

# NUCLEAR LAW

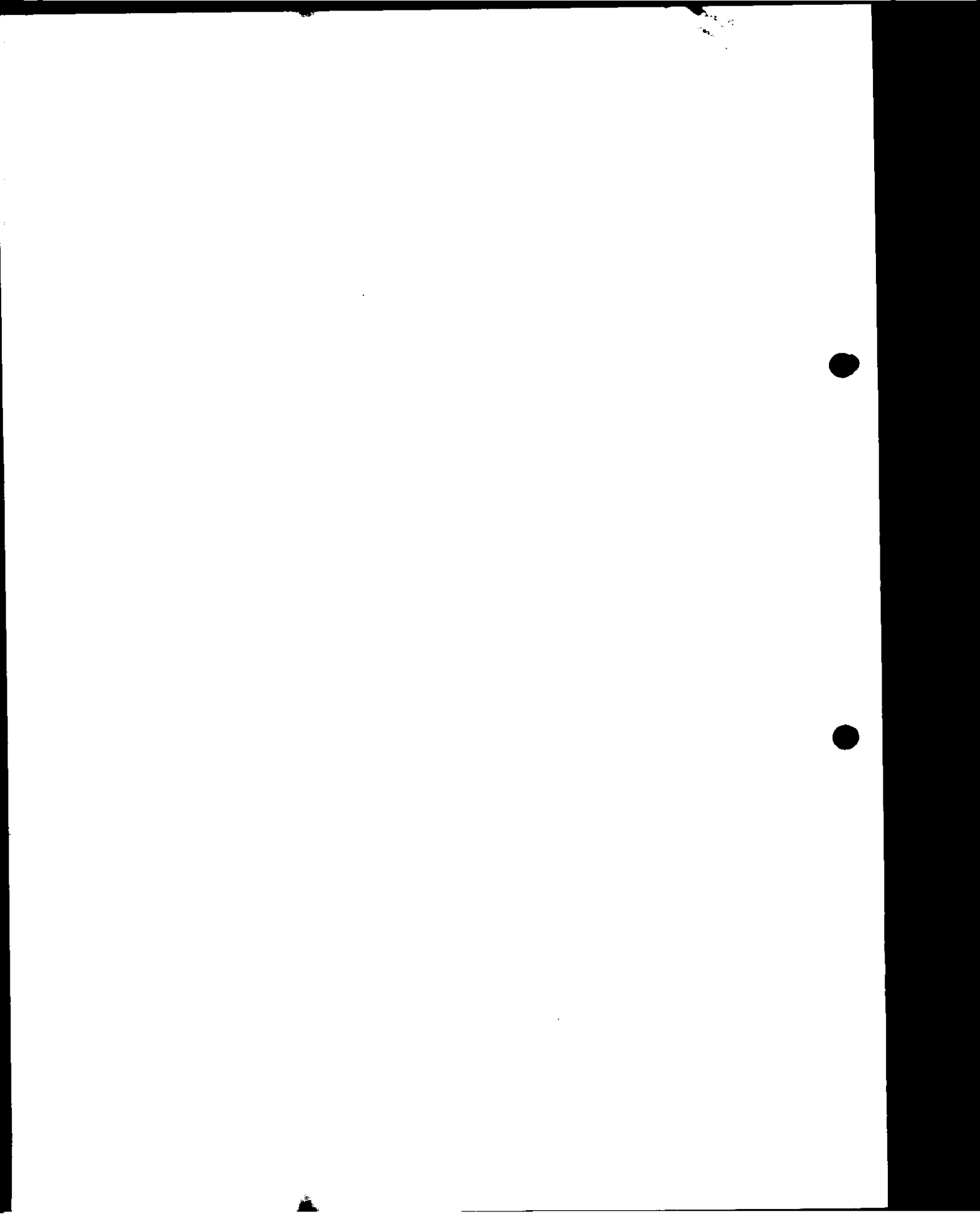
## Bulletin

S U P P L E M E N T T O N o 18

FEDERAL REPUBLIC OF GERMANY

	PAGE
1. Revised Atomic Energy Act of 21st October 1976	5 <i>superseded</i>
2. Nuclear Financial Security Ordinance	24

December 1976



N O T E

The draft text of the Revised Atomic Energy Act which was published as a Supplement to Nuclear Law Bulletin No. 15 took account of all amendments up to 1st October 1975. Thereafter, the Act was further amended by an Act of 19th December 1975 and by the Fourth Act Amending the Atomic Energy Act of 30th August 1976. The Federal Minister of the Interior has now published the Revised Atomic Energy Act which incorporates these amendments as well. The first part of this Supplement is intended to update the abovementioned draft text and to bring it into line with the official text of the Revised Atomic Energy Act. All new and amended Sections, unofficially translated by the Secretariat of the OECD Nuclear Energy Agency, are reproduced in full; the changes in relation to the text published in the Supplement to Nuclear Law Bulletin No. 15 are printed in italics. The footnotes refer to notes by the Secretariat.

C O R R I G E N D U M

The text published in the Supplement to Nuclear Law Bulletin No. 15 should be corrected as follows:

1. Section 31

The words "50 million units of account" in the last sentence of sub-section 1 should be replaced by the words "15 million units of account".

2. The reference to repealed Sections preceding Section 45 should read: "Sections 41 to 44 - Repealed".

3. Annex 1

No. 4 of sub-section 1 should be set out as follows:

"4. 'Radioactive products or waste': Any radioactive material produced in or made radioactive by exposure to the radiation incidental to the process of producing or utilising nuclear fuel, but does not include

(a) nuclear fuel

(b) radioisotopes outside a nuclear installation which are used or intended to be used for any industrial, commercial, agricultural, medical or scientific purpose;"



FEDERAL REPUBLIC OF GERMANY

REVISED ACT ON THