability, or so affects her when she is pregnant that her child is born with disabilities which would not otherwise have been present,

is an "injury" for the purposes of the 1965 Act, so that the persons concerned will be able to recover compensation for that injury under the 1965 Act from the operator of the nuclear installation concerned, if they can establish that they have been affected in this way and that the cause was a nuclear occurrence or an emission of ionizing radiations for which the operator is liable under the 1965 Act. A woman who is involved in such an occurrence or emission while she is pregnant, with the result that her child is born disabled, will be regarded as having been injured even if she has herself suffered no physical or mental injury.

It is thought that in both cases the plaintiff would, even before the 1976 Act, have been able to establish injury in such circumstances, but this provision sets the matter beyond doubt.

Subsection (2) of Section 3 also prevents the defence being raised, in response to a claim made by a child under Section 3(3) on the ground that he was born disabled "as a result of an injury to either of his parents", that the child's disability was not the result of an injury to the mother since the mother's health was not impaired by the nuclear incident.

Section 3(3) gives a cause of action to the disabled child. It provides that if a child is born disabled as the result of an injury to either of its parents caused in breach of a duty imposed by any of Sections 7 to 11 of the 1965 Act (under which the operator of a nuclear installation is required to secure that nuclear incidents do not cause injury or damage), the child's disabilities are to be regarded under the subsequent provisions of the 1965 Act, dealing with compensation and other matters, as injuries caused on the same occasion, and by the same breach of duty, as was the injury to the parent.

The child will thus be able to recover compensation from the operator despite the fact that the child was not legally in existence as a person at the time of the nuclear incident and could not therefore have been owed any duty by the operator.

It is provided in Section 4(1) that "born disabled" in this context means being born with any deformity, disease or abnormality, including predisposition (whether or not susceptible of immediate prognosis) to physical or mental defect in the future; and Section 4(2) provides that "born" means born alive, the moment of a child's birth being when it first has a life separate from its mother

Section 3(4) then goes on to deal with the subject of contributory fault. Under Section 13(6) of the 1965 Act compensation may be reduced by reason of the fault of the claimant only to the extent that the cause of the injury is attributable to an act of the claimant committed with the intention of causing harm, or with reckless disregard for the consequences. The 1976 Act now provides that the child's compensation under Section 3(3) may similarly be reduced where the child's disability was caused by the deliberate or reckless act of his parent.

Section 3(5) develops this further by providing that no compensation shall be payable to the child if the injury to the parent preceded the time of the child's conception, and at that time either or both of the parents knew the risk of their child being born disabled.

Section 4(4) provides that no compensation for loss of expectation of life may be recovered unless the child survives birth for 48 hours.

Section 4(6) enables the provisions of Section 3 to be extended by Order in Council to any of the Channel Islands, the Isle of Man or to any other territory outside the United Kingdom for the international relations of which the Government of the United Kingdom are responsible.

Section 6(2) provides that the 1976 Act extends to Northern Ireland but not to Scotland. The 1965 Act extends to the whole of the United Kingdom, but the Scottish Law Commission has advised that under the law of Scotland, which is not the same as the law of England, a child born disabled in the circumstances described in Section 3 would be able to recover compensation.

• *United States*

ORGANISATION AND STRUCTURE

Termination of the Joint Congressional Committee on Atomic Energy

The Joint Committee on Atomic Energy (JCAE) was established by Section 15of the Atomic Energy Act of 1946 and retained in Sections 201 to 207 of the Atomic Energy Act of 1954. The Committee is composed of nine members of the House of Representatives and nine members of the Senate. It is authorised to oversee activities of the Nuclear Regulatory Commission (NRC) and the Energy Research and Development Administration (ERDA), and to make continuing studies of the problems relating to the development, use and control of atomic energy. For this purpose, the Committee may conduct hearings and request information from all government agencies. NRC and ERDA shall keep the Committee fully and currently informed with respect to their activities. All bills, resolutions and other matters in Congress relating primarily to NRC and ERDA, or to the development, use and control of atomic energy are to be referred to the JCAE.

In January 1977, the House of Representatives adopted a resolution removing all legislative authority from the JCAE and distributing it among five Standing House Committees. As regards NRC, the Committee on Interior and Insular Affairs and the Committee of Interstate and Foreign Commerce are given jurisdiction over the regulation of nuclear facilities The House International Relations Committee will have jurisdiction over the non-proliferation of nuclear technology and nuclear hardware, as well as for all agreements for co-operation in the export thereof.

With respect to ERDA, the Science and Technology Committee will have legislative authority over all energy research and development while the Interstate and Foreign Commerce Committee's jurisdiction and that of the Interior and Insular Affairs Committee will cover research and development projects. The Armed Services Committee will exercise legislative jurisdiction over military applications of nuclear energy. The International Relations Committee has the same jurisdiction as in the case of NRC

On 4th February 1977, the US Senate passed a resolution reorganising the Senate's Committees. The reorganisation became effective on 11th February 1977. The new Committee on Environment and Public Works has jurisdiction over US nuclear energy matters which includes non-military environmental regulation and control of nuclear energy, environmental policy and environmental research and development. The new Committee on Energy and Natural Resources has responsibility for nuclear research and non-military nuclear research and development. Jurisdiction of the Committee on Foreign Relations covers international aspects of nuclear energy, including nuclear transfer policy. The Committee on Armed Services has legislative authority over national security aspects of nuclear energy. Finally, the new Committee on Governmental Affairs shares jurisdiction over the organisation and management of US nuclear export policy with the Foreign Relations Committee.

As the JCAE was established by the Atomic Energy Act as a Joint Congressional Committee, its formal termination will require an amendment to this Act. Appropriate Committees have been charged with preparing

legislation to that effect by 1st July 1977. Until the JCAE's statutory authority is terminated, the provisions of the Atomic Energy Act cited above, remain in effect. They will, however, have no practical significance as no legislation can be referred to JCAE according to the resolutions. At present, the JCAE has five Senate members, but no House members and has not been organised for the 95th US Congress.

THIRD PARTY LIABILITY

Implementation of legislation amending the Price-Anderson Act

Nuclear Law Bulletin No 18 describes the rules which the Nuclear Regulatory Commission (NRC) proposed to adopt in order to implement this legislation by amending Title 10 Code of Federal Regulations, Part 140 (10 CFR 140), entitled "Financial Protection Requirements and Indemnity Agreements". These rules have now been published in the Federal Register, Volume 42, No 1 of 3rd January 1977, pages 46 et seq., and will become effective on 1st August 1977. The rules adopted are the same as the proposed ones described in Nuclear Law Bulletin No 18.

Increase of nuclear liability and property insurance coverage

The two nuclear liability insurance pools, the Nuclear Energy Liability-Property Insurance Association (NEL-PIA) and the Mutual Atomic Energy Liability Underwriters (MAELU), have announced that they have increased, as of 1st January 1977, their combined underwriting capacity for nuclear third party liability from $125 to $140 million. The property pool coverage will increase from $175 million to $220 million. The implementing amendments to 10 CFR 140 were published in the Federal Register, Volume 42, No 74 of 18th April 1977, pages 20139 et seq., and became effective on 1st May 1977.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

• *Norway*

LIABILITY FOR DAMAGE CAUSED BY MEDICAL X-RAY TREATMENT*

On 17th April 1975 the Local Court of Aalesund pronounced judgment in a case involving damage claims for personal injury

The facts of the case may be summarised as follows. On 28th June 1966 Mrs Arna Istad consulted a chief physician at the Aalesund Hospital, Johannes Sloerdahl M.D., in his private practice about some protruding bloodvessels (cavernous haemangiom) on the sides of her nose and around her nostrils. Dr Sloerdahl gave her X-ray treatment. The patient then developed a skinless wound which rendered a yellowish green matter. The wound was later on covered by a sort of "cake" under which the red flesh showed, and some wartlike growths developed on the right side of Mrs Istad's nose. Mrs Istad twice consulted the State Hospital in Oslo in order to obtain plastic surgery, but the doctors found that such surgery was not indicated, as there was little hope of bettering the appearance of the nose. Mrs Istad was greatly bothered by the disfigurement, and she eventually underwent plastic surgery performed by a specialist in Oslo Four operations were performed - from September 1971 to January 1974

Mrs Istad brought proceedings against the widow of Dr Sloerdahl, who died in January 1974 leaving his estate in the possession of his widow. The plaintiff claimed compensation for damages - material and non-material. The plaintiff contended that Dr Sloerdahl was guilty of gross fault as Mrs Istad had suffered physical injury and disfigurement and mental injury as a result thereof, from the X-ray treatment he had given her. As to the economic damages the plaintiff's claim included past and future costs of cosmetics, medical examinations and treatment and expenses connected therewith, and compensation for loss of income due to her physical and mental injury and the medical treatment of the injury, limited to a total of N.kr. 100,000. The plaintiff furthermore claimed compensation for non-material damages (satisfaction) on account of her disfigurement and the physical and mental pain and suffering that had been inflicted upon her, limited to N.kr. 50,000.

* Note communicated by the Norwegian authorities.

The defendant admitted negligence, thus admitting liability as far as economic damages were concerned. The defendant denied gross fault, thus not admitting liability for non-material damages, which according to Norwegian law may be granted by the courts only when the injury was caused intentionally or through gross fault, and even then subject to the Court's discretion. The defendant contended that the economic damages did not reach the amount claimed by the plaintiff and left the amount to be decided by the Court.

At the time of the proceedings Mrs Istad's appearance had bettered considerably, due mainly to the last plastic surgery. She was however to undergo plastic surgery for a fifth time. The danger of malign development was considered to be small by the doctors who had been involved in the examination and treatment of Mrs Istad; regular controls and ordinary watchfulness were thus regarded as an adequate precaution in this respect.

The Court found that the cause of the injury was that the patient had received an overdose of radiation. Dr Sloerdahl having deceased the Court relied on his letters to the insurance company that held his liability insurance, for the facts about the treatment. Dr Sloerdahl's intention was to give Mrs Istad a series of three X-ray treatments, giving her the first time a 65-second dose of 500 R on each side of the nose, using 40 kV, 15 mA, at a focusing distance of 10 cm from the skin. The radiation was given through a leadglass tube with an orifice of approximately 2.5 cm using a 54 mm aluminium filter. He had bought new X-ray equipment in 1949 and he had used it in his private practice ever since, without accident. His only explanation as to what might have happened when he treated Mrs Istad, was that he must have forgotten to insert the filter. Mrs Istad's testimony did not bring any information that might indicate another explanation. The Court thus held this explanation to be true.

The Court did not find that Dr Sloerdahl, although he had admitted in his letters to having committed a fault, was guilty of gross negligence. This kind of accident or fault, the Court stated, will invariably happen every once in a while when a great number of treatments are performed, even when performed by a trained and experienced specialist such as Dr Sloerdahl - a physician since 1936 and a radiologist since 1949.

The Court also noted that according to Norwegian law it takes a very clear case of negligence to judge a physician liable for injuries inflicted in connection with medical treatment. On these grounds the Court stated that Dr Sloerdahl had not committed a gross fault, and compensation for non-material damages was thus not awarded.

As to compensation for economic damages, the Court examined the costs and expenses that Mrs Istad claimed were due to the injury. The plaintiff could show little proof as to the amounts involved, and the Court thus had to make an estimate. The Court ruled that the defendant should pay N.kr. 33,000 to Mrs Istad.

The judgment has not been appealed and is thus final.

• *United States*

UNCONSTITUTIONALITY OF SECTION 170(e) OF THE PRICE-ANDERSON ACT

1. By memorandum of decision dated 31st March 1977, the United States District Court for the Western District of North Carolina, Charlotte Division, held and declared that the provisions of 42 United States Code (U.S.C.) Section 2210(e) /Section 170(e) of the Atomic Energy Act/ and any other provisions necessary to implement the $560 million limitation of liability were unconstitutional and unenforceable insofar as they applied to nuclear incidents occurring inside the United States (Carolina Environmental Study Group, Inc. et al, vs United States Atomic Energy Commission et al.). The impact of the decision is being studied by the defendants, and it is likely that it will be appealed to the US Supreme Court.

2. In its pertinent part, Section 170(e) of the Atomic Energy Act as amended provides as follows:

> "The aggregate liability for a single nuclear incident of persons indemnified, including the reasonable costs of investigating and settling claims and defending suits for damage, shall not exceed (1) the sum of $500,000,000 together with the amount of financial protection required of the licensee or contractor or (2) if the amount of financial protection required of the licensee exceeds $60,000,000, such aggregate liability shall not exceed the sum of $560,000,000 or the amount of financial protection required of the licensee, whichever amount is greater: Provided, that in the event of a nuclear incident involving damages in excess of that amount of aggregate liability, the Congress will thoroughly review the particular incident and will take whatever action is deemed necessary and appropriate to protect the public from the consequences of a disaster of such magnitude: ..."*

3. The plaintiffs in this case are the Carolina Environmental Study Group, the Catawba Central Labour Union and 36 individuals. The defendants are the former United States Atomic Energy Commission and its then Commissioners, as well as the Duke Power Company. This Company has harnessed many miles of the Catawba river in North and South Carolina with numerous dams to supply water for a number of conventional and nuclear power plants. In South Carolina, it operates a nuclear power plant at Oconee (three pressurised water reactors of 871 MWe each) and has begun constructing another nuclear power plant at Lake Wylie some 15 miles south-west of the city of Charlotte with a population of 300,000; the latter plant (with eventually two PWRs each 1153 MWe) is called the Catawba nuclear station. In North Carolina, the Duke Power Company is constructing the McGuire nuclear power plant (two PWRs 1180 MWe each) situated at Lake Norman about 17 miles north-west of Charlotte. Within a 50 mile radius of each plant, the present population is about 1½ million

4. In its opinion, the Court first describes the nuclear power plants in question and their immediate and potential effects on plaintiffs and their environment. A large portion of the opinion is devoted to evidence concerning the likelihood of a major accident and the extent of resulting

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* The text of the amended Price-Anderson Act is reproduced as a Supplement to Nuclear Law Bulletin No 17.

personal injury and damage. The estimates of the Rasmussen Study* are cited in extenso as well as expert witnesses criticising the results of the Study. In conclusion, the Court found that the probability of a major nuclear incident causing damage exceeding the $560 million limit of the Price-Anderson Act was real. A core melt at the nuclear power stations in question could "reasonably be expected to produce hundreds and thousands of fatalities, numerous illnesses, genetic effects of unpredictable degree or nature for succeeding generations, thyroid ailments and cancers in numerous people, damage to other life and widespread damage to property. Areas as large as several thousand square miles might be contaminated and require evacuation."

Relying on testimony before the 1956/57 hearings of the Joint Committee on Atomic Energy preceding the adoption of the Price-Anderson Act, the Court found that the limitation of liability established by the Act was a condition precedent for the construction and operation of nuclear power plants.

5. The Court then proceeded to examine the three legal issues presented by the case. Firstly, it declared that the plaintiffs have "standing to sue", i.e., to bring the action in order to test the constitutionality of the Price-Anderson Act. "Standing to sue", the Court said, is a requirement that the plaintiffs have been injured or have been threatened with injury by the governmental action complained of. Such standing was dependent on the facts, and the Court held that the following facts were relevant in the particular case:

(a) The McGuire and Catawba nuclear power plants would not be under construction and would not be likely to operate without the guarantee of limited liability provided by the Price-Anderson Act.

(b) The operation of these plants would cause present and certain injury to the plaintiffs by the release of small but regular amounts of radioactivity.

(c) The plant operation would substantially increase temperature of the waters and the lake and thereby disturb the balance of animal and plant life as well as diminish the recreational value of the lake.

(d) The threat and present fear of catastrophic incidents was real and objectively reasonable. There was the real possibility that an incident could occur which would breach the containment building, contaminating wide areas and creating injuries and property damage. There was also the chance of a core melt resulting in discharge of large quantities of contaminants over a wide area.

(e) Some of the plaintiffs lived within half a mile or less of the reactor site and one had already moved away because of the plant being constructed. The city of Charlotte was only 16 or 17 miles respectively from the two plants under construction and would therefore be exposed to unfavourable winds blowing from either direction.

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* Reactor Safety Study, An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants, WASH-1400 (NUREG-75/014), United States Nuclear Regulatory Commission, October 1975.

(f) Without even considering property damage, it would appear, in the light of recent awards for death and personal injury, that compensation for death or major injuries to 500 or 1,000 people could produce damages vastly exceeding $560 million.

6. The Court held, secondly, that the case presented a "live controversy ripe for decision". The plaintiffs suffered two kinds of injuries On the one hand, there was the present everyday injury through heat and radiation originating from an operating nuclear power plant. On the other hand, there was the reasonable possibility of a nuclear incident causing injury for which they would not be fully compensated as a result of the liability limit of the Price-Anderson Act. Under the law of North Carolina, the right of action arose as soon as a wrongful act had created injury however slight. If a suit were not brought within the three year period set by the statute of limitation, the plaintiffs' action might be barred.

7. The Court declared, thirdly, that the Price-Anderson Act was unconstitutional as it violated the equal protection and due process provisions of the Fifth Amendment to the United States Constitution.*

(a) It violated the due process clause because it allowed the destruction of the property or the lives of those affected by a nuclear catastrophe without reasonable certainty that the victims would be justly compensated. The amount of compensation was not rationally related to the damage, while the likelihood of a major catastrophe might be very low, the resulting damage might nevertheless far exceed the liability limits laid down by the Price-Anderson Act. These limits tended, contrary to the purpose of the Atomic Energy Act, to encourage irresponsibility in matters of safety and environmental protection. The argument put forward by the defendants that the limitation of liability was justified by an exchange of burdens and benefits in the sense that victims would be compensated for this limit by a certainty of recovery was rejected by the Court. The operators gave up nothing of consequence when waiving certain defences in indemnity agreements with the AEC (now NRC) /see Section 170(n)(1) of the Atomic Energy Act/. Under the law of North Carolina, persons engaged in ultrahazardous activities incurred strict liability, in accordance with the precedent laid down by the British case of Rylands vs Fletcher. Consequently, the defendants gave up nothing of value when waiving the defense of negligence. The same was true for a defense based on the North Carolina Statutes of limitation. Furthermore, power companies did not enjoy governmental or charitable immunity. The Price-Anderson Act afforded neither promptness nor certainty of recovery. Whenever a competent US District Court determined that liability from a nuclear incident might exceed the limit of $560 million, payments exceeding 15% of that limit might not be made without Court approval, and no payments above this could be made unless in accordance with an approved distribution plan, due account being taken of future claims /Section 170(o) of the Atomic Energy Act, 42 U.S.C. Section 2210(o)/. Under this procedure, claims could not be settled on their merits, but would rather be compensated in terms of a proportion of the available funds, thus bearing more relationship to the number of people injured than to the severity of the injury. A further problem of the

* This Amendment, in its pertinent part reads as follows: "No person shall ..... be deprived of life, liberty or property without due process of law; nor shall private property be taken for public without just compensation."

Price-Anderson Act was to be found in the fact that the liability limit was absolute and applied even if a nuclear catastrophe was caused by wilful conduct or gross negligence. The expectation that Congress might make some relief immediately available under Section 170(e) of the Atomic Energy Act would still leave the Act short of providing the "reasonable, certain and adequate provision for obtaining compensation" which due process of law required.

(b) The Act violated the equal protection requirement included within the due process clause of the Fifth Amendment because it placed the burden of a benefit to the whole society - the encouragement of nuclear power generation - on an arbitrarily chosen segment of society, namely those injured by a nuclear catastrophe and who happened to live in the areas touched thereby. The Act irrationally and unreasonably placed a greater burden on persons damaged by nuclear incidents than on those damaged by other types of incidents and involving power companies. It relieved the owners of power plants of their responsibility and placed the loss upon the victims of nuclear incidents, who, by definition, were least able to stand such loss. Limitation of liability was unnecessary to serve any legitimate public purpose. Other arrangements could easily be devised such as a liability pool with contributions from all power companies building or operating nuclear power stations. This would place financial responsibility on the power company stockholders and customers who profited most directly from any improvement in the costs and usefulness of electrical power. Another rational alternative would provide for payment of nuclear damage out of the Federal Treasury, thus spreading the loss among those who benefited indirectly by having the nation's power supply increased, as well as among those who benefited directly. This reasoning was in line with two recent decisions by state supreme courts which had declared invalid state statutes limiting recovery for damages caused by medical malpractice.

SHIPMENT BY AIR OF PLUTONIUM AND HIGHLY ENRICHED URANIUM - STATE OF NEW YORK VS. NUCLEAR REGULATORY COMMISSION ET AL.

1. This case arose under the National Environmental Protection Act of 1969 (NEPA). The plaintiff-appellant, the State of New York, brought a consolidated appeal from three interlocutory orders of the US District Court for the Southern District of New York. These three orders refused two requests by the appellant for preliminary injunctive relief, denied appellant's motion for summary judgment, and granted a motion to dismiss made by two of the defendants-appellees.

The US Court of Appeals for the Second Circuit, by judgment of 14th February 1977, affirmed the District Court's orders refusing to grant preliminary injunctions and dismissed the two appeals against the order denying appellant's motion for summary judgment and the order granting the motion to dismiss.

2. In May 1975, the plaintiff-appellant brought a civil action on behalf of itself and all the residents and citizens of the State of New York. Named as defendants were seven federal agencies and their chief executive officers, namely the Nuclear Regulatory Commission (NRC), the

Energy Research and Development Administration (ERDA), the Department of Transportation, the Department of State, the Civil Aeronautics Board, the Federal Aviation Administration and the US Customs Service. The plaintiff asserted that all defendants had violated Section 102(2)(c) of NEPA* by licensing, approving, allowing or executing transportation by air of plutonium and other "special nuclear material"**, in particular highly enriched uranium, without having compiled an environmental impact statement relating to the consequences of air shipment of special nuclear materials into, out of, within or over the City and State of New York and the United States and its territories. In addition to a declaratory judgment, the plaintiff sought the issuance of an order annulling any existing licences, approvals or other actions of the defendants permitting such shipment by air and prayed further that the defendants be enjoined from issuing any such licences or taking any other actions which would permit or cause such air shipments to be executed in the future. The defendants-appellees, while never conceding that an environmental impact statement was required in the situation presented by the case, were in the advanced stage of preparing such a document, the completion of which was set for early 1977.

3. All defendants were alleged to be involved, to a greater or lesser extent, in the air transport of special nuclear material or in the regulation of its transportation. The most directly involved agencies are the NRC and ERDA. NRC licences all importers and exporters and domestic carriers of special nuclear material without requiring any particular mode of transportation. ERDA produces special nuclear material at its own facilities and transports it or arranges for its transportation. Subsequent to the inception of this lawsuit, Congress imposed strict limitations on the air shipment of plutonium. Section 201(a)(5), as amended, of the Energy Reorganisation Act of 1974 prohibits the NRC from licensing the air transportation of plutonium until such time as the NRC certifies to Congress that a safe container has been developed and tested which will not rupture under crash and blast testing equivalent to the crash and explosion of a high flying aircraft. Exempted from these restrictions are air shipments of plutonium "contained in a medical device designed for individual human application "(i.e. cardiac pacemakers). Similar restrictions are imposed on the air shipments of plutonium by ERDA (ERDA Authorisation Act 1976, Sections 501 and 502). Furthermore, federal regulations require that special security arrangements be undertaken whenever amounts of more than 2 kg of plutonium or 5 kg of highly enriched uranium are being transported. There are, however, no restrictions on the air transportation of highly enriched uranium Apart from certain exceptions, air shipments of enriched uranium and plutonium are restricted to all-cargo flights.

The District Court issued three interlocutory orders, pending a decision on the merits, from all of which the plaintiff timely appealed

By the first order of 9th September 1975, the District Court denied plaintiff-appellant's motion for a preliminary injunction. By this motion, the plaintiff had sought, pending disposition of the merits, an injunction annulling all existing, and restraining the issuance of future, licences and approvals, as well as restraining all other actions by defendants permitting the transportation by air of plutonium and other special nuclear material into, out of, within or over the city and State of New York and the United States and its territories.

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* The text of this Section is reproduced in Mr Abel's Article in Nuclear Law Bulletin No 13.

** This term is defined in Section 11(z)(aa) of the Atomic Energy Act (see the Supplement to Nuclear Law Bulletin No 17).

By the second order of 23rd December 1975, the District Court granted the motion of two defendants, the Civil Aeronautics Board and the US Customs Service, to dismiss the complaint insofar as it was directed against them on the grounds that the plaintiff had failed to state a claim against them.

The third order dated 7th May 1976 denied two motions of the plaintiff. The first one was a motion for summary judgment declaring that defendants were in violation of NEPA and ordering the establishment of a mandatory timetable for the development of an environmental impact statement. The second motion repeated the arguments for granting a preliminary injunction.

It is the Court of Appeals' decision concerning the appeal against the first interlocutory order which is the most interesting one. The decision dismissing the appeal against the second order and affirming the third one is based mainly on procedural grounds and lack of jurisdiction.

The Court of Appeals cited the standards which are to be applied by a court in determining whether a motion for preliminary injunction should be granted. To obtain such injunction, the movant must clearly show either (1) probable successes on the merits and possible irreparable injury, or (2) sufficiently serious questions going to the merits to make them a fair ground for litigation and a balance of hardships tipping decidedly towards the party requesting preliminary relief. The Court of Appeals affirmed the District Court Judge's reasoning, who had assumed, for purposes of argument, that the plaintiff had made a sufficient showing of likelihood of successes on the merits, but had not established a threat of irreparable harm. The plaintiff had contended, firstly, that a violation of NEPA in itself and as a matter of law constituted irreparable harm of sufficient magnitude to warrant the issuance of a preliminary injunction. In the alternative, the plaintiff had asserted that, if this was not the case, the record nevertheless established a substantial possibility of irreparable harm. An aircraft transporting plutonium might crash accidentally and a catastrophic dispersal of this deadly radioactive element might occur. The second category of potential injury involved terrorist operations. A terrorist might intentionally shoot down an aircraft carrying plutonium so as to cause lethal dispersal of radioactive particles, or such aeroplane might be hijacked, or the nuclear material stolen so that the terrorists could use the plutonium or highly enriched uranium to make a bomb or some other weapon.

The first argument was rejected by the Court of Appeals in line with previous jurisdiction. It pointed out, inter alia, that, in the case at hand, the granting of a preliminary injunction was not necessary to preserve a status quo, such as in the case of trees being cut, soil being eroded or wildlife habitats being destroyed.

As to the second argument, the Court of Appeals confirmed the District Judge's finding that the alleged threats of harm from either an accidental crash or terrorist activities provided no sufficient basis to justify issuance of a preliminary injunction. In the Court's view, the plaintiff had failed to establish that there was any but the most remote of possibilities that an accidental crash of an aeroplane transporting special nuclear material would occur or, if occurring, would result in the various catastrophic consequences alleged by the plaintiff. With respect to an accidental or intentionally caused air crash, only accidents involving an aircraft carrying plutonium could present any risk of lethal dispersal of radioactivity as highly enriched uranium did not have the dispersive characteristics of plutonium. The Court of Appeals went on to state the patent improbability of this type of risk

by examining various factors. In 25 years of plutonium shipment by air, there had been no accident involving any release of plutonium. This was not at all surprising because, as shown by statistics, the probability that any particular commercial aircraft would crash was extremely small, in particular with respect to all-cargo flights to be used for such transports according to US legislation. The threat was further diminished by the fact that there was only the most remote probability that one of the relatively few aircraft that did crash would be transporting plutonium at that very time. Even then, the cargo might not be at all affected, in particular in view of container specifications laid down by the US Department of Transport. Of further significance was the fact that more than 46% of all aircraft accidents occurred over water or soft soil and crashes in these environments were not likely to result in destruction of the containers. Furthermore, the recently enacted provisions on air transport of plutonium had resulted in a further reduction in a number of air shipments. Even if an aircraft carrying plutonium crashed and the plutonium container cracked, the disaster foreseen by the plaintiff would be further dependent on where the plane crashed, whether the plutonium was released beyond the fuselage of the aircraft, in what form the plutonium was being transported and whether the meteorological conditions were such that high level of dispersal could be achieved.

The Court of Appeals also confirmed the District Judge's opinion as to the threat of potential terrorist activities. The lower court had realised that if the air transportation of plutonium and highly enriched uranium were enjoined, these materials would have to be shipped by surface modes of transportation. It had therefore argued that the shipment by air of these materials actually reduced the possibility of a successful terrorist operation. This conclusion was based on the obvious fact that air shipment reduced the transit time and prevents terrorists from gaining access at times other than before or after the flight. The possibility that an aircraft could be brought down by a terrorist missile did not disturb this basic consideration. The threat of hijacking was much less significant with respect to all-cargo flights required under US legislation for shipments of plutonium and highly enriched uranium.

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *Euratom*

ENTRY INTO FORCE OF THE EURATOM-IAEA AGREEMENT AND OF THE COMMISSION'S IMPLEMENTING REGULATIONS

The Agreement of 5th April 1973, and the Protocol thereto, between Belgium, Denmark, the Federal Republic of Germany, Ireland, Italy, Luxembourg, the Netherlands, the European Atomic Energy Community and the IAEA in implementation of Article III(1) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons entered into force pursuant to the first sentence of Article 25(a) thereof, on 21st February 1977 (see Nuclear Law Bulletin No 11).

The Agreement of 1st March 1972 between Denmark and the IAEA and the Agreement of 29th February 1972 between Ireland and the IAEA for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons have been replaced by the above-mentioned Agreement in accordance with Protocols concluded with these States.

A Commission Regulation (Euratom) 3227/76 of 19th October 1976, concerning the application of the provisions on Euratom safeguards, was published in the Official Journal of the European Communities, No L363 of 31st December 1976, and came into force fifteen days after its publication.

It replaces the Commission's previous Regulations Nos 7 and 8 (respectively dated 18th February and 12th March 1959), whose provisions had be adapted to the most recent developments in the field of safeguards and, in particular, to the new requirements created by the abovementioned international Agreement of 5th April 1973.

To come into force, this Agreement had to become applicable under Article 102 of the Treaty of Rome in accordance with the provisions of the respective domestic laws of the seven States concerned.

This Agreement includes a series of obligations binding for the most part on the European Community as a whole, but which, in certain cases, are binding directly on each Member State party to the Agreement

In particular, each State is under obligation to accept and to see that persons and undertakings producing, using or storing in any way on its territory, source materials or special fissile materials, accept the inspections and verifications to be undertaken by the International Atomic Energy Agency in accordance with this Agreement.

In order to fulfil this obligation, the States concerned must take the legislative and/or regulatory measures required to enable the Agency to carry out its duty.

A proposal by the Commission, based on the procedure provided by Article 203 of the Euratom Treaty officially introduced in July 1976, and aiming to ensure by means of a Council regulation uniform implementation of the Agreement in all the countries where it should apply having failed because of the formal opposition of France (under Article 203 the proposal had to be unanimously adopted by the Council), the various Community Member States concerned had to take measures in domestic law while ensuring, to the extent possible, the implementation of harmonised national provisions.

The new Regulation of the Commission of 19th October 1976 has attempted, in the light of experience acquired, and with a view to ensuring the full effectiveness of Community safeguards, to define and bring up to date the nature and extent of the requirements referred to in Article 78 and Article 79 of the Euratom Treaty, in particular, as regards the transportation of, or commerce in nuclear materials.

In these special control provisions established by the individual decision of the Commission, and following the consultation of the persons and the Member State concerned, the Commission lays down the practical procedures, according to which, the persons or undertakings involved must meet the requirements in relation to safeguards imposed on them.

To this effect, the Commission uses the declarations of basic technical characteristics and information on the outline programme of activities communicated by persons or undertakings setting up or operating installations for the production, separation or other use of source materials or special fissile materials for the processing of irradiated nuclear fuel, as well as by persons or undertakings responsible for the storage of source or special fissile materials.

The Regulation also lays down provisions on.

- the system of accounting for and control of nuclear materials to be maintained;

- the advance notifications to be given to the Commission in cases of import and export of source materials and fissile materials;

- the accounting of and presentation of records on ores;

- the carriers of source materials and special fissile materials or those storing them temporarily during a transfer operation;

- every intermediary whatsoever taking part in the conclusion of any contract for the supply of nuclear materials.

If the obligations following from the Community's special commitment concerning the application of safeguards to source materials and special fissile materials on the territory of non-nuclear weapon Member States party to the Non-Proliferation Treaty, take the form of particular safeguard provisions, other provisions take account of the fact that on the territory of Member States not party to the Agreement, certain installations, or parts of installations, as well as certain materials, are liable to be assigned to the production cycle for defense requirements.

• *International Atomic Energy Agency*

XXTH REGULAR SESSION OF THE GENERAL CONFERENCE

At the invitation of the Government of Brazil, the XXth regular session of the General Conference took place in Rio de Janeiro from 21st to 28th September 1976 This was the third time the IAEA held its General Conference away from Vienna - the two previous ones had been held in Tokyo and Mexico City in 1965 and 1972 respectively. The General Conference was attended by delegations from eighty Member States and two other States, by representatives of the United Nations, four specialised agencies, six inter-governmental organisations, and by observers from five non-governmental organisations.

The General Conference approved Nicaragua for membership of the Agency, thus bringing the total membership to 110. Among other things, it also approved an invitation to the Palestine Liberation Organisation to attend the sessions of the IAEA General Conference in the capacity of an observer and established revised principles for the assessment of Members' contributions towards the Agency's regular budget which was set at an amount of US $43.5 million for 1977.

With respect to the annual designation of Members to the Board of Governors pursuant to Article VI.A.1 of the Agency's Statute, the General Conference requested the Board to review the annual designation of South Africa as the Member for the area of Africa, taking due account of the inappropriateness and unacceptability of the apartheid regime of South Africa as the representative of the area of Africa, and to submit a report to the General Conference at its next regular session in 1977.

STATUS OF THE NON-PROLIFERATION TREATY (NPT)

Switzerland deposited its instrument of ratification of NPT on 9th March 1977 in Washington. Japan became a party to NPT on 8th June last year. The number of parties to NPT now total 102 with Switzerland's ratification. The NPT was first signed on 1st July 1968 in Washington, London and Moscow. It entered into force on 5th March 1970.

SAFEGUARDS AGREEMENTS

An agreement between the United Kingdom, the European Atomic Energy Community (EURATOM) and the IAEA for the application of safeguards in the United Kingdom in connection with NPT was approved by the Board of Governors in June 1976 and signed on 6th September 1976. The agreement was concluded to implement an offer made by the United Kingdom in 1967 to accept IAEA safeguards, subject to exclusions for national security reasons only, at such time as international safeguards were put into effect in Community non-nuclear-weapon States in implementation of NPT. The agreement enables the Agency to inspect nuclear materials in a very comprehensive range of nuclear facilities in the United Kingdom while taking into account the Euratom inspection effort at those facilities.

A similar agreement between the United States of America and the IAEA was approved by the Board of Governors in September 1976. It would allow the Agency to apply safeguards to all nuclear activities in the USA, excluding only those with direct national security significance

The Board of Governors also approved in September 1976·

- an agreement between Canada, Spain and the IAEA for the application of safeguards in relation to the Agreement of 7th July 1975 between Canada and Spain for Co-operation in the Development and Application of Atomic Energy for Peaceful Purposes; and

- an agreement between France, South Africa and the IAEA for the application of safeguards in relation to a co-operation agreement between France and South Africa for the construction of a nuclear power station.

It may be noted that the Co-operation Agreement between Canada and Spain, which entered into force on 21st April 1976, covers the supply of information, nuclear material, equipment and facilities, licensing arrangements, access to and use of equipment and facilities, technical assistance and services, and visits of nuclear scientists. As regards the agreement between France and South Africa, its scope is limited to the establishment of a nuclear power station consisting of two reactors in South Africa and the provision of the necessary services, equipment and material.

Both the Safeguards Agreements contain provisions to ensure that the technological information transferred will trigger the application of IAEA safeguards in the recipient country with respect to any facility or equipment designed, constructed or operated on the basis of such technology, as well as the resulting nuclear material. The obligations of the governments concerned in regard to facilities or equipment deriving from transferred technology, and of the Agency to apply safeguards to such facilities and equipment, continue without time limit and remain valid as long as the agreements are in force.

In February 1977, the Board of Governors approved a Safeguards Agreement between the IAEA and Pakistan in connection with the supply of uranium concentrate from Niger to Pakistan. It also approved Safeguards Agreements to be concluded by the IAEA with Maldives, Senegal, San Marino and Paraguay respectively, in connection with NPT and, as regards Paraguay, also in connection with the Treaty for the Prohibition of Nuclear Weapons in Latin America. (The latter Treaty, also known as the Tlatelolco Treaty, was opened for signature in Mexico City in February 1967 and is currently in force for 21 Latin American States.)

In view of this entry into force of the agreement with Euratom and the seven non-nuclear weapon States of the Community (see under Euratom), the number of nuclear facilities under IAEA Safeguards is expected to increase from 332 in 1976 to 574 in 1978, excluding the facilities covered by the agreements concluded pursuant to the voluntary offers of the United Kingdom and the United States.

THE STUDY PROJECT ON REGIONAL NUCLEAR FUEL CYCLE CENTRES

The study, which was started by the IAEA during 1975, covers the technological and economic aspects of spent fuel transport and storage, fuel reprocessing, fuel fabrication, radioactive waste processing and disposal as well as financial, non-proliferation and safeguards, institutional and legal, material security and environmental aspects of the establishment of nuclear fuel cycle centres on a regional basis. A seminar on legal and institutional aspects and a consultants' meeting on health, safety and environmental aspects of such multinational centres were held in Vienna in October and November 1976 respectively. The study was completed early this year and submitted to the International Conference on Nuclear Power and its Fuel Cycle, held by the IAEA at Salzburg, Austria, in May 1977.

PEACEFUL NUCLEAR EXPLOSIONS

The Ad Hoc Advisory Group on Nuclear Explosions for Peaceful Purposes (PNE), established by the Board of Governors in June 1975, held its second and third series of meetings in November 1976 and early this year. It concentrated on the technical and legal aspects of PNE technology, the establishment and operation of an international PNE service and the structure and content of international legal instruments for providing nuclear explosions for peaceful purposes in accordance with NPT and the Final Declaration of the NPT Review Conference, 1975.

The Group prepared a draft report on its examination of various aspects of PNE, namely health and safety matters, economic aspects including comparisons with non-nuclear alternatives, and the content of the agreements called for under Article V of NPT. The report also sets forth the consensus reached by the Group on the state of the art of various individual applications of PNE so as to give a balanced view of the current and future potential of particular applications of such technology. The Group will hold a final series of meetings in August 1977 to review the report in the light of comments received from Member States. The report is expected to be submitted to the Board of Governors next September.

IAEA RESPONSIBILITIES UNDER THE LONDON DUMPING CONVENTION

Pursuant to its responsibilities under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, the IAEA is continuing a review of its Provisional Definition and Recommendations with respect to radioactive wastes or other radioactive matter. The review is aimed at refining and consolidating the IAEA Definition and Recommendations in response to a request made by the Contracting Parties at their First Consultative Meeting held in London in September 1976. In this conjunction, the Board of Governors decided in February 1977 that

the IAEA should expand its activities in the area of radioactive waste dumping at sea by establishing safety codes and guides relating to such operations, and by providing advisory services as is currently done in other areas of IAEA activities.

IAEA ANNUAL REPORT TO THE UNITED NATIONS

On 9th November 1976 the Director General presented to the thirty-first regular session of the UN General Assembly the IAEA annual report for the period 1st January - 31st December 1975. The Assembly welcomed the important steps taken during the year by the IAEA in concluding safeguards agreements with many States and urged that the survey of uranium resources, production and demand should be kept under constant review The Assembly also

- requested the IAEA to accord high priority to its programme of work in areas related to non-proliferation of nuclear weapons or other nuclear explosive devices (Resolution 31/75),
- urged the States of South Asia and other neighbouring non-nuclear-weapon States to continue all possible efforts to establish a nuclear-weapon-free zone in South Asia (Resolution 31/73);
- urged all parties directly concerned in the Middle East to adhere to NPT and to refrain from producing, acquiring or in any other way possessing nuclear weapons and nuclear explosive devices (Resolution 31/71);
- appealed to all States not to deliver to South Africa or to place at its disposal any equipment or fissionable material or technology that will enable South Africa to acquire nuclear-weapon capability (Resolution 31/69);
- expressed appreciation to the IAEA for its assistance in the preparation of the study on the question of nuclear-weapon-free zones in all its aspects (Resolution 31/70).

ADVISORY SERVICES ON REGULATORY MATTERS

Advisory services with respect to nuclear regulatory and organisational matters were provided to Algeria, Greece and the Philippines through short visits by IAEA staff members, by the end of last year and early this year.

AGREEMENTS

• *Denmark - Finland - Norway - Sweden*

GUIDELINES FOR NORDIC CO-OPERATION CONCERNING NUCLEAR INSTALLATIONS IN THE BORDER AREAS BETWEEN DENMARK, FINLAND, NORWAY AND SWEDEN IN RESPECT OF NUCLEAR SAFETY CONDITIONS

These Guidelines came into force between the four Contracting Parties to the Agreement on 15th November 1976. The Agreement is the outcome of work undertaken these past years in the Nordic Reactor Safety Working Group and the Nordic Atomic Energy Liaison Group.

The purpose of the Guidelines is to establish a consultation mechanism between the authorities of Nordic countries likely to be affected by a nuclear installation siting project by another Party to the Agreement near their borders. Information imparted during such consultation is intended mainly to improve assessment of the projected site for the installation and its environment. Discussions may also cover the actual safety of the installation itself. A translation of these Guidelines is reproduced in the "Texts" Chapter of this Bulletin.

• *Finland*

ACCESSION TO THE BRUSSELS SUPPLEMENTARY CONVENTION

On 14th January 1977, Finland acceded to the Brussels Convention Supplementary to the Paris Convention on Third Party Liability in the Field of Nuclear Energy and its Additional Protocol. It is recalled that the Brussels Supplementary Convention came into force on 4th December 1974; with the accession of Finland, it now has nine Contracting Parties (Denmark, Finland, France, Federal Republic of Germany, Italy, Norway, Spain, Sweden and the United Kingdom).

In accordance with its Article 20(d), the Brussels Supplementary Convention and Additional Protocol came into force for Finland three months after deposit of the instrument of accession, namely on 14th April 1977.

• *France - F.R. of Germany - Switzerland*

TRIPARTITE COMMISSION FOR NEIGHBOURHOOD PROBLEMS IN BORDER AREAS (UPPER RHINE REGION)

An intergovernmental Commission was set up by France, the Federal Republic of Germany and Switzerland to facilitate study and solution of neighbourhood problems in border areas common to the three countries (in particular, the Basle Canton, Länder Baden - Wurttemburg and Rhineland - Palatinate, Alsace).

The Agreement was concluded by an Exchange of Notes on 22nd October 1975 (published in the Official Gazette of 6th January 1977). While nuclear installations are not referred to expressly, they are undoubtedly covered by the Commission's terms of reference since the Commission must deal with environmental, energy and industrial siting questions, as well as with mutual aid in case of emergency. The three delegations making up the Commission are appointed by the Member Governments. The Commission may make recommendations to these Governments and prepare draft agreements, it is kept informed by the regional authorities concerned of the decisions taken within their competence.

• *France - F.R. of Germany - United Kingdom*

ACCESSION OF THE UNITED KINGDOM TO THE CONVENTION ON THE CONSTRUCTION AND OPERATION OF A VERY HIGH FLUX REACTOR

On 19th July 1974, the United Kingdom concluded an Agreement with France and the Federal Republic of Germany concerning its accession to the Convention of 19th January 1967, as amended by the Protocol of 1971, on the Construction and Operation of a Very High Flux Reactor at Grenoble (Max von Laue - Paul Langevin Institute - see Nuclear Law Bulletin Nos 1 and 9). Since entry into force of this Agreement on 7th January 1976, a new Protocol to the Convention was adopted on 27th July 1976 by the three Parties. This Protocol which deals with financial arrangements came into force on the same day.

TEXTS

• *Denmark*

REGULATION NO 278 ON PROTECTIVE MEASURES AGAINST ACCIDENTS IN NUCLEAR PLANTS, ETC., OF 27TH JUNE 1963 AS AMENDED*

CHAPTER I

Under Section 2 of the Use of Radioactive Substances Act No 94 of 31st March 1953, the following provisions are made:

Section 1

(1) The National Health Service shall, having regard to the safety of the population, determine the maximum permissible doses of ionizing radiation arising from radioactive substances in consequence of the normal operation of any nuclear plant, including any nuclear vessel.

(2) The National Health Service shall also determine the maximum permissible doses of ionizing radiation to persons, to be observed, as far as possible, in the event of any accident.

Section 2

Section 5 of the Use of Radioactive Substances Act, 1953, provides that any violation of the provisions made under Section 1 shall be liable to punishment by a fine.

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* Translation by the Danish authorities. These Regulations were amended by the Minister of Environmental Protection on 1st October 1974. (The duties of the Minister of Environmental Protection were formerly discharged by the Minister of the Interior.)

CHAPTER II

Under subsection (3) of Section 7, Section 9 and subsection (3) of Section 38 of the Nuclear Plants Act, No 170 of 16th May 1962, the Minister of Education has made the following provisions:

Section 3

(1) Any person who under Section 4 of the Nuclear Plants Act 1962 applies to the Minister of Education for permission to establish a nuclear plant on land or in a vessel shall, prior to commencement of the erection or establishment, submit to the National Health Service and the Atomic Energy Commission* a preliminary safety report, containing a technical description of the plant and its control and safety installations, and as far as nuclear plants on land are concerned, also a description of the site and its environment.

(2) Where deemed appropriate or necessary by the Minister of Education, the site description may be carried out by or in collaboration with the Atomic Energy Commission.

Section 4

(1) Any person who under Section 4 of the Act referred to applies to the Minister of Education for permission to start the operation of a nuclear plant shall submit a safety report to the National Health Service and the Atomic Energy Commission, and, as far as nuclear plants in vessels are concerned also to the Government Ship Inspection Service.

(2) The Safety report shall contain such technical description of the plant as to permit it to form a basis for the complete evaluation of the safety of the plant.

(3) The safety report shall also supply information on the contemplated method of operation and on the measures taken with a view to safety.

Section 5

Any call at a Danish port or any navigation in Danish waters of nuclear vessels shall be subject to the provisions of Chapter VIII of the International Convention concerning the Safety of Life at Sea 1960 (cf. the recommendations of Annex C to the Convention). Applications for permission to make such call or undertake such navigation shall be submitted well in advance to the Minister of Education who grants the required permission on the recommendations of the National Health Service and the Atomic Energy Commission and, in addition, after consultation with the Minister of Commerce.

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* By the Act on Energy Policy Measures of 23rd April 1976, the Danish AEC was replaced by the Danish Energy Agency.

Section 6

Any violation of the provisions of Sections 3 to 5 shall be liable to punishment by a fine or by simple detention.

CHAPTER III

Under subsection (2) of Section 1 of the Civil Defence Act (cf. Notification No 122, of 1st April 1962) the following provisions are made. The provision in subparagraph (vii), subsection (1) of Section 8 of this Regulation is, however, made under Sections 2, 12, 14 and 16 of the Foodstuffs, Etc., Act, No 174 of 25th April 1950.

Section 7

In respect of every nuclear plant situated in this country and in respect of every Danish port to which nuclear vessels are admitted, an emergency plan laying down the measures to be taken with a view to protecting the population in the event of its being exposed to radiation arising from radioactive substances or to any other nuclear risk shall, after consultation with the police and the civil defence authorities concerned, be prepared at the instance of Directorate of Environmental Protection (cf. subsection (3) of Section 9). The plan shall be subject to approval by the Minister of Environmental Protection and the Minister of Education.

Section 8

(1) In the event of the population being exposed to ionizing radiation or to any other nuclear risk, the necessary measures may be taken, such as:

(i) measuring of radioactivity and other necessary tests;

(ii) warning;

(iii) enclosure;

(iv) evacuation and billeting;

(v) order to remain indoors, to close windows and doors, and to stop ventilators, etc;

(vi) traffic regulations;

(vii) restrictions as to the use of foodstuffs, water, etc., including the seizure and destruction of foodstuffs, etc. contaminated by radioactive substances.

Section 9

(1) The taking of any of the measures set out in Section 8 shall in the cases concerned be decided by the Directorate of Environmental Protection after consultation with the committee referred to in subsection (2) and with the police and the civil defence authority concerned, and besides in confirmity with the rules laid down in the regulations and in pursuance hereof.

(2) The Minister of Environmental Protection shall appoint an expert committee consisting of representatives of the Directorate of Environmental Protection and the Atomic Energy Commission. The committee may summon other experts.

(3) The Minister of Environmental Protection may direct that the preparation of the emergency plan referred to in Section 7 be taken over by the committee.

/Section 10 is repealed/

Section 11

(1) The failure to comply with any order or prohibition under Section 8 shall be liable to punishment by a fine or by simple detention, provided the offence by its nature, is not punishable by a more severe penalty under other legislation.

(2) Provided that the failure to comply with any order or prohibition under subparagraph (vii) of subsection (1) of Section 8 shall under Section 23 of the Foodstuffs, Etc. Act, 1950, be liable to punishment by a fine or by simple detention, or by imprisonment not exceeding six months, in case the person concerned is not liable to a more severe penalty under the provisions of the Criminal Code.

Section 12

These regulations shall not apply to Greenland or to the Faroe Islands.

• *Denmark - Finland - Norway - Sweden*

GUIDELINES FOR NORDIC CO-OPERATION CONCERNING NUCLEAR INSTALLATIONS IN THE BORDER AREAS BETWEEN DENMARK, FINLAND, NORWAY AND SWEDEN IN RESPECT OF NUCLEAR SAFETY CONDITIONS*

With a view to ensuring that all relevant information and viewpoints are made available to the authorities of the builder country when deciding questions as to location, construction and operation of nuclear installations as well as to maintain and promote good-neighbour relations, Denmark, Finland, Norway and Sweden have agreed to observe the guidelines drawn up below, whereby no changes are effected with regard to the existing relationship between the applicant and the authorities of the builder country.

Section 1

The builder country's authorities shall notify and attach to the notification the necessary relevant documentation material concerning the

* Entered into force on 15th November 1976.

location of a nuclear installation* to the authorities of the neighbouring country, unless the installation is, or, in the opinion of the builder country, is deemed to be, of minor significance to safety conditions in the neighbouring country. The same applies to a licence for the construction and/or operation of a nuclear installation as well as any amendment to the terms and conditions stipulated in the licence.

Section 2

Notifications, with the attached relevant documentation material, cf. Sections 1 and 3, shall be dispatched in sufficient time to enable any comments or remarks by the neighbouring country to be incorporated in the application material to be dealt with by the builder country and prior to any decision being adopted. The neighbouring country's authorities have undertaken to deal with the documentation material thus received without delay.

Section 3

The authorities of the neighbouring country shall upon request undertake to provide such information concerning the neighbouring country, as for example patterns of population settlements, population distribution, etc., as may be necessary to assist the builder country's authorities in their assessment of the nuclear installation.

The cost of providing the information referred to in the preceding paragraph concerning the neighbouring country shall be reimbursed by the applicant on the same principles as those which apply in the builder country.

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* A nuclear installation is defined as follows:

(1) nuclear reactor installation, apart from nuclear powered ships;

(2) factory for the production or processing of nuclear substances;

(3) factory for the separation of isotopes of nuclear fuel;

(4) factory for the reprocessing of irradiated nuclear fuel;

(5) facilities for the storage of nuclear substances or radioactive waste other than facilities intended for use as temporary storage incidental to the carriage of such substances;

(6) such other installations, in which there are nuclear fuel or other radioactive products, as the authorities may determine.

Section 4

Discussions between the builder country's and the neighbouring country's authorities shall be instigated concerning the safety aspects involved in the location, construction and operation of the nuclear installation, if one of the said authorities has good reasons for so requesting.

Section 5

The authorities undertake, on a reciprocal basis and to the extent permitted by the legislation of the country concerned, to respect one another's restrictions concerning the distribution and publication of the information and documentation material provided in accordance with these guidelines, insofar as this applies to technical devices or processes or to operational or business conditions of major economic importance to the person or enterprise to whom the information applies.

• *Sweden*

AMENDMENT OF THE NUCLEAR LIABILITY ACT OF 8TH MARCH 1968*

Act No 45 on nuclear third party liability was amended in 1974 by Act No 249 in order to enable Sweden to ratify the 1971 Brussels Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material. By that Act Sections 3, 14 and 15 of the 1968 Act were amended and a new Section 14a was introduced. The amendments entered into force on 15th July 1975. The amended Sections read as follows (amended parts are underlined):

Section 3

(a) Except as regards the provisions of Section 14(c) and Section 14a this Act does not apply to nuclear damage resulting from nuclear incidents occurring in the territory of a non-Contracting State.

(b) Where liability lies with an operator of a nuclear installation situated in Sweden, this Act applies to nuclear damage suffered in the territory of a non-Contracting State only if the nuclear incident occurred in Sweden. Where liability lies with an operator of a nuclear installation situated outside Sweden, the territorial extent of the liability is governed by the law of the Installation State.

(c) In relation to a non-Contracting State the Government may determine that compensation for nuclear damage suffered in the territory of that

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* Translation by the Swedish authorities. A translation of the original Act of 8th March 1968 is reproduced in the Supplement to Nuclear Law Bulletin No 2 (November 1968).

State shall be payable in Sweden only if and to the extent that compensation for nuclear damage suffered in Sweden would be payable in that State. Such decision shall not, however, apply to the extent such application would be incompatible with obligations undertaken by Sweden in an international agreement.

(d) Provisions regarding the right in certain cases of a person who has paid compensation for nuclear damage to bring, notwithstanding the provisions of this Section, an action of recourse against an operator of a nuclear installation are laid down in Section 15.

Section 14

(a) Claims for compensation for nuclear damage covered by the provisions of this Act relating to compensation for such damage or by the corresponding legislation of another Contracting State may not be brought against any person other than the operator or the person providing insurance covering the liability of the operator, except as otherwise provided in Section 14a or in the second sentence of Section 16.

(b) Claims for compensation for nuclear damage for which the operator, pursuant to Section 11 or 12 of this Act or the corresponding provisions of the law of another Contracting State, is not liable can be brought only against an individual who has caused the damage by an act or omission done with intent to cause damage. The operator shall, however, be liable in accordance with the general rules of the law of torts for such damage to a means of transport as referred to in Section 12(b).

(c) Liability for nuclear damage which is not covered by the provisions on compensation in this Act or the corresponding provisions in the legislation of another Contracting State and which has arisen as a consequence of a nuclear incident occurring in the course of carriage of nuclear substances by ship or otherwise has been caused as a consequence of the use of a ship, may not be enforced in Sweden, if the person owning or operating a nuclear installation is liable for the damage under the law of a State party to the Vienna Convention of 21st May 1963 on Civil Liability for Nuclear Damage or under such legislation in another foreign State which governs the liability for nuclear damage and which is in all respects as favourable to victims as either the Paris or Vienna Convention. With the exception of the liability of an individual who has caused the damage intentionally the previous sentence shall apply, in the cases referred to in that sentence, also with regard to nuclear damage referred to in Section 11 or Section 12(a) or to nuclear damage suffered on board the transporting ship, even if the person owning or operating the installation is not liable for the damage due to the special provisions in this regard in the Vienna Convention or provisions in applicable national law corresponding to these provisions of the Vienna Convention.

(d) Provisions on compensation out of public funds are laid down in Sections 28 - 35.

Section 14a (new)

The provisions of Section 14 shall not apply to the extent their application would be incompatible with obligations undertaken by Sweden in an international agreement.

Section 15

(a) Any person who has been held liable to pay compensation for nuclear damage under an international agreement or under the law of any foreign State shall acquire by subrogation the rights of the person suffering the damage against the operator liable for the damage under this Act. Where the compensation paid relates to damage covered by a decision taken under Section 3(c) of this Act, the person liable shall have a right of recourse against the operator who would have been liable for the damage if no such decision had been taken.

Paragraphs (b) and (c) not amended.

STUDIES AND ARTICLES

ARTICLES

THE REORGANISATION OF THE FRENCH COMMISSARIAT A L'ENERGIE ATOMIQUE*

G Glaize, Attaché to the Legal Counsellor of the CEA

A number of texts about the Commissariat à l'énergie atomique (CEA - the French Atomic Energy Commission) published in the Official Gazette towards the end of 1975 and during 1976 have doubtless been noted by nuclear law specialists.** What are these reforms and what are the

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* The ideas expressed and the facts given in this article are under the sole responsibility of the author.

** - Order dated 9th October 1975 setting up an Institute for Fundamental Research in the CEA (JORF of 17.10.1975). Cf. also NLB No 16.

- Decree No 75-1250 of 26th December 1975 authorising the CEA to form a subsidiary company (JORF of 28.12.1975).

- Order dated 6th February 1976 regarding the appointment of the members of the Scientific Council of the Institute for Fundamental Research (JORF of 22.2.1976).

- Decree of 4th March 1976 approving the Articles of the Compagnie générale des matières nucléaires (JORF of 5.3.1976).

- Decree No 76-951 of 19th October 1976 amending Decree No 70-878 of 29th September 1970 regarding the CEA (JORF of 22.10.1976).

- Order of 2nd November 1976 setting up an Institute for protection and nuclear safety at the CEA (JORF of 4.11.1976).

reasons for them? To understand them it is necessary to go back over the history of the CEA and to see what happened firstly between the time it was set up in 1945 and 1970, and secondly from 1970 onwards.

I 1945 to 1970

When the CEA was set up the intention, as explained in the preamble to the Ordinance of 18th October 1945, was to make it a body that would be "both very close to the Government and incorporated in it, so to speak, because the fate or role of the country could well be affected by developments in the particular branch of science that it would be dealing with . and yet enjoying considerable freedom of action because that would be the essential condition for its effectiveness".

In the eyes of the authors of the Ordinance, the Government would exercise its authority over the CEA in two ways. Firstly, the Comité de l'énergie atomique (Atomic Energy Committee) - the board of management - would be presided over by the Head of State himself. Secondly, administrative and financial questions were to be the responsibility of an Administrator-General with the official title of "Government Delegate", in other words, the necessary directives would be given to him directly by the Head of State who, at that time, was the President of the provisional government.

Scientific and technical questions came under a High Commissioner of the same status as the Administrator-General.

The CEA's freedom of action was to be guaranteed by the fact that it would be run according to the rules of private law and that it was authorised, as set out in Section 5 of the Ordinance, "to be responsible for its own financial management and to observe commercial practice in the presentation of its accounts".

In fact, changes were quickly introduced on all these points.

First, the Prime Minister at the time (President of the provisional government and then President of the Council of Ministers) very quickly relinquished his supervision of the CEA and handed this duty over to a Secretary of State or Delegate Minister. This became the normal practice from 1951 on - the only exception being the period between the end of 1957 and early 1959.

At the same time, the Prime Minister took the chair in the Comité de l'énergie atomique increasingly rarely, his place being taken either by the Delegate Minister or the Administrator-General. This is why the Decree dated 3rd January 1951 amended the 18th October 1945 Ordinance, stating that the Comité would, from then on, be presided over "by the President of the Council of Ministers or by a Minister or Secretary of State delegated by him, or in their absence by the Administrator-General". At present, this duty is one of the responsibilities of the Minister of Industry and Research or, in his absence, the Delegate Administrator-General (Section 3 of Decree No 70-878 of 29th September 1970).

A further change was made when the Minister responsible for the CEA ceased, in 1969, to have the title of Minister of State, or Delegate Minister, or Secretary of State to the Prime Minister and simply became a Minister like the other Ministers. In this way, the CEA's Administrator-General could no longer be regarded as being delegated directly by the government and the Decree dated 29th September 1970, in fact, gives him

the title of Delegate Administrator-General without further definition.

Neither was it long before inroads were made on the CEA's freedom of action. One by one, a number of controls - which did not exist originally - were introduced and in particular a financial control that was strengthened in 1947 on the initiative of parliament. At the same time, the powers and resources of the supervisory mission responsible for overseeing the establishment's financial situation and accounts were strengthened and eventually the CEA had a special accounting scheme imposed on it in 1963, whilst various commissions were set up in the CEA including an advisory commission on contracts in 1952 and a financial board in 1962, both still having a high percentage of members from outside the CEA and in particular representatives of the Ministry for Economic and Financial Affairs.

Its internal structures also changed, more slowly but more radically.

First, the Comité de l'énergie atomique which had seven members at the start was gradually enlarged in 1970 to 15, (including 6 ex officio). This enlargement, of course, was primarily for the benefit of the main ministries responsible for the CEA, i.e. the Ministry of Industry and Research, the Defence Ministry and the Ministry for Economic and Financial Affairs.

Next, whilst in 1945 the Administrator-General and the High Commissioner had equal status so that, to quote the Ordinance, the scientists - relieved of administrative responsibilities - could work more efficiently, this two-headed system went out with the 1970 reform when the High Commissioner ceased to be responsible for the CEA's scientific and technical direction and simply performed the role of scientific and technical adviser to the Delegate Administrator-General. It would probably be right to read into this major reform a consequence (or at least an indirect consequence) of the strengthening of the powers given to the Ministry of Industry and Research to co-ordinate scientific and technical research policy as implemented by Decree No 70-728 of 5th August 1970. At the same time, the responsibilities of the General Delegation on scientific and technical research were specified more clearly (it was officially instructed to "keep watch" on the CEA's research activities) and a little later a department, concerned with the programmes of research bodies, was set up in the same Ministry whose task was to examine the scientific programmes and budgets of research bodies coming under the Ministry, supervise their implementation and be responsible for co-ordinating the activities of these bodies as far as their external relations were concerned.

Lastly, as regards the departments responsible for carrying out the programme laid down by the Comité de l'énergie atomique, in accordance with the government's general directives, under the joint authority of the Administrator-General and the High Commissioner, they have of course been considerably amplified and diversified since their creation, seeing that the CEA had nearly 31,000 employees by the end of 1968 split up among a number of directorates, departments, services, and so on, forming all in all a relatively rigid and centralised structure. On the other hand, the latest directorates to be set up (the defence applications and production directorates) already have a measure of independence as, incidentally, the research centres do as well.

This applies equally to the Institut National des Sciences et Techniques Nucléaires (INSTN - National Institute for Nuclear Science and Technology), an establishment for advanced studies set up since 1956 under the joint authority of the Minister of Research and Industry and the

Secretary of State for Universities. Although the Commissariat à l'énergie atomique is responsible for the administration and financial management of the Institute, and also provides it with the required premises and technical and administrative staff, as well as with part of the teaching staff, all major decisions on its operation (appointment of professors and lecturers, programmes, conditions for admittance, attendance period, examinations, delivery of diplomas etc) are made by regulations following the opinion of an educational council belonging to the Institute.

II 1970 onwards

The structural reform introduced in late 1970/early 1971 under the control and on the initiative of André Giraud, the Administrator-General, was the direct outcome of the redefinition of the CEA's tasks in Decree No 70-878 of 29th September 1970, itself prompted by the growth of the French nuclear industry and its entry into what was called "the third nuclear energy generation".

In this connection, it is enlightening to compare the CEA's tasks as set out in 1945 with those formulated in Section 2 of Decree No 70-878 of 29th September 1970.

The first point to note is that the CEA has its own responsibilities "in the various fields of science, industry and national defence", but-whereas the 1945 Ordinance used this formula solely in respect of scientific and technical research, the 1970 Decree applies it to each one of the CEA's missions: basic and applied research, protection, supplies of nuclear materials, industrial activities, international relations and diversification. This is clearly a major innovation.

Thus, first and foremost, the CEA continues to carry out the scientific and technical research necessary for the use of atomic energy in the various fields of science, industry and national defence. It is therefore authorised to carry on all forms of research and, so that there should be no ambiguity on this point, the 1970 Decree adds that the CEA "shall co-ordinate, as regards energy applications, government action for research and development on emerging technologies and shall play its part, in the event of government action or at the request of manufacturers and users, in programmes for improving industrial technologies".

In the industrial field however, the CEA is no longer responsible for "producing devices for generating energy of atomic origin on an industrial scale", a provision which in certain respects seemed difficult to reconcile with the duties proper to Electricité de France (EDF), which is the national electricity undertaking. In effect, although Act No 46-628 of 8th April 1946 on nationalisation of electricity and gas conferred no monopoly to EDF regarding generation or distribution of electrical energy* (since there are in France - autonomous and far from minor - electricity producers)**, EDF considered that electrical energy generation in all its forms fell within the normal framework of its responsibilities.

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* It should be noted also that the CEA has no monopoly in the nuclear field.

** e.g: the coal-mining industry, the State Railways (SNCF), Public Transport (RATP), Rhône National Co etc ... The relationship between non-nationalised producers or distributors of electrical energy and EDF are defined in Sections 8 to 23 of the Act of 8th April 1946 and in Decree No 55-662 of 20th May 1955.

In actual fact, the power station reactors built by the CEA (both the prototypes and those that could be called industrial) were constructed in close co-operation with EDF under special agreements.

The 1970 Decree finally resolved this conflict of responsibility by deciding that the CEA should no longer be responsible for industrial power plant construction although it could "in the various fields within its competence" (and therefore not just as regards power generation) build, or help to build, systems, equipment and components.

Thirdly, (and this is a vital duty) the CEA is still responsible for studying appropriate measures for ensuring the protection of persons and goods against the effects of atomic energy. Better still, it has to propose such measures and help in implementing them, duties which were not included in the 1945 Ordinance.

Moreover, as regards the supply of nuclear materials, the Ordinance merely stated that the CEA "by agreement with the ministerial departments concerned" was to organise and supervise the exploration and exploitation of raw material deposits, to which the Council of State, in 1947, had added the CEA's right to exploit uranium mines itself.

Another point is that the Mining Code gives the Comité de l'énergie atomique an important advisory role regarding substances performing a useful role in atomic energy (helium, uranium, thorium, beryllium and lithium) - the Comité being empowered to delegate these powers to the Administrator-General.

But it is clear that the 1970 Decree goes much further than this since, though the CEA has lost its organisational and supervisory powers in this field*, it now has complete latitude, on its own account or through the agency of firms in which it has shareholdings, not only to explore and exploit deposits of these materials but to undertake any activity directly or indirectly concerned with the production, conversion, storage or transport of nuclear materials and to trade in such materials.

Furthermore, although diversification activities were already present in embryonic form in the 1945 Ordinance, since it instructed the CEA "to take (or suggest) any useful measures for placing France in a position enabling it to benefit from developments in this branch of science", they are stated far more explicitly in the 1970 Decree which also authorises the CEA to extend its R & D activities, within limits set by the Government, into non-nuclear fields either for economic purposes or with a view to its participation in programmes of general interest.

Lastly, in 1970 as in 1945, the CEA continues to act as adviser to the Government in fields connected with its activities and in particular as regards international relations, by following scientific, technical and economic developments in other countries and providing the Government with all the necessary information.

In these circumstances it is easy to understand why it was felt necessary towards the end of 1970 and early 1971 to rejuvenate the CEA's structures under the authority and initiative of its new Administrator-General, Mr André Giraud, in order to fit it better for its new tasks.

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* It remains responsible nevertheless for proposing the necessary measures to ensure that users are supplied with nuclear materials.

The old structure comprising some 15 main directorates under the joint authority of the Administrator-General and the High Commissioner, were gradually replaced by a more flexible organisation consisting of a central core and 18 operational units, all placed under the sole authority of the Delegate Administrator-General particularly in the fields of safety and education.

The central core itself consists of seven "Delegates" (one for each of the CEA's major missions) together with a Director for international relations, a Secretary-General responsible for the administrative and financial management of the whole of the CEA and an Inspector-General responsible for ex post examination of the management of the operation units - an essential corollary to deconcentration and the greater independence the units have been given, because the structural reforms were accompanied by the institution of a new administrative system of management by objectives, early in 1972, under the responsibility of the financial directorate, the programmes department and the directorates of the nuclear centres.

The Directors of the four civil nuclear research centres owned by the CEA were also affected by similar liberalisation and decentralisation measures since they have now been given official responsibility for ensuring the continuing activity not only of all the services or units coming under their orders (establishment services, protection units, joint technical services, etc.) but also of the operational units based on, or located in, the centre, within the framework of the directives they receive from the central administration.

As far as the operational units are concerned, while their responsibilities have increased in step with their new independence, it is only fair to point out that some of them were already enjoying favourable treatment from this viewpoint. This applies particularly to the directorates for military applications and production, the National Institute for Nuclear Science and Technology and also the Electronics and Computer Technology Laboratory which has had its own management board and scientific council since 1971. Along the same lines, an Order dated 9th October 1975 set up an Institute for Fundamental Research formed by merging the three operational units in which the CEA's activities in this field had previously been carried on. As stated in the Order, the role of this Institute is to develop and co-ordinate basic research carried out in the CEA, within the framework of the Government's research policy and it also takes part in the CEA's educational activities.

The Order also states that the administrative and financial management of the Institute and of its staff shall be carried out within the framework of the CEA and in accordance with that establishment's own rules.

A further point is that the Institute is run by a Director appointed by the Delegate Administrator-General of the CEA and coming under the latter's authority.

This Director is assisted by a Scientific Council with an advisory role, whose chairman is the High Commissioner for Atomic Energy and six of whose fourteen members are appointed on the proposal of the Delegate Administrator-General so that the CEA is sure - whatever happens - of having at least one half of the votes, including the chairman's.

It is clearly, therefore, incorporated in the CEA and not instituted to be more or less in competition with the other specialised institutes

and laboratories that exist such as the National Institute for Nuclear and Particle Physics.

It would be natural to wonder why a ministerial Order was needed for a purely internal reform in the CEA for which a decision by the Delegate Administrator-General ought perhaps to have sufficed. There are no doubt many reasons, the most important being that the Institute has its own budget financed by a grant from the Ministry of Industry and Research on the same terms as that granted to the CEA itself, as set out in Section 6 of the Order of 9th October 1975. But another reason is most certainly the wish to give more weight to the Institute in its external relations and particularly with other basic research centres, whether belonging to universities or not.

Again, the merging of the protection and nuclear safety departments in the CEA to form the Institute for Nuclear Protection and Safety under an Order dated 2nd November 1976 corresponds to concerns of a similar nature but in this case government control is more evident. The Institute may have been set up "within the CEA", its Director appointed by the Delegate Administrator-General and placed under his authority, its Programme Committee presided over by the High Commissioner for Atomic Energy, and its administrative and financial management and that of its staff conducted within the framework of the CEA and in accordance with its own rules, but the CEA now has no more than four representatives out of the total of seventeen members on the Programme Committee and above all the Institute is tightly controlled by the Secetary-General of the Interministerial Committee for Nuclear Safety who attends the meetings of the Programme Committee and gives his opinion on the results of the work of the Committee and on the action taken in consequence, on the budget allocated to the Institute, on the choice of its Director, etc. In addition, the Order this time states explicitly that the Institute shall co-operate closely with the Government within the framework of its general nuclear safety policy and in particular with the Interministerial Committee for Nuclear Safety, carry out the studies entrusted to it by the relevant ministerial departments and bodies, and possibly help in the implementation of measures ordered in this field by the Ministers responsible for their execution. A point to note in this connection is that the Interministerial Committee for Nuclear Safety, set up under Decree No 75-713 of 4th August 1975, consists of no less than twelve Ministers and Secretaries of State under the chairmanship of the Prime Minister himself, not including Ministers who may be called to attend the Committee for questions coming within their province.

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However, these efforts to introduce the necessary flexibility took other forms as well, firstly the reduction of the workforce from nearly 31,000 employees at the end of 1968 to 26,500 by the end of 1975. An interesting point here is that this was achieved without any dismissals and purely by natural erosion, in other words, voluntary departures and retirements, no new staff being taken on.

Another form was the setting up of subsidiaries and the purchase of shareholdings.

It was not a new thing for the CEA to set up subsidiaries because the first date back to 1955, but the trend has certainly gathered

momentum since 1970 since, out of the twenty-five subsidiaries so far authorised by regulation under Decree No 53-707 of 9th August 1953 regarding state control of national public undertakings, one was formed in 1970, three in 1971, four in 1972, one in 1973, five in 1975 and two in 1976

The purposes of these companies are obviously very varied but they can be roughly classified into four sectors whose size, incidentally, varies considerably: ten are concerned with the nuclear fuel cycle, five with other industrial applications and reactor technology in particular, two with sales abroad of artificial radioisotopes and eight with what might be termed diversification if it is right to use the term to embrace activities differing as widely as industrial property rights, pollution control and computers, to mention only three.

The size of these companies, of course, is also very varied as is the relative size of the CEA holding and the controls applied

However, special mention should perhaps be made of the Compagnie générale des matières-nucléaires (COGEMA) even if only because of the fact that it accounts for about one-third of the staff employed by the CEA and one-half of its production facilities

It is no doubt for this reason that the Decree of 26th December 1975 under which it was set up, contains special provisions subjecting it to tighter supervision and ensuring that the CEA remains a majority shareholder whatever happens.

Also, in 1975 the government decided to authorise the CEA to hold 30 per cent of the company capital of FRAMATOME, at the expense of Westinghouse, which would then be left with only 15 per cent. This operation will enable the State to be represented (via the CEA) in a company which is currently the only French nuclear steam supply system manufacturer of international importance, and it will also enable the CEA to be involved in carrying out the French nuclear programme.

But the scale of the trend to set up subsidiaries - encouraged by the government as we see - could not fail to have repercussions within the CEA itself and this is the reason for the fresh internal reorganisation put in hand early in 1976.

The fact was that it seemed necessary to preserve some uniformity in objectives as between the policy pursued by the CEA in execution of the directives laid down by the government as stipulated in Decree No 70-878 of 29th September 1970 and that followed by the subsidiaries, and also to create machinery for co-ordination between the five sectors among which the various operational units of the "CEA Group" are distributed, i.e. military applications, civil research, protection and safety, and the subsidiaries.

In addition to the Delegate Administrator-General and the High Commissioner, still assisted of course by the Comité de l'énergie atomique, the "central core" now includes:

- the Delegates who are still responsible for establishing and implementing policy in the various sectors of activity but whose number is reduced to four allowing, firstly, for the special position occupied by basic research and military applications and, secondly, the merging of non-nuclear industrial co-operation and general interest programmes under the authority of a "diversification" Delegate;

- the central executives responsible for finance, international relations, social relations and public relations;

- the officials responsible for organisation and supervision (general secretariat, programmes and general inspectorate).

Various co-ordination bodies are planned in order to provide channels of communication between this "central core" and the subsidiaries: a governing board varying in composition to suit the nature of the business dealt with, a specialised commission for staff matters and, lastly, colleges where the directors responsible for certain specific sectors meet (finance, staff, international relations, public relations).

Furthermore, a number of co-ordinators have been appointed to ensure a liaison between the different heads of certain important sectors (electronics, data processing, experimental reactors, documentation, etc).

The operational units have met various fates depending on the nature of their activities.

The production directorate is now incorporated in COGEMA and part of the Group. A special position is also occupied, as we have seen, by the military applications directorate, by the protection and safety sector and the basic research sector. The same applies to the education sector, represented by the National Institute for Nuclear Science and Technology. The other six units all belong to the applied research sector and remain attached to the CEA proper, as do the civil nuclear research centres. They are naturally headed by a central - but relatively light - structure which includes, inter alia, a staff department and a general secretariat.

We therefore have two complementary organisations (the Group and the CEA proper) but there are now water-tight bulkheads separating them, of course, any more than there are between the CEA and its subsidiaries.

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By way of conclusion it is tempting to compare what has happened to the CEA, as just described, with the history of similar bodies in other countries.

In the United States, the Act of 11th October 1974 put an end to the existence of the United States Atomic Energy Commission (USAEC) and replaced it by two separate bodies: the Energy Research and Development Administration (ERDA) and the Nuclear Regulatory Commission (NRC), the former being responsible for promoting R & D in all forms of energy (and not purely nuclear), and the latter for the regulation of all possible uses of atomic energy and their possible effects. The scope thus given to the NRC is extremely broad since it embraces, without exception, all nuclear reactor licensing procedures, environmental protection, the control of nuclear materials, problems of nuclear safety and security, insurance, standardisation, and international and public relations questions, etc.

It is clearly difficult, in these circumstances, to draw a parallel between the structures that have recently been set up in the United States

and in France. A point that might be stressed, however, is the fact that the governments of both countries have sought to draw a distinction be between R & D activities and those relating, for example, to the management of nuclear materials or military applications.

The United Kingdom Atomic Energy Authority (UKAEA) also underwent radical changes roughly at the same time as the CEA in France. In 1971 the Weapons Group (equivalent to the military applications directorate in France) was placed under the control of the Defense Ministry, whilst subsidiaries were set up to handle the manufacture and marketing of radioisotopes (carried out by the Radiochemical Centre) and activities concerning nuclear materials (British Nuclear Fuels Ltd - BNFL). The building of nuclear power plants had, for a long time, been in the hands of private enterprise but in 1973 the existing companies were merged together to form the National Nuclear Corporation which itself gave birth to the Nuclear Power Company in 1975 in which the UKAEA has a 35 per cent shareholding.

At the present time, therefore, the UKAEA proper consists, apart from the very reduced central core, only of the Research Group responsible for research and the Reactor Group responsible for reactor design and development. Together, on 1st April 1976, they were employing 13,580 people.

It is therefore apparent that the organisation set up in the United Kingdom is similar in many respects to that now established in France and not purely from the standpoint of structures but also as regards the management methods employed. It would, however, be difficult to say whether one country influenced the other, whether the influence was reciprocal, or whether similar solutions have been found to the problems arising simply because the problems were of the same kind and were tackled in the same spirit.

COMPARATIVE REVIEW OF PUBLIC PARTICIPATION IN NUCLEAR LICENSING PROCEDURES IN CERTAIN EUROPEAN COUNTRIES*

Dr Norbert Pelzer and Assessor Werner Bischof
University of Göttingen, Federal Republic of Germany

I. FORMS OF PUBLIC PARTICIPATION

The involvement of the public in the licensing procedures for nuclear installations, and power stations in particular, may take various forms with varying weight and at different stages in the procedures.

1. Public opinion

Apart from any right of participation that the public may be given by law or regulation, one form of public participation in the authorising of major technological projects is always present - and generally indispensable - in all free democracies, namely the forming of public opinion. Public opinion is not just the collection and processing of data; it can be responsible for "pre-shaping political will" (1), which can affect lawmaking, administration and justice in the representative

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(1) Scheuner, Der Staat und die intermediären Kräfte, Zeitschrift für evangelische Ethik 1 (1957), pp. 34 et seq. On the general problem see also von Hentig, Öffentliche Meinung, offentliche Erregung, offentliche Neugier, Göttingen 1969.

democracies. It is the manifestation of the basic right to freedom of opinion and expression and of the press (2) implanted in all West European democracies and it therefore has considerable importance in view of its legal basis.

The vehicles of public opinion include information, discussions, the press and other publication media. It can develop strength in organisations, pressure groups and citizen action movements, although none of these groups is necessarily the materialisation of public opinion. It can lead to the organisation of demonstrations and action campaigns which may remain within - or go beyond - the bounds of law. Lastly, it may manifest itself in elections and referenda. In other words, public opinion exerts its influence in many ways although it may not always be possible to prove in detail the chain of cause and effect - even with the help of public opinion polls (3). Gaining its strength from the fundamental right to the freedom of opinion, public opinion does not usually need any other legal instrument to be politically and practically effective, and yet its effect is essentially not direct but indirect though the influence it exerts on centres of decision.

2. Formalised types of public participation

If one distinguishes this comprehensive instrument of "public participation by public opinion" from those types of public participation that are formalised or typified in national constitutions, legislation or other statutory provisions, three approaches to public participation are generally to be found in West Europe, as follows:

(a) Participation in the lawmaking procedures

European constitutions provide various possibilities for public participation under this heading. The weakest opportunities for direct influence are provided by the systems of representative democracy, as in the Federal Republic of Germany for instance. Normally, direct public participation is restricted to general elections. Other - but restricted - possibilities are offered by the right of petition under which citizens can appeal directly to Parliament or to an "Ombudsman" or have their views put to Parliament by individual members (4). The strongest possibility

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(2) Cf., for example, Articles 10 and 11 of the French Declaration of Human and Civil Rights of 1789; Article 21 of the Italian Constitution of 1948; Article 7 of the Netherlands Basic Law of 1815; Article 13 of the Austrian National Basic Law of 1867 in conjunction with Article 149 of the Federal Constitution Act of 1920. Cf. Mayer-Tasch und Contiades, Die Verfassungen Europas, Stuttgart 1966, with further references.

(3) On the difference between public opinion and the results of opinion polls see: Hennis, Meinungsforschung und repräsentative Demokratie, Tübingen 1957, pp. 32 et seq.

(4) See, for example, Article 17 of German Basic Law; Article 50, Italian Constitution; Article 27, Luxembourg Constitution; Article 8 Netherlands Constitution; see also footnote 2.

the public has of exerting influence is in plebiscitary systems which enable a law to be enacted by the commonalty in the form of referenda, plebiscites or polls (5). These questions, however, are not discussed further in this report.

(b) Public participation in decisions by the executive

Below the legislative level, public participation is conceivable and possible in the planning and execution of nuclear projects. Such participation in licensing procedures is the narrower field of this study. The remainder of this report reviews the special regulations governing nuclear licensing procedures as regards the types of public participation that are laid down. The study is confined to those countries which already have special regulations on public participation in the nuclear field because the value of the information is at its highest in those cases.

(c) Legal protection against administrative decisions

A last possibility for public participation is the lodging of pleas and appeals against acts by the administration in the licensing procedure. It would not be possible to deal exhaustively with the problem of protection against the administration in the framework of this paper. Only general indications can be given except where particular interest attaches to certain regulations in individual countries.

II. FORMS OF PUBLIC PARTICIPATION IN LICENSING PROCEDURES IN INDIVIDUAL COUNTRIES

1. France

(a) Licensing procedures for constructing and operating nuclear power stations are governed by "Décret No 63-1228 du 11 décembre 1963 relatif aux installations nucléaires" as amended by "Décret No 73-405 du 27 mars 1973" (6). Under Section 3 of this Decree, large nuclear installations ("installations nucléaires de base") can be set up only after authorisation has been granted. Applications for authorisation are subject to a local enquiry ("enquête locale") (Section 3, paragraph 3).

The carrying out of a local enquiry is therefore a fundamental and binding condition for the grant of a licence. In the French system of administrative law, such enquiries (which are also necessary for other classified establishments) come under the heading of "enquête de commodo

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(5) See, for example, Article 42, Danish Constitution; Article 71 Italian Constitution; Article 89 Swiss Federal Constitution.

(6) Journal officiel, 14th December 1963, p. 11092, and 4th April 1973, p. 3798.

et incommodo" (7), which is sufficient indication of the object and purpose of the procedure.

A local enquiry is not compulsory

- for a large nuclear installation which has already been the subject of an enquiry prior to being declared "d'utilité publique", [Section 3, paragraph 3(a)], or

- purely for changes - requiring authorisation - to installations or to their operation as defined in Section 3, paragraphs 3(b) and (c).

(b) The procedure for the local enquiry is set out in a joint ministerial order dated 12th July, 1965 (8) as follows: The State Secretary to the Prime Minister transmits a file to the Préfet for the Département concerned containing the necessary documentary information on the application for the licence, in other words the name and address of the applicant, the subject of the enquiry, the type, essential features and drawings of the installation concerned and an official map at a scale of 1:50,000 or 1:100,000 showing the proposed location. The Préfet then has to appoint a "Commissaire enquêteur" within 8 days and at the same time gives detailed instructions on the enquiry procedure, the main contents of which, as set out in the joint ministerial order, are as follows: Object of enquiry, date and time of commencement, and duration (not less than 15 days and not more than 30). The Préfet's Order also has to state the time and place at which the public can acquaint itself with the documentary information and give its comments ("ses observations") on the project. These comments have to be entered into a bound register whose individual pages have to be numbered and initialled by the "Commissaire enquêteur". The Order of the Préfet has to be made public by appropriate means in the municipality or municipalities where the installation is to be set up. The Préfet also has to transmit the Order to a number of government offices (Section 2, paragraph 3, Section 9). The register must be available for inspection at the Préfecture, sous-Préfecture and municipalities within a radius of 5 km from the proposed site.

During the period that the register is available, comments may be entered into it or any other written comments filed by any "personne

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(7) See Dalloz, Répertoire de Droit public et administratif, Paris, 1958 et seq., key words: Cimetière Commune, Etablissements dangereux, insalubres et incommodes; Gousset and others, Le Droit des Etablissements Classés, Paris 1963, p. 137 et seq; also Hébert, Das französische Kernenergierecht, Göttingen, 1974, p. 99; Hébert, Les développements récents de la réglementation française, sur l'autorisation de création des installations nucléaires de base, Cahiers juridiques de l'électricité et du gaz 28(1976) p. 55, para. 307.

(8) Journal officiel, 6th August 1965, p. 6987.

intéressée". No provision is made for any formal oral procedure. On the contrary, the process is a strictly formalised written procedure.

After expiry of the 30 days time limit, the enquiry register is closed and handed over to the "Commissaire enquêteur" within 24 hours. The latter checks the comments that have been made and interviews the applicant for the licence and, if necessary, other people. Within 15 days of the closing of the register, the "Commissaire enquêteur" transmits the documents to the Préfet complete with his views. The Préfet then consults the official services involved in the matter and passes the file on, within one month, to the State Secretary to the Prime Minister who immediately hands the documents to the Chairman of the Interministerial Committee on large nuclear installations (9) responsible for advising on applications for authorisation.

(c) As already explained, this local enquiry procedure is not compulsory for installations having "utilité publique" status for which another enquiry procedure is laid down by Decree No 59-701 of 6th June 1959 as amended by Decree No 76-432 of 14th May 1976 (10). With certain differences (time limits, for example) the procedure is basically the same as that for large nuclear installations outlined above, so that no detailed description is necessary. Reference is directed to the information contained in the "Circulaire du 25 août 1976 relative à l'aménagement de la procédure d'instruction préalable à la déclaration d'utilité publique des centrales thermiques classiques ou nucléaires" (11). This circular gives full information about the legal principles and procedures for the enquiries necessary before granting "utilité publique" status, with particular regard to nuclear power stations and to the documentary information to be provided in their case. Moreover, since nuclear power stations are likely, in the normal run, to apply for such status because it confers tax advantages and makes land acquisition easier (possibility of expropriation), more importance would seem to be attached in practice to this enquiry procedure than to the specific enquiry procedure for large nuclear installations under the 1965 Ministerial Order (11a).

(d) Apart from the licence required for the plant itself, French nuclear law obliges the operator of a nuclear installation to obtain other licences for the discharge of gaseous (12) and liquid (13) radioactive effluents, to which distinct Orders apply. The licensing procedures prescribed also

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(9) See Sections 3 and 7, Decrees of 1963 and 1973 concerning nuclear installations (footnote 6).

(10) Journal officiel of 19th May 1976, p. 2984.

(11) Journal officiel of 24th September 1976, p. 5694. (Circular on the prior enquiry procedure for official recognition of conventional thermal power plants and nuclear power plants as being in the public interest.)

(11a) According to Hébert (Les développements ... op. cit., footnote 7) this enquiry procedure is regularly followed for Electricité de France installations, whereas a local enquiry under the 1965 Ministerial Order has been carried out in some cases for Commissariat à l'Energie Atomique installations.

(12) Section 2, Decree No 74-945 of 6th November 1974. (Journal officiel of 15th November 1974, p. 11472).

(13) Section 3, Decree No. 74-1181 of 31st December 1974. (Journal officiel of 4th January 1975, p. 230).

call for an "enquête publique" (14). As regards the discharge of liquid radioactive effluents, the enquiry must, as far as possible, be combined with that for large nuclear installations (Section 6, paragraph 2, Decree No 74-1181). No similar instruction yet applies to the disposal of gaseous materials but it may be supposed, for practical reasons, that such enquiries would also be carried out in conjunction with the enquiry for the installation itself.

(e) The procedures laid down entitle any "personne interessée" to make "observations" on the planned project. The question arises of what persons are allowed to enter objections. The vague expression "intérêt", which is also applied as a condition for the right of action in French administrative procedures is clearly ambiguous. In its widest sense it could be construed to include objections and complaints by the general public although these are not admissible according to French case-law and legal theory (15). "Intérêt" could also be understood as meaning that anyone whose rights are injured is a "personne intéressée". French case-law has taken this view for some time (16). According to present case-law it is sufficient for a person to be able to prove a "certain intérêt à l'annulation de l'acte" (17) - even a moral interest (18). The range of "personnes intéressées" would therefore seem to be relatively broad.

Since the standing to sue seems to be linked to the damaging of an "intérêt", this determines, at the same time, who is entitled - once a licence has been granted - to attack it in the administrative courts by "recours pour excès de pouvoir". Here too, therefore, the range of persons entitled to action extends farther than it does under German law A further aspect specific to French law should be noted, in this context, namely that administrative case-law in that country has, in many instances, recognised the "intérêt" of groups of persons. The precedent was first set by a ruling of the Conseil d'Etat on 28th December 1906, regarding the right of action of the "Syndicat des patrons coiffeurs de Limoges" (19) This decision recognised the right of action of a "Syndicat" if it brought the action on behalf of all its members and not just in the interest of certain individuals. In another case, an association was allowed to

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(14) Section 5, Decree No 74-945; Section 6, Decree No 74-1181 (footnotes 12, 13). With regard to Decree 74-945, see also Joint Ministerial Order of 10th August 1976 (Journal officiel of 12th September 1976, p. 5496).

(15) See de Laubadère, Traité de Droit administratif, 6th edition, Paris 1973, p. 516, paragraph 910; Vedel, Droit administratif, 5th edition, Paris 1973, pp. 563 et seq.

(16) See: de Laubadère op. cit. (footnote 15); R. Schmidt, Die Anfechtungsklage gegen Verwaltungsakte im französischen Verwaltungsrecht, law thesis Munich 1967, pp. 130 et seq.; Bleckmann, Das schutzwürdige Interesse als Bedingung der Klagebefugnis am Beispiel des französischen Verwaltungsrechts, VerwArch 49 (1958) pp. 213 et seq.

(17) de Laubadère, op. cit. (footnote 15); Vedel op. cit. (footnote 15) pp. 563 et seq.

(18) Vedel op. cit. (footnote 15); Schmidt op. cit. (footnote 16) p. 141, Bleckmann (apparently taking a different view) op. cit. (footnote 16) p. 213.

(19) Receuil des arrêts du Conseil d'Etat (Recueil Lebon) 1906, p. 977

institute proceedings because it did so in defence of the collective interests that the association had been founded to protect (20). Lastly, in a third case, the "Société pour l'ésthetique de la France" protested against the issue of a permit to build a Le Corbusier building in Marseilles. The association's right of action was recognised because, on the basis of its statutes, it had an interest in ensuring that building law was complied with (21). From these and other judgments (22), an association therefore has a right of action if the action is brought in accordance with the association's objectives as set out in its statutes and for the purpose, therefore, of protecting the interests of all its members.

(f) Summary

The holding of public enquiries is compulsory in the licensing procedure for the construction and operation of large nuclear installations. A written procedure is used for the enquiry, there being no formal public oral discussion of any objections. Any "personne intéressée" can intervene in the enquiry. Licences can be appealed against in the administrative courts by "recours pour excès de pouvoir" provided an "intérêt" in reversing the decision can be proved. In some cases, action by groups is also permissible.

2. Netherlands

(a) In the Netherlands, installations for the release of nuclear energy, for the production, preparation or processing of fissionable materials or for the storage of fissionable materials may be constructed, commissioned, operated or modified only if licence has been jointly granted by the Minister for Economics and the Minister for Social Affairs under Section 15(b) of the Nuclear Energy Act of 21st February 1963 (23). The same obligation also governs the fitment or alteration of an equipment designed for purposes of the nuclear propulsion of a vehicle or means of transport (Section 15(c) of the Nuclear Energy Act). The procedure for

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(20) Conseil d'Etat of the 13th July 1948 (Société des amis de l'Ecole Polytechnique) (Recueil Lebon 1948 p. 330).

(21) Conseil d'Etat of 14th December 1951 (Recueil Lebon 1951, p. 599).

(22) See Vedel op. cit. (footnote 10) pp. 566 et seq. and Schmidt op. cit. (footnote 11) pp. 157 et seq.

(23) Kernenergiewet (Staatsblad 1963, 82); Netherlands text with German translation in "Kernenergierecht Niederlande", by W. Bischof, Vol 5 of the Series published by the Federal Ministry for the Interior, Stuttgart etc., 1976 pp. 14 et seq. On the Netherlands Nuclear Energy Act see also: Bischof, W, in Atomwirtschaft 1963, pp. 609 et seq; A survey of different regulatory practices in licensing and regulatory control of nuclear installations, IAEA - Legal Series No. 10, Vienna 1975, p. 278; Nuclear Legislation, Analytical Study, Regulations governing nuclear installations and radiation protection, OECD-NEA, Paris 1972, p. 301.

the grant of licences under Section 15(b) and (c) is laid down partly in the Decree of 4th September 1969 on nuclear installations, fissionable materials and ores (24), issued under the Nuclear Energy Act (Section 1c). These procedural regulations give detailed rules regarding information of the public and responsible authorities and on the possibilities of lodging objections.

Applications made for the grant of licences under Section 15(b) or (c) first have to be communicated by the Minister for Economics and the Minister for Social Affairs to the government authorities detailed in the Decree of 4th September 1969; they must be advertised in the Netherlands Official Gazette (Staatscourant) and in at least one, or possibly several, newspapers (Section 17, paragraph 1 of the Nuclear Energy Act). If the application for a licence relates to a nuclear reactor (nuclear power station), a fuel element manufacturing plant, a reprocessing plant or an installation for the storage of plutonium or enriched uranium, the application must also be referred by the above-mentioned ministries to the provincial executive boards ("gedeputeerde staten"), in other words, the executive organs of the provincial parliaments (25), in which the site of the installation concerned lies, or mainly lies. If the site of the planned installation is less than 10 km from the boundary of another province, the application must also be communicated to the executive board of this neighbouring province (Section 15 of the Decree of 4th September 1969). The provincial executive board then immediately acquaints the administration of the municipality in which the plant is to be located with the content of the application. Neighbouring municipalities are also informed if they are less than 10 km from the location of the plant. In addition, the bodies and associations responsible for the quality of surface water must be informed directly by the provincial executive boards (Section 16 of the Decree of 4th September 1969). Municipalities informed of an application for a licence have two weeks to ensure that the application is made public in the manner usual in the locality, that public notices are posted up on the intended site of the installation and written communication sent to the owners and users of all plots of land bordering on the site. The application has to be available for inspection in the municipality from the day the notices are posted. Everyone has the right of inspection (Section 17, Decree of 4th September 1969). The administration of the municipality where the plant is sited is also obliged to make available for inspection the safety report to be provided by the responsible ministries for this purpose (Section 18 of the Decree).

(b) This provision of information to the public is the basis for the subsequent procedure for making objections, the responsibility for which is given to a committee to be summoned by the Minister for Economics and the Minister for Social Affairs (26). Under Section 17, paragraph 2 of

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(24) Staatsblad 1969, 403, amended by the Decree of 26th April 1972, Staatsblad 1972, 242; reproduced in "Kernenergierecht Niederlande" (footnote 23), pp. 250 et seq.

(25) Cf. Article 137 of the Netherlands Constitution.

(26) For the composition of this Committee, see Section 19, paragraphs 2 and 3 of the Decree of 4th September 1969 (footnote 24).

the Nuclear Energy Act, the right to object belongs to the government authorities to whom the application for authorisation must officially be communicated, in other words primarily the provincial executive boards and municipalities. Secondly, all interested persons ("belanghebbende") are entitled to submit objections in the form of a complaint, against the granting of the licence applied for (Nuclear Energy Act, Section 17, paragraph 3). Such complaints may be made either in writing or verbally at a public meeting of the above-mentioned Committee (Decree of 4th September 1969, Section 19, paragraph 1). The Committee's public session must be held at least one month but not more than two months after the public announcement and it must take place in the municipality in which the installation is wholly or chiefly constructed or to be constructed. The day and place of the session must be published at leas three days beforehand in one or more newspapers (Nuclear Installations Decree, Section 19, paragraph 5). Interested persons may appear personally at the public session or be represented. Minutes are taken of the Commission's hearing, a copy of which is laid open for inspection by persons affected. The place of inspection is made public in the manner usual in the locality.

Section 17, paragraph 3 of the Nuclear Energy Act and Section 19, paragraph 1 of the Nuclear Installations Decree of 4th September 1969 do not specify who is to be considered as interested persons and thus entitled to a complaint. At any rate, no-one has to prove that his rights are damaged by the envisaged installation. In addition, the right to complain does not depend on the interested person's having his residence in the municipality or province where the installation is to be, or already has been, constructed. The complainant merely has to prove conclusively that the possible occurrence of danger, damage or nuisance is to be feared in his case. Netherlands administrative practice regarding the admissibility of objections is liberal. In the licensing procedure for the gase centrifuge enrichment plant in Almelo, for example, a journalist with his residence in Amsterdam was accepted as complainant (27). Even foreigners living outside the Netherlands may, in some cases, be heard as objectors. The Nuclear Energy Act and the Nuclear Installations Decree contain no specific provisions regarding the recognition of groups as objectors. In theory, legal persons under private and public law may also qualify as "belanghebbende". Environmental protection groups and associations may submit objections but their activity, as specifically set out in the relevant statutes of the association concerned, must cover the area in which the installation itself is to be constructed or is located (27). A citizen's association for the province of Seeland would therefore not be entitled to raise objections about a nuclear installation in the province of Groningen. On the other hand an environmental protection association for the whole of the Netherlands with its offices in Amsterdam, for example, would be entitled to object in all provinces. This administrative practice which is already followed will be confirmed in the forthcoming Environmental Protection Act currently before the Netherlands Cabinet and soon to be referred to the parliamentary legislative authorities. The relevant changes and additions to the Nuclear Energy Act are also envisaged.

Under the Nuclear Installation Decree of 4th September 1969, Section 30, the next step in the complaints procedure is that the applicant for a licence is informed of the objections by being given the

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(27) Communication from Dr H.A. de Grood, Ministry for Economic Affairs, the Hague, to the authors.

minutes of the Committee's public session and copies of the written objections. The applicant thus has an opportunity to reply and in particular to say whether and in what manner he is willing to meet the objections raised.

The decision on the application for authorisation taken by the Minister for Economics and the Minister for Social Affairs jointly with any other competent ministers (Nuclear Energy Act, Section 18) is communicated to those who have complained against the granting of the licence; if the decision is to grant the licence, the various considerations taken into account with regard to the objections raised by the individual complainant must be stated (Nuclear Installations Decree, Section 30, paragraph 3). In addition, the executive board of the province in which the public session has taken place receives a copy of the decision complete with reasons for it. The same document also goes to the administration of the municipalities concerned (28). It should be noted that apart from this right of complaint under nuclear legislation, provincial governments and local authorities are entitled, under express provisions in the Constitution (29), to uphold the interests of their province and its inhabitants, or their municipality and its inhabitants, in relation to the Queen, the Parliament or the provincial parliaments. This general right of intervention under the Constitution naturally extends to questions relating to the construction and operation of nuclear installations.

The Netherlands Constitution is very reticent regarding the possibility of plebiscitary decisions (as is the Basic Law for the Federal Republic of Germany). In particular, it is not possible under Netherlands constitutional law to influence specific licensing procedures by referenda or plebiscites.

(d) Apart from the duty to inform the public, public participation and the public's right to object that are set out in the legislation on licensing procedure, the Nuclear Energy Act (Section 50 et seq.) contains provision on appeal procedures in the administrative courts against the decisions of the responsible ministries on applications for licences to construct, commission, operate or modify installations and on other applications for which the law makes provision. The appeal goes directly to the Queen. It is made against an act of the administration in the form of a ministerial order (beschikking). Normally, the application for the order to be reconsidered has no delaying effect (Nuclear Energy Act, Section 50). Anyone is entitled to lodge an appeal whose interests (belang) are directly affected by the act of the administration. Those entitled to appeal are therefore basically identical with those entitled to complain (in the licensing procedure); the only difference is that the right to appeal is confined to those who are directly (rechtstreeks) affected.

(e) The right to appeal also belongs to Mayors of such municipalities as may have submitted an application to the responsible ministers under the Nuclear Energy Act, Section 25, paragraph 2, for the issue of an

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(28) Cf. Decree of 4th September 1969 (Section 30, paragraphs 3, 4 and 5) as amended by the Decree of 26th April 1972 (footnote 24).

(29) Netherlands Constitution, Articles 147 and 157.

order halting the construction or operation of a nuclear installation on the grounds of conflict with legal provisions, if the application has been turned down by the minister as licensing authority (30).

Appeals are heard by the administrative litigation department of the Council of State (Raad van State); as a rule the hearing is held orally in public session (31). The final decision, however, is not taken by the Council of State but formally by the Queen on the basis of the Council of State hearing and on the proposal of the minister responsible for granting the licence in agreement with those ministers whose field of competence is also involved.

Apart from the conditions, obligations and other rules set out in the Nuclear Energy Act, Section 19, paragraph 4, a licence for constructing, operating or modifying an installation may also make the licensee responsible for meeting further requirements that the authorities defined in the licence may possibly set. If further requirements should be imposed by order of the authorities named, those persons whose interest (belangen) are directly affected by such order - including not only the licensee but possibly others as well - may apply to the minister granting the licence for a review of the order, under the Nuclear Energy Act, Section 36. Normally, an appeal of this kind has a delaying affect. The procedure is laid down in a special Decree of 13th October 1969 (32).

(f) Summary

In the Netherlands, nuclear law requires that the public be fully informed on applications made for licences, such information in principle being followed by an enquiry procedure conducted by a special complaints Committee. In this procedure "belanghebbende" may enter objections in writing or orally. Netherlands administrative practice is liberal in its recognition of objectors, which may include legal entities such as environmental protection associations. Directly affected persons are entitled to lodge appeals against licences to construct, operate, or modify installations, decisions on appeals being rendered by the Queen after a hearing by the Council of State (administrative litigation department). Plebiscitary decisions are, in practice, impossible under Netherlands constitutional law.

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(30) Nuclear Energy Act, Section 25, paragraphs 2 and 5, in combination with Section 50, paragraph 1.

(31) Cf. Nuclear Energy Act, Section 55, paragraph 2.

(32) Beroepsbesluit Kernenergiewet (Staatsblad 1969, 473). Dutch text and German translation in "Kernenergierecht Niederlande" (footnote 23, pp. 94 et seq.).

3. Sweden

(a) The basic principles of nuclear law in Sweden (33) are to be found in the Act of 1st June 1956 on the right to exploit nuclear energy (Atomic Energy Act) (34) and the Radiation Protection Act of 14th March 1958 (35).

Under Section 1 of the Atomic Energy Act, a licence is required for the acquisition, possession, conveyance, processing or other handling of nuclear fuels (36). The same applies to thorium and other materials that can be transformed into nuclear fuels, compounds containing one of the named substances, and irradiated nuclear fuels (37). The licence used to be granted by the King but is now issued by the Government (38) or the authority designated by it (39), except where specific exemption from the licensing requirement exists by virtue of a statutory instrument (40).

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(33) Swedish legislation on the peaceful uses of atomic energy was published by the Institut für Volkerrecht of Gottingen University with a German translation in 1963 as volume 8 of the Nuclear Law Series. For amendments that have since been made, see the Nuclear Law Bulletins published by the OECD Nuclear Energy Agency, Paris. As regards the nuclear licensing procedure, see also Nuclear Legislation, Analytical Study, Regulations governing nuclear installations and radiation protection, OECD-NEA, Paris 1972, pp. 373 et seq.; and A survey of different regulatory practices in licensing and regulatory control of nuclear installations, IAEA, Legal Series No. 10, Vienna 1975, p. 286.

(34) Svensk Författningssamling (SFS) 1956, No. 306, Amendments of 30th June 1960 (SFS 1960, No. 422), 2nd December 1960 (SFS 1960, No. 682), 20th March 1964 (SFS 1964, No. 209), 19th May 1972 (SFS 1972, No. 179) and 26th June 1975 (SFS 1975, No. 706).

(35) SFS 1958, No. 110. Amendments of 30th June 1960 (SFS 1960, No. 423), 4th December 1970 (SFS 1970, No. 670), 30th June 1971 (SFS 1971, No 617), 14th December 1973 (SFS 1973, No. 1004), 26th June 1975 (SFS 1975, No. 209) and 13th May 1976 (SFS 1976, No. 245).

(36) Nuclear fuels are uranium, plutonium and other materials used as fuel in a plant generating atomic energy (nuclear reactor) (Atomic Energy Act, Section 1).

(37) Atomic Energy Act, Section 1, paragraph 2 (footnote 34).

(38) See Act of 26th June 1975 amending the Atomic Energy Act (SFS 1975, 706).

(39) Responsibility for issuing licences under the Atomic Energy Act has, to some extent, been transferred to the National Nuclear Power Inspectorate. Cf. Decree of 22nd January 1976, regarding the control authority referred to in the Atomic Energy Act, etc. (SFS 1976, 12). Cf. also Royal Instruction of 31st May 1974 for the National Nuclear Power Inspectorate (SFS 1974, 427).

(40) See Royal Decree of 11th December 1970 on certain authorisations under the Atomic Energy Act (SFS 1970, 749).

The obligation to have a licence to construct, possess or operate a nuclear reactor, an installation for the processing of nuclear fuels and the other substances listed in Section 1 of the Act is laid down in Section 2. Since 1st January 1976, licences for installations are also no longer granted by the King but by the Government. Section 3 of the Act provides that a licence is required for the exportation of nuclear fuels and the other substances listed in Section 1. Apart from the licence under the Atomic Energy Act a further licence may be required in certain circumstances under the Radiation Protection Act (41), to be granted by the Government or the radiation protection authority designated by it.

(b) Both the Atomic Energy Act and the Radiation Protection Act contain certain provisions on restrictions, conditions and duties and on the supervisory powers of the responsible control authorities, but, as yet, there are no specific and detailed rules for the licensing procedure particularly with regard to applications for licences to construct, commission and operate nuclear installations. In this respect, there are no provisions, neither in the Atomic Energy Act or the Radiation Protection Act nor in the special regulations implementing these Acts which have been issued so far, concerning public information or participation in relation to the nuclear and radiation protection licensing procedure or the legal protection against the grant or refusal of licences under the two Acts. A particularly noteworthy point is that neither the Atomic Energy Act nor the Radiation Protection Act contain any substantive or formal conditions for the granting of licences. Since 1960 a certain administrative practice has develcped over the years as regards licences for nuclear installations (competence of the Minister for Industry, applications to be filed with the National Nuclear Power Inspectorate, the obtaining of an expert opinion, and the transmission of that opinion to the Government with the Minister's views, involvement of the National Radiation Protection Institute and other authorities) but no detailed nuclear licensing procedure has yet been expressly laid down by law (42).

In 1971, after decades of preparatory work, a full-scale reform of the law of administrative procedure and the law of administrative courts was introduced in Sweden (43). Whereas, previously, the procedures of the administrative authorities were largely based on customary law, administrative practice and a few regulations in specific provisions, the Administration Act of 4th June 1971 (44) standardised the procedures. Admittedly, this Act was not applicable to the licensing of nuclear installations under

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(41) See Radiation Protection Act, Section 2, as amended on 14th December 1973 (SFS 1973, 1004).

(42) But see Royal Instruction of 31st May 1974 on the National Nuclear Power Inspectorate (SFS 1974, 427) and the Decree of 22nd January 1976 on the Control Authorities under the Atomic Energy Act etc. (SFS 1976, 12).

(43) On this reform, see Herlitz, N., Rechtsschutzfragen in Schweden, in Gedächtnisschrift für W. Jellinek, München 1955, pp. 419 et seq.; and Forstmann, M.D., Der Rechtsschutz im schwedischen Verwaltungsverfahren in VerwA 62 (1971), pp. 313 et seq.; and 63 (1972), pp. 10 et seq.

(44) SFA 1971, 290. German translation in VerwA 64 (1973), p. 278. See Hahn, G., Das neue Schwedische Verwaltungsgesetz in VerwA 64 (1973), pp. 260, et seq.

the Atomic Energy Act until 1975 because up to that time the King's decision was required for such licences and the Administration Act, by virtue of a specific provision (45), is not applicable to the King, that is to say the King in the Council of State - the Government as defined by the Constitution (46). Through the Act of 26th June 1975, amending the Atomic Energy Act, which entered into force on 1st January 1976, the Government is now put in place of the King (47) and is now the central decision-making authority as regards nuclear licences, so that the provisions of the Administration Act would seem now to be applicable to the nuclear licensing procedure. Section 10 of the Administration Act makes it compulsory to consult other authorities. This "referral" procedure (48) is in line with previous administrative practice in relation to the Atomic Energy Act. There is, however, no indication in the Administration Act that applications for the grant of licences under the Atomic Energy Act have to be notified or that the public has to be informed. Moreover, the provisions of the Administration Act on the possibility and admissibility of appeals against administrative decisions are inapplicable since licences under the Atomic Energy Act are granted by the government and there is naturally no superior authority to overrule it.

(c) In June 1971, the law on administrative procedure in Sweden was also reformed by two new acts: the Act of 4th June 1971 on general administrative courts (49) and the Administrative Procedure Act of the same date (50). No general clause is included in this Act regarding the review of administrative decisions (51) but the principle of enumerated rights is applied, in other words applications, objections, complaints etc., are admissible only if there are express legal provisions allowing access to the administrative courts (administrative court, and the administrative court of appeal). Up to now, the nuclear legislation does not contain any provisions under which appeals against government decisions on applications for licences for nuclear installations would be permissible. The Act of 4th June 1971 (52) on the competence of the general administrative courts for reviewing certain questions (Section 1, paragraph 9) states that appeals before the administrative courts against decisions under the Radiation Protection Act shall be admissible but this

(45) Administration Act of 4th June 1971, Section 2, paragraph 1 (footnote 44).

(46) Hahn, in VerwA 64 (1973), p. 263.

(47) Under previous law still in force, there is no appeal against decisions by the King (cf. Forstmann, in VerwA 63 (1972), p. 15).

(48) See Forstmann, in VerwA 62 (1971), pp. 342 et seq.; Hahn in VerwA 64 (1973), p. 267.

(49) SFS 1971, 289.

(50) SFS 1971, 291; German translation in VerwA 64 (1973), p. 377.

(51) Hahn, in VerwA 64 (1973), pp. 351, 374 and 377.

(52) SFS 1971, 309.

does not apply to licences granted under the Atomic Energy Act. This legal position, moreover, corresponds to the intention of the reform of the law on administrative procedure, namely that questions arising out of essentially political considerations (e.g. decisions in which defence, public order, security or economic policy viewpoints have to be taken into account) should be reserved to the government without any possibility of review by the administrative courts (53).

But since other legislation also applies to the construction and operation of nuclear installations - e.g. the Building Act of 30th June 1947 (54) as amended, the Environmental Protection Act of 29th May 1969 (55) and the Water Conservation Act of 30th November 1956 (56), appeals may be lodged, as allowed by these Acts, against the decisions taken under these Acts by the responsible administrative authorities although they cannot, it should be noted, relate to the licences granted under the Atomic Energy Act.

(d) The scope for public intervention in the nuclear licensing procedure is thus extraordinarily small in the present legal situation, but it should be noted that, in Sweden, the interests of the public in relation to the King, the Government and the Administration are represented by the Ombudsman, a function created in 1809 (57). Every Swedish citizen is entitled to approach the Ombudsman who is responsible solely to Parliament and completely independent. He enjoys far-reaching rights of investigation as regards Parliament and the administration but is not empowered, representing the public interest as it were, to object or appeal against decisions by the administration and the courts. He may, however, make recommendations to both courts and authorities although these are not binding. One essential effect of the Ombudsman's activity is to ensure the legality and regularity of the administration and to uncover gaps or deficiencies in the legislation.

(e) Lastly, reference is to be made to the possibility under the Swedish Constitution of 28th February 1974 (Chapter 8, Section 4) (58) of holding a referendum. According to this provision referenda can be

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(53) Cf. Hahn in VerwA 64 (1973), p. 357.

(54) SFS 1947, 385.

(55) SFS 1969, 387. See also Schroer, F., in DVBl, 1971, p. 813.

(56) SFS 1956, 582.

(57) For details see Kastri, P., Die Institution des Ombudsman im skandinavischen Recht, in JOR 21 (1972), pp. 219 et seq., and Kempf, U., Der Bürgerbeauftragte als Kontrollorgan, in Beilage zur Wochenzeitung Das Parlament B 44/73 of 3rd November 1973, pp. 17 et seq. (20).

(58) Kungl. Majts: kungörelse om beslutad ny regeringsform, 28th February 1974 (SFS 1974, 152).

ordered throughout the Swedish Kingdom by the passing of an Act. From the Constitution it is not possible to tell whether an Act is to be passed for referenda in general or whether a specific Act is necessary for each concrete case. The result of the referendum is not binding on the constitutional institutions, being purely consultative in nature. In the Government's statement of 8th October 1976, Mr Fälldin, the Swedish Prime Minister, promised a consultative referendum on construction and operation of nuclear installations by the end of 1977 or 1978 (58a).

(f) Summary

Current Swedish law on nuclear installations has few provisions regarding licensing procedures; in particular, there are up to now no specific legal rules requiring the information of the public, enquiry procedures or participation by the public and parties affected. Since decisions on applications for licensing nuclear installations used to be taken by the King and are now taken by the Government, revision of the Government decision in the administrative courts is at present not possible under the law on administrative procedure. At best, the public has formal opportunities for intervention through the Ombudsman or referenda. However, referenda cannot, under constitutional law, be initiated by the public but have to be ordered in an Act passed in accordance with the Constitution.

4. Switzerland

It would be wrong to close this comparison of legislation on types and forms of public participation in nuclear licensing procedures without a brief look at the legislation in Switzerland, a country with which the term referendum is readily associated and which is regarded as a model of direct plebiscitary democracy. One would therefore be tempted to assume that special provision would be made there for public involvement in nuclear licensing procedures but this is by no means the case.

(a) Under the Federal Act on the Peaceful Uses of Atomic Energy and Protection Against Radiation of 23rd December 1959, Section 4, paragraph 1(a) (59) the construction and operation of nuclear installations require a licence the granting of which is decided by the Federal Government or a body designated by it (60). The licensing provisions include an enquiry procedure. Under Section 7, paragraph 2 of the Atomic Energy Act, the views of the Canton in which the nuclear installation is to be set up have to be obtained. Individual citizens or the public concerned, therefore, have no right to be heard - only the Canton of the site. In particular, there

(58a) Energiewirtschaftliche Tagesfragen 1976, p. 626; IRS-Kurzinformationen 1976, No 41 (1976/D/34).

(59) Amtliche Sammlung 1960, p. 541.

(60) Atomic Energy Act, Section 6. Competence for the granting of licences has been delegated to the Transport and Energy Economy Department, "Order on definitions and authorisations in the field of atomic energy", Section 3, of 13th June 1960 (AS 1960, p 557).

is no procedure allowing persons whose interests are affected, to lodge objections before the licence is granted. Such a procedure is known in other fields of Swiss law but here it is replaced by the Canton's right to a hearing (61). In this way Swiss legislation, by confining the right to be heard to the Canton of the site has deliberately taken a decision designed to rule out any direct exercise of influence by the citizen and the public. This is nowadays criticised here and there, but it must be borne in mind that fundamental plebiscitary approval of the use of atomic energy has already been given by the referendum, held in the autumn of 1957 among the Swiss people and the Cantons, on the amendment of the Federal Constitution conferring competence for atomic energy on the Federal Authority (Article 24 quinquies) (62).

(b) Although, therefore, there is no provision for direct public participation in the licensing procedure at federal level, the question is whether the legal situation is different in those fields for which the Cantons or municipalities are competent, e.g. building, protection of the countryside and water management. However, recent discussion regarding constitutional law and competence under the Atomic Energy Act in Switzerland suggests that it is very questionable whether there is any cantonal or municipal competence worth mentioning as regards the exploitation of atomic energy. The Swiss Federal Court's decision in the Kaiseraugst case (63), in particular, makes it clear that the provisions in the Constitution place full competence with the Federal Government, leaving practically no scope for the application of Cantonal regulations. The Federal Court refers to "the exclusive character of the legislative competence given to the Federal State in the field of atomic energy" (64). Similar views have been advanced in the literature (65). Given this clearcut pre-emption by the Federal State in relation to the Cantons it seems doubtful indeed whether decisions taken at cantonal level - with or without public participation - are admissible or can produce effects which are not in agreement with the provisions of the Federal Atomic Energy Act and thus outflank the exclusive federal competence for licensing nuclear power stations. This could probably apply even to the field of land-use planning, the law on which in Switzerland confers fundamental and

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(61) See Gygi, Die rechtlichen Probleme des Baus von Kernkraftwerken in der Schweiz, Beilage zum Bulletin der Schweizerischen Vereinigung für Atomenergie, No 14/15, 1975, p. 8.

(62) Referendum of 24th November 1957 (Amtliche Sammlung 1957, p. 1027). The result of the referendum was 491,000 for and 144,000 against. See also Gygi, op. cit. (footnote 61) p. 3.

(63) Bundesgerichtsentscheidungen (BGE) 99 I a pp. 256 et seq.

(64) BGE 99 I a pp. 257 et seq.

(65) Cf. Fischer, Die Kompetenzordnung bei der Bewilligung von Kernkraftwerken, Schweiz. Zentralblatt für Staats und Gemeindeverwaltung 74 (1973) pp. 89 et seq.; Fischer, Die Kompetenzordung bei der Bewilligung von Kernkraftwerken im Lichte der Gerichtspraxis, Bulletin SEV/VSE 66 (1975) pp. 269 et seq.; Gygi op. cit. (footnote 61); H. Huber, Die Bewilligung von Kernkraftwerken, Neue Zürcher Zeitung, 4th July 1973, No 303, p. 23. Likewise, apparently, the unpublished Opinion of Huber and Gygi (Berne specialists in public law) Gutachten über die rechtliche Zulässigkeit für den Kanton Bern, den Bau weiterer Atomkraftwerke auf seinem Gebiet der Volksabstimmung zu unterwerfen (1972) (quoted in Fischer op. cit.).

substantial rights of direct collaboration on the Swiss people (66). Here, too, Federal law takes precedence, in the event of conflict, over divergent cantonal regulations to the extent that cantonal decisions may not render impossible the construction of nuclear power stations in the form authorised by the Federal Government (67).

(c) These conclusions nevertheless have no effect on the rights conferred by the law on administrative procedure on private persons to lodge objections and appeals against licences or to bring an action before the administrative courts (68). In this area the general principles of protection against acts of the administration apply, which are similar to those in the Federal Republic of Germany (69). It is important to note, however, that associations of persons are allowed to lodge appeals or to take legal action if all - or at least most - of their members are directly affected by the contested licence and if, in addition, the statutes of the association expressly state that these are precisely the interests which the association is designed to safeguard (70). Appeals by associations are therefore possible in Switzerland, to a limited extent, but not by the public in general.

(d) Summary

In the Swiss licensing procedure for nuclear installations, only the Canton of the site is consulted on the project. Direct consultation or participation of the public does not exist. Associations of persons may, on certain conditions, be involved in the procedure in the administrative courts.

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(66) See Bruhin, Planänderung im Raumplanungsrecht, Zürich 1975, pp. 35 et seq.

(67) See authors referred to in footnote 65, particularly Fischer, Bulletin SEV/VSE pp. 273 et seq.

(68) A further relevant point is the appointment of a "Beauftragte für Beschwerdesachen" in the city of Zürich. This Ombudsman is required to act in cases where, in spite of formal legal action and appeal, there is a further need for controlling the administration. He can act only as a mediator with no power of decision. The question of whether or not to bring in the Ombudsman on a general basis in Switzerland is now being studied. Cf. Schwarzenbach, Grundriss des allgemeinen Verwaltungsrechts, 6th edition, Bern, 1975, pp. 141 et seq.

(69) See, for example, Rocke, Die Legitimation zur Anfechtung von Verwaltungsakten, Zürich, 1968; Schwarzenbach, op. cit. (footnote 66) pp. 125 et seq.

(70) See, with precedents from case law, Gygi op. cit. (footnote 61) pp. 9 et seq.

III. CONCLUDING REMARKS

It might seem tempting to study forms and types of public participation in nuclear licensing procedures in other countries than those considered here, but a brief glance at the relevant nuclear legislation in each case is enough to show that there is no, or very little, provision for public participation in the other countries in Western Europe. The detailed and comprehensive nuclear legislation in Italy, for example, surprisingly has no reference to enquiry procedures or other rights of public participation. The same applies to Austria. Conversely, there are some tentative approaches to public participation, albeit indirect, in the British Nuclear Installation Act (71) and the Spanish Decree on Atomic Installations (72) Lastly, the Belgian Decree on Radiation Protection requires municipalities to publish information about applications for licences and allows citizens a time limit of 15 days (!) to lodge objections (73).

The conclusion therefore is that, in Western Europe, only Germany, France and the Netherlands have relatively elaborate systems for public enquiry or participation in nuclear licensing procedures. By comparison, countries like Sweden and Switzerland, with their reputation for cherishing the citizen's rights, do not consider public participation in the licensing procedure to be necessary, or if so, only indirectly. For most of the other countries a completely negative report has to be made. Admittedly it cannot be ruled out that, in some countries, there may be forms of public participation outside the nuclear legislation itself which come into play in the licensing of nuclear installations. It could be imagined, for example, that public participation under industrial or land-use planning legislation could also apply to nuclear power stations, but it has not been possible to go further into this point.

The reasons for this reluctance on the part of States could well be difficult to establish. It might be argued that because of the increasingly critical awareness of the population, recognition of the importance of public participation in nuclear licensing procedures is only a recent phenomenon, and that this is why at least the older atomic energy acts contain no provisions on public participation. This, however, would be to ignore the question that needs to be put first of all and that is, whether there may not be sound reasons for reserve on the subject of public participation. It was the Swiss jurist Werner Kägi who said that referenda cannot be organised about any and every subject - there were decisions for which special competence was necessary (74). This point should not be lost from sight even though today many people may contest the argument. The exploitation of atomic energy is a highly technical and complicated matter and limits soon arise as regards direct influence by a non-specialised public. This makes the reserved attitude of most legislatures outside Germany understandable. On the other hand, the

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(71) Nuclear Installations Act 1965 [Chapter 57, Section 3(3)].

(72) Decreto 2869/1972 de 21 de julio, por el que se aprueba el Reglamento sobre Instalaciones Nucleares y Radioactivas (Section 6 et seq.). (Boletin oficial, 24th October 1972, p. 18906.)

(73) Section 6.3, Royal Decree of 28th February 1963, (Moniteur belge, 16th May 1963, p. 5206).

(74) Quoted from Gygi op. cit. (footnote 61) p. 2.

examples investigated in this report show that they also consider public participation in various forms as a matter of good policy in certain areas For the German lawmakers, therefore, this look across the borders is both a warning to be appropriately restrictive and an encouragement to push cautiously ahead with suitable forms of public participation in nuclear licensing procedures.

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Colloquium on Nuclear Law and the Law of the Sea, Proceedings, Economica, Paris, 1977, 252 pages

This Colloquium was held at Paris University I on 12th and 13th June 1975. It was organised by the "Paris I Centre d'études et de recherches de droit international" and by the "Centre d'études du droit de l'énergie atomique de l'Institut de droit comparé de Paris" under the chairmanship of Dean Colliard.

The Proceedings of this Colloquium which deal with the relationship developed in recent years between both these legal systems contain the full texts of the papers submitted and the ensuing discussions between the participants. These papers discuss the technical and economic prospects of nuclear-powered ships, as well as the third party liability and licensing systems applicable to this form of navigation. The rules applicable to third party liability for maritime transport of nuclear materials and the problems raised by insurance for such transport are also described. The question of radioactive marine pollution, in particular in the light of the recent international conventions such as the 1972 London Convention, was analysed by several speakers, while other papers dealt with the legal aspects of off-shore siting of nuclear power plants and the de-nuclearisation of the seabed.

• *F.R. of Germany*

Werner Bischof, Rontgenverordnung (RöV), Das Deutsche Bundesrecht, Taschenkommentar, Nomos Verlagsgesellschaft, Baden-Baden, 1977, 366 pages

Werner Bischof of the Institute for Public International Law of the University of Göttingen is the author of this first commentary on the Ordinance of 1st March 1973 concerning protection from damage by X-rays (X-ray Ordinance), a translation of which was reproduced in the Supplement to Nuclear Law Bulletin No 12.

After an introduction dealing with previous legislation, the legal basis for the present Ordinance, as well as recommendations and directives

for its implementation, the author gives an Article-by-Article commentary on the Ordinance. The Annex contains the announcements issued on 2nd January and 15th March 1974 by the Federal Minister for Youth, Family and Health and the Federal Minister for Labour, which set forth the directives and recommendations agreed with the competent supreme authorities of the Länder.

Göttinger Atomrechtskatalog, Part B, Volume 28, Institut für Volkerrecht der Universität Göttingen, Göttingen, 1976, 448 pages

The Institute for Public International Law of the University of Gottingen has now published Volume 28 of the Atomic Law Catalogue, which is the third in the new Part B series (Bibliography and Sources). It deals with the atomic energy law of individual States and updates the information given in Volumes 1, 12 and 16 to 1st April 1976. Part B will be completed by an Index in Volume 29. (For Volumes 26 and 27, see Nuclear Law Bulletin Nos 17 and 18).

Hugo J.Hahn and Albrecht Weber, Die OECD, Organisation fur Wirtschaftliche Zusammenarbeit und Entwicklung, Schriftenreihe Europäische Wirtschaft, Vol 44, Nomos Verlagsgesellschaft Baden-Baden, 1976, 443 pages

Formerly legal counsel at the OECD and now Professor at the University of Würzburg, Mr Hugo Hahn, with the help of the co-author, intends to close a gap in the description and analysis of international economic organisations. In the four chapters, the authors treat the history and origins of the OECD and its predecessor, the OEEC, the legal structure of the Organisation, the law of economics developed by OECD, and OECD's role as element of order in the world economy, with particular reference to the International Energy Agency and the Financial Support Fund.

Regrettably, only a rather cursory four-page description, which is not free from inaccuracies and omissions, is devoted to the OECD Nuclear Energy Agency (pages 294 to 298). This short sub-chapter deals almost entirely with the results achieved so far without mentioning the structure and functioning of NEA and those programmes which are now being considered as of primary importance: nuclear safety, radioactive waste management, and economic and technical studies related to the nuclear fuel cycle.

• *Netherlands*

Kernergiewet, by J.W.A.de Boer, Nederlandse Staatswetten, Editie Schuurmann & Jordens, Vol 88, 1976, 450 pages

This booklet contains the integral texts of nuclear energy legislation in the Netherlands. The principal law is the Nuclear Energy Act of 21st February 1963, as amended in 1967 and 1974, which is reproduced

with its Exposé des Motifs. All implementing decrees of this Act and directives are also reproduced in full, as well as the Act on Third Party Liability in the Field of Nuclear Energy of 27th October 1965. It also contains the Act on the Liability of Operators of Nuclear Ships of 24th October 1973 (a translation of which is reproduced in the Supplement to Nuclear Law Bulletin No 7). Finally, a series of Euratom Regulations concerning several Articles of the Euratom Treaty, as well as the Euratom Basic Radiation Protection Standards of 2nd February 1959, as amended in 1962 and 1966, are reproduced in full.

As reported in Nuclear Law Bulletin No 18, a Dutch/German edition of the Netherlands nuclear legislation was published by the German Federal Ministry of the Interior.

• *NEA*

Nuclear Third Party Liability, Nuclear Legislation Series, OECD Nuclear Energy Agency, Paris, 1976, 190 pages

The OECD Nuclear Energy Agency (NEA) has just published a new analysis of nuclear third party liability legislation in OECD countries, as part of a series of studies on the major aspects of nuclear energy legislation which was started ten years ago. A first volume on this subject was published in 1967.

Since then, most OECD countries have amended their existing - or introduced new - legislation in this field. In many cases this was done in order to bring national legislation into line with the regime established by the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy and the 1963 Brussels Convention Supplementary to the Paris Convention. These Conventions, the principles of which are described in the Introduction to the Study, have been in force since 1968 and 1974 respectively.

The new volume contains a standardised presentation of nuclear third party liability legislation in sixteen OECD countries which have, until now, adopted special legislation in this field. It describes liability regimes for operators of land-based nuclear installations as well as of nuclear ships.

The NEA has published two further studies in the same series·

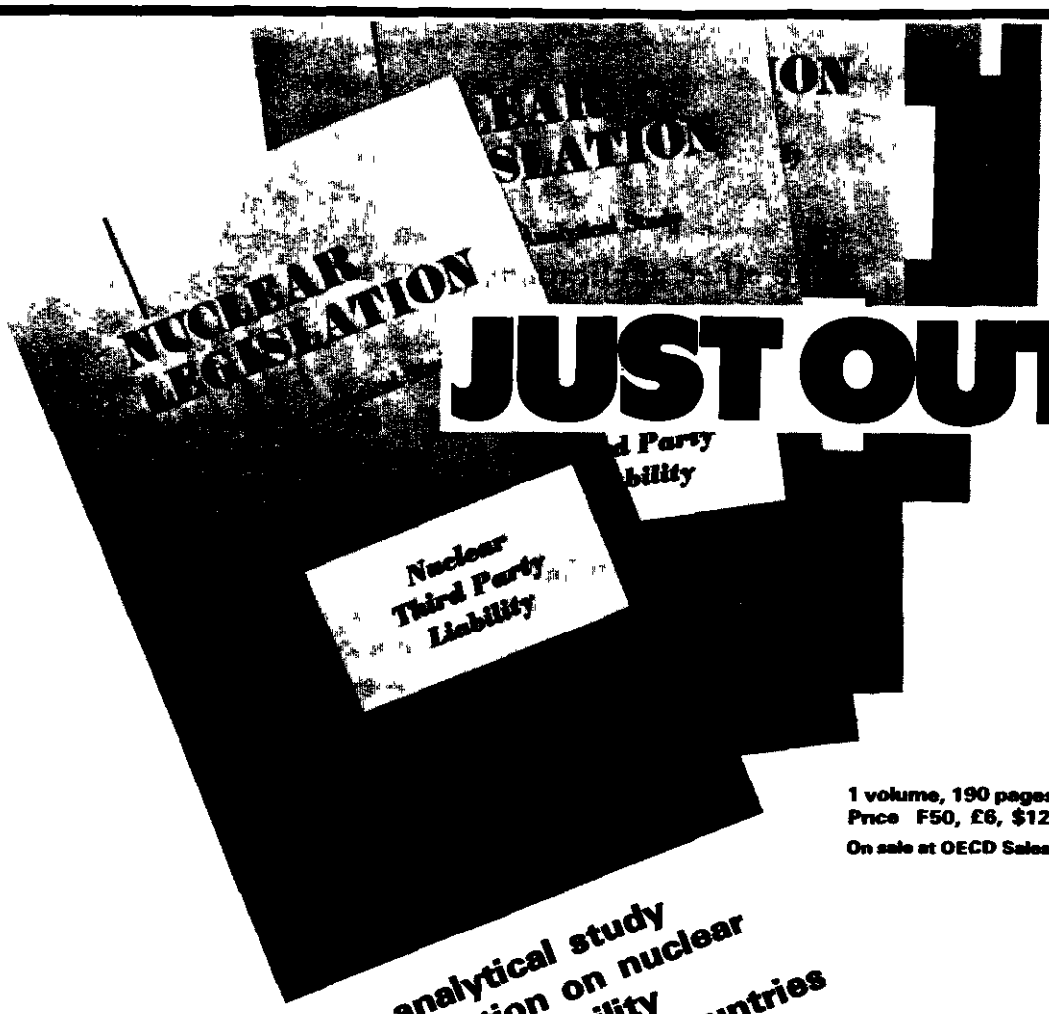
- Organisation and General Regime governing Nuclear Activities (1969)

- Regulations governing Nuclear Installations and Radiation Protection (1972).

• *Euratom*

Authorisation procedure for the construction and operation of nuclear installations within certain non-Member States of the European Communities, Commission of the European Communities, Luxembourg, 1976, 59 pages

After publication in 1974 of a study on the licensing procedure for construction and operation of nuclear installations in its Member countries, the Commission of the European Communities has recently published a new study on the same subject (EUR 5525e), also prepared by the same team of legal and economic consultants, S. Amaducci and J.M. Didier and Associates (see Nuclear Law Bulletin N° 16). This Study, published in English only, deals with the system applicable in the following countries Canada, Spain, Sweden, Switzerland, United States and Yugoslavia. The Chapters concerning each country are drafted according to a fairly standardised scheme and are supplemented by diagrams illustrating the main steps in the licensing process.



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- *Regulations Governing Nuclear Installations and Radiation Protection (1972).*

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Preparation of the fourth volume, dealing with transport of nuclear materials, postponed in view of the general revision of national regulations in that field, will shortly be undertaken

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Some other publications of NEA

ACTIVITY REPORTS

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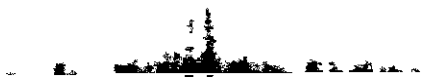

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June 1977

F E D E R A L R E P U B L I C O F G E R M A N Y

ORDINANCE
CONCERNING THE PROCEDURE FOR LICENSING INSTALLATIONS PURSUANT TO SECTION 7 OF THE ATOMIC ENERGY ACT

(NUCLEAR INSTALLATIONS ORDINANCE)*

of 18th February 1977

(Bundesgesetzblatt I, p. 280)

By virtue of Section 7, sub-section 4, 3rd sentence, and sub-section 5, Section 7a, sub-section 2 and Section 54 of the Atomic Energy Act in the version published on 31st October 1976 (BGBl. I, p. 3053), and with the consent of the Federal Council, it is hereby ordered as follows :

P A R T I

SCOPE, APPLICATION AND DOCUMENTS

Section 1 - Scope

For installations referred to in Section 7, sub-sections 1 and 5 of the Atomic Energy Act, the procedure for granting a licence, partial licence or a provisional decision shall be carried out in accordance with this Ordinance, unless otherwise provided for in Section 7, sub-section 4, first and second sentences, Section 7a, Section 7b and Section 8, sub-section 2, second sentence of the Atomic Energy Act.

* Unofficial translations established by the Secretariat.

Section 2 - Form and content of the application

(1) The application shall be submitted to the licensing authority in writing.

(2) The application shall contain

1. the name and residence or seat of the applicant,
2. the statement whether a licence, partial licence or provisional decision is applied for,
3. the site and data concerning the nature and extent of the installation.

Section 3 - Nature and extent of documents

(1) The application shall be accompanied by those documents which are necessary to examine the licensing requirements, in particular

1. a safety report which describes the installation and its operation and illustrates them by maps and drawings, describes the effects and hazards connected with the installation and its operation and specifies the precautionary measures required under Section 7, sub-section 2, no. 3 of the Atomic Energy Act ;
2. additional plans, drawings and descriptions of the installation and its component parts ;
3. data concerning measures foreseen for the protection of the installation and its operation against disturbances and other interferences by third persons pursuant to Section 7, sub-section 2, no. 5 of the Atomic Energy Act ;
4. data enabling examination of the reliability and competence of persons responsible for construction of the installation and for management and control of its operation ;
5. data making it possible to establish that it is ensured that persons otherwise engaged in the operation of the installation dispose of the knowledge required under Section 7, sub-section 2, no. 2 of the Atomic Energy Act ;
6. a list which contains all data relevant for the safety of the installation and its operation, the measures provided for the control of incidents and accidents, as well as the structure of a plan concerning controls required of component parts of the installation which are significant from the standpoint of safety technology (safety specifications) ;
7. proposals concerning the provision of financial security to cover all legal liability to pay compensation for damage ;

8. a list of measures provided for maintaining the purity of water, air and soil.

(2) The data referred to in sub-section 1, no. 3 shall be submitted separately. If the other documents referred to in sub-section 1 contain a trade or industrial secret, they shall be marked accordingly and submitted separately as well. To the extent that it is possible without divulging the secret, their content must be described in the documents to be made available for public inspection pursuant to Section 6 in such detail that third persons are in a position to determine whether and to what extent they may be affected by the installation.

(3) Apart from the documents referred to in the second and third sentences of sub-section 1, the applicant shall submit to the licensing authority a short description suitable for public inspection of the installation and the effects it is expected to have on the public in general, and the neighbours. He shall further submit a list of the documents attached to the application, in which those documents which contain a trade or industrial secret are marked specifically.

(4) If the documents do not suffice for purposes of the examination, the applicant shall complete them within an appropriate period upon request by the licensing authority.

P A R T II

PARTICIPATION OF THIRD PERSONS

Section 4 - Public announcement of the project

(1) As soon as the documents required for public inspection (Section 6) are complete, the licensing authority shall publicly announce the project in its official bulletin, as well as in local newspapers circulated in the area of the site of the installation. Such announcement shall be notified in the Federal Bulletin.

(2) Public announcement and inspection may be dispensed with if, with respect to the installation to which the application relates,

1. a public announcement and inspection complying with the requirements of sub-section 1 and Sections 5 and 6 have been made previously, and

2. a renewed public announcement and inspection would not reveal further circumstances of relevance to the interest of third persons.

(3) Public announcement and inspection may further be dispensed with if the application concerns an installation for the fission of nuclear fuel which serves or is to serve for the propulsion of ships.

Section 5 - Content of the announcement

(1) The announcement must contain the data required under Section 2, sub-section 2. In addition, the announcement shall

1. indicate where and when the application and the documents referred to in Section 6, sub-section 1 have been made available for public inspection ; the first and the last day of the inspection period shall be stated ;

2. invite all persons to lodge objections, if any, within the inspection period (Section 6, sub-section 1), with an agency to be specified in the announcement ; in doing so, attention shall be drawn to the legal consequences under Section 7, sub-section 1, second sentence ;

3. determine the time and place of a hearing or indicate that a hearing will be held and that its time and place will be announced in the same way as the project ;

4. point out that the objections will be discussed at the hearing, even in the absence of the applicant or of all persons having lodged objections ;

5. point out that the service of the decision on the objections may be replaced by a public announcement in accordance with Section 4, sub-section 1, if more than 300 services have to be made.

(2) A period of one week shall elapse between announcement of the project and the beginning of the public inspection period ; such dates shall be determined by the expected publication date of the official bulletin or of the last published daily newspaper.

(3) A period of at least one month shall elapse between the end of the inspection period and the hearing.

Section 6 - Public inspection of application and documents ; inspection of files

(1) During a period of two months, the following documents shall be made available for public inspection, during office hours, with the licensing authority and a suitable agency in the vicinity of the project's site :

1. the application,

2. the safety report pursuant to Section 3, sub-section 1, no. 1,

3. a short description pursuant to Section 3, sub-section 3.

(2) Third persons may request a duplicate or a copy of the short description.

(3) The licensing authority, exercising due discretion, may grant inspection of files ; Section 29, sub-section 1, third sentence and sub-sections 2 and 3 of the Administrative Procedure Act* shall be applied correspondingly.

Section 7 - Objections

(1) During the inspection period, objections may be lodged in writing or recorded, with the licensing authority or another agency referred to in Section 5, sub-section 1, no. 2. After expiry of the inspection period, all objections shall be precluded which are not based on special titles under civil law.

(2) The content of the objections shall be made known to the applicant. The authorities participating pursuant to Section 7, sub-section 4, first sentence of the Atomic Energy Act shall be informed of the content of those objections which involve their jurisdiction.

P A R T III

HEARING

Section 8 - Object and purpose

(1) The licensing authority shall discuss orally the objections lodged within the prescribed time limits with the applicant and the objectors. Objections which have been lodged with the agencies referred to in Section 5, sub-section 1, second sentence, no. 2 within the public inspection period, shall be deemed to have been lodged in time.

(2) The purpose of the hearing is to discuss the objections lodged in time, to the extent relevant to the examination of the licensing requirements. Objectors shall be given the opportunity to explain their objections.

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* Verwaltungsverfahrensgesetz.

Section 9 - Special objections

Objections based on special titles under civil law shall not be examined during the hearing, but shall be referred to the jurisdiction of the civil courts by written decision.

Section 10 - Cancellation

(1) No hearing shall be held if :

1. no objections have been lodged against the project, or such objections have not been lodged within the prescribed time limits ;

2. objections lodged in time have been withdrawn, or

3. no other objections than those based on special titles under civil law have been lodged.

(2) The applicant shall be informed of the cancellation of the hearing.

Section 11 - Postponement

(1) The licensing authority may postpone a hearing already announced if this is necessary in view of its proper conduct. The time and place of the new hearing shall be determined as soon as possible.

(2) The applicant and those persons who have lodged objections within the prescribed time limits shall be notified of the postponement. They may be notified by public announcement in application of Section 4, sub-section 1, correspondingly.

Section 12 - Procedure

(1) The hearing shall not be public. The representative of the licensing authority who conducts the hearing (presiding officer) shall decide who shall participate in the hearing apart from the applicant and those persons who have lodged objections within the prescribed time limits.

(2) The presiding officer may decide that certain objections shall be discussed together. In such a case, he shall make known the order of the discussion. For a specified period, he may limit the right to participation in the hearing to those persons whose objections are to be discussed together.

(3) The presiding officer shall accord the right to speak and may withdraw it from persons who exceed the time limit allowed by him or who make remarks which do not concern the object of the hearing or are not relevant to the objection under discussion.

(4) The presiding officer shall be responsible for the orderly conduct of the hearing. He may have persons removed who do not obey his instructions. The hearing may be continued without such persons.

(5) The presiding officer shall close the hearing if its purpose has been fulfilled. He may further close the hearing if, even after having been adjourned, it is again disturbed by participants in such a way that its orderly conduct is no longer ensured. Persons whose objections were not or not yet discussed in full may explain their objections in writing within one month after the closure.

Section 13 - Minutes

(1) Minutes of the hearing shall be established. The minutes must contain the following :

1. the place and date of the hearing ;

2. the name of the presiding officer ;

3. the object of the licensing procedure ;

4. the conduct and the results of the hearing.

The minutes shall be signed by the presiding officer, as well as by the reporter, if any. Anything recorded in a document annexed to the minutes and designated as an annex shall be deemed to be recorded in the minutes ; such annex shall be referred to in the minutes. The licensing authority may record the hearing on sound recording media for the purpose of establishing the minutes. Such records shall be destroyed after establishment of the minutes.

(2) The applicant shall be given a copy of the minutes. Upon request, a copy shall also be given to those persons who have lodged objections within the prescribed time limits.

P A R T IV

LICENCE

Section 14 - Examination

The examination by the licensing authority shall extend both to the licensing requirements provided for in Section 7, sub-section 2 of the Atomic Energy Act and to the observance of all other relevant provisions of public law concerning the project.

Section 15 - Decision

(1) The authority shall make its decision by taking account of the overall result of the procedure.

(2) The application shall be denied where the examination reveals that the licensing requirements have not been met and compliance with them cannot be secured by additional provisions. The application may be denied if the applicant does not comply, within an adequate time limit fixed, with a request to complement the documents.

(3) The decision and the grounds supporting it shall be rendered in writing and shall be served on the applicant and those persons who have lodged objections.

(4) If the procedure is terminated otherwise, notice thereof shall be given to the applicant and persons having lodged objections.

Section 16 - Content of the licensing decision

(1) The licensing decision shall contain :

1. the name and the residence or seat of the applicant ;
2. the statement that a licence or a partial licence is granted and the legal basis thereof ;
3. the exact designation of the object of the licence, including the site of the installation ;
4. any additional provisions to the licence ;
5. the grounds showing the principal reasons of fact and law that have led the authority to its decision, as well as the consideration of the objections lodged.

(2) The licensing decision should contain :

1. the statement that the licence is granted without prejudice to decisions of other authorities which are required for the project as a whole by virtue of other provisions of public law, and

2. the instruction as to the right of appeal.

Section 17 - Service by public notice

(1) If the decision is to be served (Section 15, sub-section 3) upon more than 300 persons apart from the applicant, such service may be replaced by public notice. The public notice shall be effected by announcing the operative part of the decision and the instruction on the right of appeal in the manner provided for in Section 4, sub-section 1 ; attention shall be drawn to any conditions.

(2) A copy of the entire decision shall be made available for inspection with the licensing authority and the other agency referred to in Section 6, sub-section 1, for two weeks as from the date of the notice. The beginning of this period shall be determined by the date on which the official bulletin or the last appearing daily newspaper are likely to be published. The public notice shall state where and when the decision and the grounds supporting it may be inspected, and copies thereof requested under sub-section 3. At the end of the inspection period, the decision shall be deemed to have been served ; this shall be indicated in the notice.

(3) After issue of the public notice, copies of the decision and the grounds supporting it may be requested in writing by persons having lodged objections, until expiry of the period for lodging appeals.

(4) Where, in the case referred to in Section 15, sub-section 4, more than 300 persons have to be notified, such notice may be effected in accordance with Section 4, sub-section 1.

P A R T V

SPECIAL PROVISIONS FOR PARTIAL LICENCE AND PROVISIONAL DECISION

Section 18 - Partial licence

(1) A partial licence may be granted upon application if a provisional examination shows that the licensing requirements concerning construction and operation of the entire installation will be met and there is a legitimate interest in granting a partial licence.

(2) When an application within the meaning of sub-section 1 has been made, the licensing authority may permit that the documents should provide final data only with respect to the object of the partial licence. In addition, data shall be submitted enabling, upon preliminary examination, an adequate assessment as to whether the licensing requirements will be met with respect to the construction and operation of the entire installation.

Section 19 - Provisional decision

(1) The application for granting a provisional decision shall be made in writing to the licensing authority of the Land in which the project is to be carried out.

(2) With respect to applications not confined to a site, the licensing authority shall announce the project in its official bulletin, the Federal Bulletin and any suitable daily newspapers.

(3) The provisional decision shall contain :

1. the name and the residence or seat of the applicant ;
2. the statement that a provisional decision is granted and the legal basis thereof ;
3. the exact designation of the object of the provisional decision ;
4. the requirements and conditions under which the provisional decision is granted ;
5. the grounds showing the principal reasons of fact and law that have led the authority to its decision, as well as the consideration of the objections lodged.

(4) The provisional decision should contain :

1. a reference to Section 7a, sub-section 1, second sentence of the Atomic Energy Act ;

2. the statement that the provisional decision does not entitle the applicant to construct the installation or component parts thereof ;

3. the statement that the provisional decision is granted without prejudice to administrative decisions required for the project as a whole pursuant to other provisions of public law ;

4. the instruction as to the right of appeal.

(5) Section 18, sub-section 2 shall apply correspondingly.

P A R T VI

FINAL PROVISIONS

Section 20 - Transitional provisions

Procedures already begun shall be completed in accordance with the provisions of this Ordinance. Time limits, the running of which has begun before the entry into force of this Ordinance, shall be calculated pursuant to the provisions previously in force. To the extent that new documents are required under Section 3, sub-section 1, they shall be submitted subsequently ; the authority shall fix an appropriate time limit for this purpose. The service of decisions may be replaced by public notice pursuant to Section 17, even if this was not pointed out according to Section 5, sub-section 1, no. 5 in the announcement of the project.

Section 21 - Berlin clause

This Ordinance shall also apply to the Land Berlin in accordance with Section 14 of the Third Transition Act of 4th January 1952 (BGBl. I, p. 1) in conjunction with Section 58, second sentence of the Atomic Energy Act.

Section 22 - Entry into force

(1) This Ordinance shall enter into force on the first day of the calendar month following publication*.

(2) At the same time, the Nuclear Installations Ordinance in the version published on 29th October 1970 (BGBl. I, p. 1518) shall cease to have effect.

* The Ordinance was published in the Federal Gazette on 23rd February 1977 ; accordingly, it entered into force on 1st March 1977.

F I N L A N D

NUCLEAR LIABILITY ACT*

(8th June 1972)

GENERAL PROVISIONS

Section 1

For the purposes of this Act:

(a) "Nuclear fuel" means fissionable material consisting of uranium or plutonium metal, alloy or chemical compound and such other fissionable material as the Government shall determine;

(b) "Radioactive products" means any radioactive material other than nuclear fuel, and radioactive waste, if the material or waste has been produced in the process of producing or utilising nuclear fuel or has become radioactive by exposure to radiation incidental to such production or utilisation;

(c) "Nuclear substances" means nuclear fuel other than natural uranium or depleted uranium, and radioactive products other than radioisotopes which are used or prepared to be used for any industrial, commercial, agricultural, medical or scientific purpose;

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* Unofficial translation of the Act prepared by the Finnish authorities, as amended to take account of the accession by Finland to the Brussels Supplementary Convention on 14th January 1977.

(d) "Nuclear reactor" means any structure containing nuclear fuel in such an arrangement that a self-sustaining chain process can occur therein without an additional source of neutrons;

(e) "Nuclear installation" means any nuclear reactor other than one with which a ship or any means of transport is equipped for use as a source of power;

any factory for the production or processing of nuclear substances;

any factory for the separation of isotopes of nuclear fuel;

any factory for the reprocessing of irradiated nuclear fuel;

any facility where nuclear substances are stored with the exception of any facility intended exclusively for storage incidental to the carriage of such substances;

any such other installation containing nuclear fuel or radioactive products as the Government shall determine;

(f) "Installation State", in relation to a nuclear installation, means the Contracting State within the territory of which that installation is situated or, if it is not situated within the territory of any State, the Contracting State by which the nuclear installation is operated or which has authorised its operation;

(g) "Operator" means, in relation to a nuclear installation situated in Finland, the person operating or in charge of the installation, whether authorised thereto or not, and, in relation to a nuclear installation outside Finland, the person recognised under the law of the Installation State as the operator of that installation;

(h) "Nuclear damage" means :

(1) any damage caused by the radioactive properties of nuclear fuel or radioactive products or a combination of radioactive properties with toxic, explosive or other hazardous properties of such fuel or products;

(2) any damage caused by ionizing radiation emitted from any source of radiation inside a nuclear installation other than nuclear fuel or radioactive products;

(i) "Nuclear incident" means any occurrence or series of occurrences having the same origin which causes nuclear damage;

(j) "Paris Convention" means the Convention on Third Party Liability in the Field of Nuclear Energy, signed in Paris on 29th July 1960 and amended by the Additional Protocol signed in Paris on 28th January 1964;

(k) "Supplementary Convention" means the Convention Supplementary to the Paris Convention, signed in Brussels on 31st January 1963 and amended by the Additional Protocol signed in Paris on 28th January 1964;

(l) "Contracting State" means any State Party to the Paris Convention.

Section 2

The Government may prescribe that any nuclear installation, nuclear fuel or radioactive products shall be excluded from the application of this Act, if the small extent of the risks involved so warrants.

Section 3

The Government or an authority appointed by the Government may determine that two or more installations operated by one and the same operator and located at the same site shall, for the purposes of this Act, be deemed to be one single installation.

Section 4

This Act does not apply to nuclear damage resulting from nuclear incidents occurring in the territory of a non-Contracting State.

Where liability lies with an operator of a nuclear installation situated in Finland, this Act applies to nuclear damage suffered in the territory of a non-Contracting State only if the nuclear incident occurred in Finland. Where liability lies with an operator of a nuclear installation situated outside Finland, the territorial extent of the liability is governed by the law of the Installation State.

In relation to a non-Contracting State it may be determined by Statutory Order that compensation for nuclear damage suffered in the territory of that State shall be payable under this Act only if and to the extent that compensation for nuclear damage suffered in Finland would be payable under the law of that State. Such decision shall not, however, affect liability arising under any such international agreement as referred to in Section 15, paragraph 3 by which Finland is bound.

Provisions regarding the right in certain cases of a person who has paid compensation for nuclear damage to bring, notwithstanding the provisions of this Section, an action of recourse against an operator of a nuclear installation are laid down in Section 16.

Section 5

By Statutory Order it may, with due regard to Finland's obligations under the Paris Convention, be determined that, by reciprocity, a non-Contracting State shall for the purposes of this Act be deemed to be a Contracting State.

COMPENSATION

Section 6

The operator of a nuclear installation shall be liable to pay compensation for nuclear damage caused by a nuclear incident in his installation. However, except if otherwise stipulated by express terms of a contract in writing, the operator shall not be liable in respect of a nuclear incident involving no nuclear fuels or radioactive products other than such nuclear substances as have been stored incidentally in the installation during the carriage referred to in Sections 7 and 8, and the liability for nuclear damage thereby caused shall lie pursuant to Section 9 with the operator in charge of the carriage of the nuclear substances.

Section 7

The operator of a nuclear installation shall be liable to pay compensation for nuclear damage caused by a nuclear incident occurring in the course of carriage of nuclear substances from a nuclear installation situated in Finland or in the territory of another Contracting State, except if otherwise provided in paragraphs 2 and 3 of this Section.

In the case of carriage of nuclear substances to a nuclear installation situated in Finland or in the territory of another Contracting State the liability for damage caused by a nuclear incident occurring in the course of the carriage shall lie with the consignee operator as from the time which has been fixed by a written contract between him and the consignor. In the absence of such contract the liability shall be transferred to the consignee when the nuclear substances are taken in charge by him.

In the case of carriage of nuclear substances to a nuclear reactor with which a ship or any other means of transport is equipped and which is intended to be used therein as a source of power, the consignor operator shall cease to be liable when the nuclear substances have been taken in charge by the person duly authorised to operate or be in charge of that reactor.

Section 8

Where nuclear substances are sent from a non-Contracting State to a nuclear installation situated in Finland or in the territory of another Contracting State with the written consent of the operator of that

installation, the latter shall be liable for nuclear damage caused by any nuclear incident occurring in the course of the carriage, except if otherwise provided in paragraph 2 of this Section.

In the case of carriage of nuclear substances from a nuclear reactor with which a ship or any other means of transport is equipped and which is intended to be used therein as a source of power, to a nuclear installation situated in Finland or in the territory of another Contracting State, the operator of that installation shall be liable from the time when he takes charge of the nuclear substances.

Liability for nuclear damage caused by a nuclear incident occurring in Finland in the course of carriage of nuclear substances, other than carriage from or to a nuclear installation situated in Finland or in the territory of another Contracting State, shall lie with the person authorised to perform the carriage. The provisions of this Act relating to an operator of a nuclear installation situated in Finland shall in such case apply to the person thus authorised.

Section 9

The provisions of Section 7 and 8 of this Act on liability for nuclear damage caused by a nuclear incident in the course of carriage of nuclear substances shall apply also in respect of nuclear incidents occurring while the substances are stored incidentally to their carriage, except where the substances have been stored in a nuclear installation and the operator of that installation is liable pursuant to such contract as referred to in Section 6.

Section 10

Where nuclear damage in cases other than those governed by Sections 6 - 9 of this Act has been caused by nuclear substances which came from a nuclear installation situated in Finland or in the territory of another Contracting State or, prior to the nuclear incident, had been in the course of such carriage as referred to in Section 8 of this Act, the operator who had the substances in his possession at the time of the incident shall be liable for such damage; provided that, if at the time of the incident no operator had the nuclear substances in his possession, liability shall lie with the operator who last had the substances in his possession. However, if prior to the nuclear incident the nuclear substances had been in the course of carriage and no operator had taken charge of the substances after the carriage was interrupted, liability shall lie with the operator who at the time when the carriage ended was liable pursuant to Section 7 or 8 of this Act for nuclear damage caused by a nuclear incident occurring in the course of the carriage.

Section 11

On request of a carrier performing such carriage as referred to in Section 7 or 8 the Government, or an authority appointed by the Government, may determine that the carrier shall be liable, in place of the operator

of a nuclear installation situated in Finland, for nuclear damage caused by a nuclear incident occurring in the course of or in connection with the carriage. Such decision may be taken only if the operator concerned has consented thereto and the carrier has demonstrated that insurance has been taken out pursuant to Sections 23 - 27 or that other financial security has been furnished pursuant to Section 28, paragraph 2. Where such decision has been taken, any provision of this Act relating to the operator concerned shall apply to the carrier instead of the operator in respect of nuclear incidents occurring in the course of or in connection with the carriage.

Where a similar decision has been taken according to the law of another Contracting State in respect of nuclear damage for which an operator of a nuclear installation situated in that State would be liable, such decision shall under this Act have the same effect as a decision pursuant to paragraph 1 of this Section.

Section 12

The operator of a nuclear installation shall be liable to pay compensation due under this Act even if there has been no fault or negligence on his part.

However, the operator of a nuclear installation situated in Finland shall not be liable under this Act for nuclear damage caused by a nuclear incident directly due to an act of war, armed conflict, civil war or insurrection or caused by a grave natural disaster of an exceptional character. To the operator of a nuclear installation situated in the territory of another Contracting State shall in such case be applicable the law of the Installation State.

In cases referred to in paragraph 2 of this Section, liability under rules of the law of torts other than those laid down in this Act shall arise only to the extent provided for in Section 15 paragraph 2.

Section 13

The operator of a nuclear installation shall not be liable under this Act for damage to the nuclear installation itself or to any property which, at the time of the nuclear incident, was on the site of the installation and was used or intended to be used in connection with that installation.

Where the operator of a nuclear installation situated in the territory of another Contracting State is liable for damage caused by a nuclear incident occurring in the course of carriage of nuclear substances, the question whether compensation shall be awarded for damage to the means of transport shall be governed by the law of the Installation State.

In cases referred to in the preceding paragraphs of this Section liability under rules of the law of torts other than those laid down in this Act shall arise only to the extent provided for in Section 15 paragraph 2.

Section 14

Except as otherwise provided in this Act, compensation payable under the Act shall be fixed in accordance with the general rules of the law of torts.

Where the person suffering damage has contributed thereto the compensation may be reduced reasonably where such person has acted or omitted to act with intent to cause damage or where there has been gross negligence on his part.

Section 15

Claims for compensation of nuclear damage covered by the provisions of this Act relating to compensation for such damage or by the corresponding legislation of another Contracting State may not be brought against any person other than the operator or the person providing insurance covering the liability of the operator, except as otherwise provided in Section 17 paragraph 2.

Claims for compensation of nuclear damage for which the operator, pursuant to Section 12 or 13 of this Act or the corresponding provisions of the law of another Contracting State, is not liable can only be brought against an individual who has caused the damage by an act or omission done with intent to cause damage. The operator shall, however, be liable in accordance with the general rules of the law of torts for such damage to a means of transport as referred to in Section 13 paragraph 2.

As regards liability for nuclear damage caused by a nuclear incident occurring in the course of carriage of nuclear substances or nuclear damage otherwise arising in connection with the operation of a ship or any other means of transport the provisions of paragraphs 1 and 2 of this Section shall not affect the application of any international agreement in force or open for signature, ratification or accession on 29th July 1960 or of any provisions of national legislation based on such agreement. By Statutory Order it may be determined that this shall apply also to other provisions of the law of a Contracting State which are equivalent to the provisions of such agreement.

Provisions on compensation out of public funds are laid down in Sections 29 - 36.

Section 16

Any person who has been held liable to pay compensation for nuclear damage under such international agreement or provisions of national legislation as referred to in Section 15 paragraph 3 of this Act or under the law of any foreign State shall acquire by subrogation the rights of the person suffering the damage against the operator liable for the damage under this Act. Where the compensation paid relates to damage covered by a decision taken under Section 4 paragraph 3 of this Act, the person liable shall have a right of recourse against the operator, who would have been liable for the damage if no such decision had been taken.

Any person who has his principal place of business in Finland or in the territory of another Contracting State or who is the servant of such person and who has been held liable to pay compensation for nuclear damage

for which the person suffering damage, by virtue of the provisions of Section 4, has no right to compensation under this Act shall, subject to the application, mutatis mutandis, of the provisions of the first sentence of paragraph 1 of this Section, have a right to recourse against the operator who, but for the provisions of Section 4, would have been liable for the damage; provided, however, that in the case of nuclear damage caused by a nuclear incident occurring in the course of carriage of nuclear substances to a non-Contracting State, the operator of the nuclear installation from which the nuclear substances were sent shall incur no liability after the substances have been unloaded from the means of transport by which they have arrived in a non-Contracting State, and in case of nuclear damage caused by a nuclear incident occurring in the course of carriage of nuclear substances from a non-Contracting State the operator of that installation shall incur no liability until the nuclear substances have been loaded on the means of transport by which they are to be carried from the territory of a non-Contracting State.

A person who is himself liable for nuclear damage pursuant to Section 21 of this Act shall have no right of subrogation or recourse under this Section.

Section 17

Where a person has simultaneously suffered nuclear damage for which he is entitled to compensation under this Act and other damage, the provisions of this Act regarding liability for nuclear damage shall apply equally to such other damage if and to the extent that such damage is not reasonably separable from the nuclear damage.

The provisions of paragraph 1 shall not, however, limit or otherwise affect the liability of a person other than the operator liable under this Act as regards damage caused by an emission of ionizing radiation not covered by this Act.

Section 18

The liability under this Act of an operator of a nuclear installation situated in Finland shall not exceed forty-two million marks in respect of nuclear damage caused by any one nuclear incident. The Government may, taking account of the size or character of a nuclear installation, of the extent of a carriage or of any other circumstances, fix a lower amount, which shall, however, in no event be less than twenty-one million marks. In case of a nuclear incident occurring in the course of carriage of nuclear substances the liability of the operator under this Act for damage other than damage to the means of transport shall in no case be limited to an amount less than twenty-one million marks.

The amounts referred to in paragraph 1 of this Section shall not include any interest or costs awarded by a court.

Section 19

Where nuclear damage gives rise to the liability of two or more operators, they shall be jointly and severally liable to pay compensation; provided that the liability of each operator shall be limited to the amount established with respect to him pursuant to Section 18 paragraph 1. However, where the damage has arisen in the course of carriage of more than one consignment of nuclear substances carried on one and the same means of transport or while more than one consignment has been stored in one and the same nuclear installation incidentally to their carriage the aggregate liability of the operators shall not exceed the highest amount established with respect to any of them.

The apportionment of the aggregate liability as between the operators liable shall be determined with due regard to the extent to which the damage caused is attributable to each of the nuclear installations involved as well as to any other relevant circumstances.

Section 20

If the maximum amount of liability applicable pursuant to Section 18 paragraph 1 or Section 19 paragraph 1 is not sufficient to satisfy in full the claims of those who are entitled to compensation, their compensation and any interest accruing thereto shall be reduced proportionally.

If, following a nuclear incident, there are reasons to believe that a reduction pursuant to paragraph 1 of this Section will prove necessary the Ministry for Social Affairs and Public Health may decide that until further notice the compensation payable shall be reduced to a fixed percentage.

Section 21

In respect of any sum that the operator of a nuclear installation has been held liable to pay as compensation under this Act or under the corresponding legislation of another Contracting State, the operator shall have a right of recourse against any individual who has caused the damage by an act or omission done with intent to cause damage or against any person who has assumed liability for the damage under the express terms of a contract in writing with the operator. Except as otherwise provided in Section 17 paragraph 2 and in Section 19 paragraph 2 the operator of a nuclear installation shall in no other case have a right of recourse against any person in respect of any sum he may have paid as compensation under this Act or under the corresponding legislation of another Contracting State.

Section 22

The right to bring an action for compensation for nuclear damage under Sections 6 - 10 or 16 of this Act against the operator of a nuclear installation or against the person providing insurance to cover such liability shall be extinguished, if a claim for compensation has not been made against the operator within three years from the date at which the person suffering damage had knowledge or by observing due diligence ought reasonably to have known both of the fact that he has suffered damage entitling him to compensation under this Act and of the operator liable or, in cases referred to in Section 16, paragraphs 1 and 2, from the date at which the claim for compensation was made against him.

The right to compensation for nuclear damage shall be extinguished if an action is not brought against the operator or his insurer within ten years from the date of the nuclear incident. In the case of nuclear damage caused by a nuclear incident involving nuclear substances which had been stolen, lost or abandoned and had not yet been recovered, no action for compensation may, however, be brought later than twenty years after the date of the theft, loss or abandonment.

In cases where it is necessary in order to comply with the provisions of the Paris Convention, the Government may determine that a person suffering damage shall, on conditions to be prescribed by the Government, retain his right to compensation, notwithstanding that he has not brought an action before a Finnish Court within the period specified in this Section.

Provisions regarding compensation out of public funds in certain cases where the operator has ceased to be liable are laid down in Section 33.

INSURANCE

Section 23

The operator of a nuclear installation situated in Finland is required to take out and maintain insurance to cover his liability for nuclear damage under this Act or the corresponding legislation of another Contracting State up to the amount specified in Section 18. The insurance shall be approved by the Ministry for Social Affairs and Public Health.

Insurance may be taken out either:

(a) to cover the liability for each nuclear incident that may occur; or

(b) to cover at any time the nuclear installation by an agreed amount as laid down in Section 24.

Liability for damage arising in the course of carriage of nuclear substances may be covered by a separate insurance.

Section 24

In cases referred to in Section 23 paragraph 2(a) the insurance amount shall be not less than the amount of liability established with respect to the operator pursuant to Section 18 paragraph 1. In cases referred to in Section 23 paragraph 2(b), the insurance amount shall exceed the aforementioned maximum amount of liability, by not less than one-fifth. The amount covered by the insurance policy shall not include any interest or costs awarded by a court.

Where insurance has been taken out in accordance with Section 23 paragraph 2(b) and an insurance contingency occurs which itself or together with one or more earlier contingencies is deemed likely to entail a reduction of the insurance amount below the amount of liability established with respect to the operator, the operator shall without delay take out such supplementary insurance as will bring the insurance amount up to an amount exceeding the said amount of liability by not less than one-fifth.

Section 25

The insurance shall be of such character, that any person entitled to compensation for nuclear damage has a right to bring an action for such compensation directly against the insurer. Except if otherwise provided in the insurance policy, the operator shall thereby be insured against any liability for nuclear damage under this Act or the corresponding legislation of another Contracting State.

Section 26

If the insurance policy is cancelled or otherwise ceases to be valid, the insurer shall nevertheless, in relation to any person suffering damage, continue to be liable to pay compensation in respect of nuclear damage caused by a nuclear incident occurring within two months from the date at which the Ministry for Commerce and Industry has been notified in writing of the time of expiry of the policy. Where the insurance policy covers liability for nuclear damage caused by a nuclear incident occurring in the course of carriage of nuclear substances and such carriage has started before the expiry of the said period, the insurer shall, however, in no case cease to be liable for such damage until the carriage has come to an end.

The provisions of paragraph 1 of this Section shall not apply with respect to nuclear incidents occurring after the day on which a new insurance contract has come into force.

Except as provided in paragraphs 1 and 2 of this Section, the insurer may in no case invoke as a defence against a claim for compensation any circumstances due to a person other than the person suffering the damage.

Section 27

The provisions of Section 25 and 26 shall apply where an action for compensation of nuclear damage under this Act may be brought in Finland and notwithstanding that the law of a foreign State may be applicable to the relationship between the insurer and the operator liable or that the nuclear installation involved is situated outside Finland.

Section 28

The State shall be exempted from the obligation under this Act to take out insurance.

The Government may relieve an operator from the obligation to take out insurance, provided that the operator furnishes adequate financial security to cover his obligations under this Act and under the corresponding legislation of any other Contracting State and shows that he has taken satisfactory measures to ensure the settlement of any claims for compensation.

The provisions of this Act relating to insurance shall apply, mutatis mutandis, to such other financial security as referred to in the preceding paragraph of this Section or the corresponding provisions of the legislation of another Contracting State.

COMPENSATION OUT OF PUBLIC FUNDS

Section 29

If a person who is entitled under this Act or the corresponding legislation of another Contracting State to obtain compensation for nuclear damage from the operator of a nuclear installation situated in Finland shows that he has been unable to recover the compensation due from the operator's insurer, compensation shall be paid by the State.

The total compensation payable under the preceding paragraph of this Section shall not exceed the maximum amount of liability established with respect to the operator pursuant to Section 18 paragraph 1.

Section 30

Where liability for nuclear damage lies with the operator of a nuclear installation, used for peaceful purposes and situated in Finland or in the territory of another State Party to the Supplementary Convention and appearing at the time of the nuclear incident on the list referred to in Article 13 of the Supplementary Convention, and jurisdiction over actions for compensation lies with Finnish courts in accordance with

the provisions of Section 37 of this Act, and the amount of liability established pursuant to Sections 18 and 19 is insufficient to satisfy the claims for compensation due, or the compensation payable has, by virtue of a decision taken under Section 20 paragraph 2, been reduced to a fixed percentage of the full amount due, compensation out of public funds shall be afforded for nuclear damage suffered:

(a) in Finland or in the territory of another State Party to the Supplementary Convention; or

(b) on or over the high seas on board a ship or aircraft registered in Finland or in the territory of another State Party to the Supplementary Convention; or

(c) in any other case on or over the high seas by a State Party to the Supplementary Convention or by a national of such State; provided, however, that compensation shall be payable for damage to a ship or an aircraft only if such ship or aircraft was at the time of the nuclear incident registered in the territory of a State Party to the Supplementary Convention.

By application of the provisions of paragraph 1 of this Section the term "national of a State Party to the Supplementary Convention" shall include this state itself or its part, any company, whether under public or private law, association or other society, foundation or other similar body, whether corporate or not, established in the territory of such State. Any person who or group of persons which under the law of a State Party to the Supplementary Convention is considered to have his habitual residence in that State and in respect of his right to compensation under the Supplementary Convention is under that law assimilated to the nationals of that State shall under this Act be considered to be a national of a State Party to the Supplementary Convention.

Section 31

Compensation out of public funds pursuant to Section 30 shall be fixed in accordance with the principles laid down in Section 12, paragraph 1, Sections 13 and 14 and Section 18 paragraph 2.

The provisions of Section 16 paragraphs 1 and 3 regarding rights of recourse against an operator shall apply, mutatis mutandis, to rights of recourse against the State in respect of any sum paid as compensation for nuclear damage and for which compensation is payable out of public funds under Section 30.

Section 32

The total amount of compensation for nuclear damage, caused by a nuclear incident payable pursuant to Sections 6 - 22, 30 and 31 by one or more operators and the State, and payable pursuant to any such agreement as referred to in Article 15 of the Supplementary Convention, shall not

exceed an amount equivalent to one hundred and twenty million units of account referred to in the European Monetary Agreement of 5th August 1955 and as defined on 29th July 1960. The amount shall not include any interest or costs awarded by a court.

If the amount available for compensation out of public funds pursuant to Sections 30 and 31 is not sufficient to satisfy in full the claims for compensation due, the amounts of compensation and any interest accruing thereto shall be reduced proportionally. The provisions of Section 20, paragraph 2 shall apply, mutatis mutandis.

Section 33

If a nuclear incident in respect of which liability lies with the operator of a nuclear installation situated in Finland has caused nuclear damage by way of personal injury in Finland, which has not come to light until after the rights of compensation against the operator have been extinguished pursuant to Section 22 paragraph 2 or the corresponding provisions of the legislation of another Contracting State but within thirty years after the date of the incident, compensation for such damage shall be paid by the State. The State shall also be liable to pay compensation for nuclear damage which has come to light before the rights of compensation have been so extinguished if the person suffering the damage has failed to bring an action against the operator or to take other appropriate measures to preserve his rights within the periods applicable but has had reasonable excuses for not bringing such action or taking such measures.

If compensation has been reduced pursuant to Section 20 paragraph 1 and, whenever applicable, Section 32 paragraph 2 or the corresponding provisions of the legislation of another Contracting State, the compensation payable out of public funds under the present Section shall be reduced accordingly. In other respects, the liability to pay compensation shall be determined as if the operator had been liable for the damage. The right to bring an action for compensation shall be extinguished if a claim for compensation has not been made with the Ministry for Social Affairs and Public Health within the period specified in Section 22 paragraph 1.

The Government may decide that compensation shall, on conditions to be prescribed by the Government, be payable under the present Section in respect of nuclear damage which has occurred outside Finland, but for which an operator of an installation situated in Finland is liable.

Section 34

Should the amount laid down in Section 18 paragraph 1, Section 19 paragraph 1, or in the corresponding provision of the law of another Contracting State not suffice to satisfy in full the claims for compensation for damage suffered in the Finnish territory and, according to Section 30 or otherwise according to the Supplementary Convention, the amount is not payable out of public funds, compensation shall be paid out of public funds according to criteria confirmed, subject to the consent of Parliament, by the State Council, Such compensation can be

paid in the cases provided for in this Section also as a supplement to compensation payable in pursuance of Section 33 for damage occurring in the territory of Finland, if such compensation has been reduced pursuant to Section 33 paragraph 2.

Compensation in accordance with this Section shall also be paid for damage occurring in Finland in the event that compensation for such damage pursuant to Section 20 paragraph 2 has been reduced to a fixed percentage, and compensation is not payable out of public funds in accordance with the Supplementary Convention.

Section 35

Compensation pursuant to Sections 29 or 30 shall not be payable for nuclear damage caused by such nuclear incidents as referred to in Section 12 paragraph 2.

Section 36

In respect of any sums paid out of public funds pursuant to Section 29 the State shall have a right of recourse only against the operator, his insurer and any person against whom the operator has a right of recourse under Section 21.

In respect of any sums paid out of public funds pursuant to Sections 30 or 34 the State shall acquire by subrogation the right to obtain compensation from the operator that the person suffering the damage may have. With regard to any other sums paid out by the State pursuant to Sections 30 - 32 or otherwise paid out in accordance with the provisions of the Supplementary Convention in respect of a nuclear incident giving rise under the law of another Contracting State to the liability of the operator of a nuclear installation situated in Finland, the State shall have a right of recourse only against an individual who has caused the damage by an act or omission done with intent to cause damage. The same provisions shall apply, *mutatis mutandis*, in respect of compensation paid out by the State pursuant to Section 33.

COMPETENT COURTS AND ENFORCEMENT

Section 37

Actions for compensation due under Sections 6 - 10 or 16 against the operator of a nuclear installation or against his insurer shall be brought before the Finnish courts, if

(a) the nuclear incident has occurred wholly or partly in Finland; or

(b) the nuclear installation involved is situated in Finland and either the nuclear incident has occurred wholly outside the territory of any Contracting State or the place of the nuclear incident cannot be determined with certainty.

Whenever required in order to comply with the provisions of Article 13(c)(ii) of the Paris Convention the Government may restrict the jurisdictional competence conferred upon Finnish courts under paragraph 1 of this Section.

Section 38

Jurisdiction over actions for compensation in respect of nuclear damage brought before Finnish courts pursuant to Section 37 and over actions for compensation against the State pursuant to Sections 29, 30, 33 or 34 of this Act shall lie with the general court of first instance of the jurisdictional area within which the nuclear incident occurred. Where competence would thus lie with two or more courts, the action may be brought before either of them.

Should there be no competent court under paragraph 1 of this Section, the action shall be brought before the City Court of Helsinki.

Section 39

Where in accordance with the provisions of the Paris Convention jurisdiction over actions for compensation for nuclear damage lies with the courts of another Contracting State, any judgment entered by such court in such action shall, as soon as the judgment has become enforceable under the law of that State, on request be enforceable also in Finland, without the merits of the claim being subject to any further proceedings. This provision shall, however, not entail any obligation to enforce a judgment to the extent that the applicable maximum amount of liability of the operator would thereby be exceeded.

An application for enforcement shall be made before the Helsinki Court of Appeal. The application shall have attached to it:

(a) The original judgment or a copy thereof certified by the competent public authority;

(b) A declaration issued by the competent public authority of the State where the judgment was entered that the judgment relates to compensation due under the Paris Convention and that it is enforceable in that State; and

(c) If the relevant documents are in a language other than Finnish or Swedish, an officially certified translation into Finnish or Swedish shall be attached to the document.

The documents mentioned in paragraph 2(a) and (b) shall contain a certificate concerning the due competence of the person having signed the documents. Such certificate shall be issued by a Finnish Embassy or Consul or by the Minister of Justice of the State concerned.

No application for enforcement shall be granted unless the defendant has had an opportunity to submit his comments on the application.

Where the application is granted, the judgment shall be enforceable in the same manner as a judgment entered by a Finnish court, unless the Supreme Court has decided otherwise upon an appeal.

MISCELLANEOUS PROVISIONS

Section 40

Where nuclear substances are sent from a nuclear installation situated in Finland to a consignee outside Finland or to such installation from a consignor outside Finland and under such circumstances that the operator of the said installation is liable pursuant to Sections 7 or 8 for nuclear damage arising in the course of the carriage, the operator shall provide the carrier with a certificate issued by the insurer or the person, who has guaranteed the financial security provided in Section 28 paragraph 2 and stating the name and address of the operator, the nuclear substances and the carriage in respect of which the insurance applies as well as the amount, type and duration of the insurance. The certificate shall include a statement by the Ministry for Commerce and Industry, or by the authority appointed by this Ministry that the operator named therein is an operator of a nuclear installation within the meaning of the Paris Convention. The person by whom the certificate is issued shall be responsible for the correctness of the certificate as regards the name and address of the operator and the amount, type and duration of the insurance.

The form of certificate to be issued under paragraph 1 of this Section shall be established by the Ministry for Commerce and Industry.

Section 41

Any person who fails to fulfil his obligations under this Act to take out and maintain insurance or to furnish financial security as laid down in Section 28 paragraph 2 shall be liable to fines or to imprisonment not exceeding six months.

Section 42

Provisions for the enforcement and application of this Act may be enacted by Statutory Order.

Section 43

This Act shall become applicable as determined by Statutory Order upon the existence of the conditions precedent for the bringing into force of the Paris Convention, and with regard to Sections 30 - 32 of this Act, also for the bringing into force of the Supplementary Convention.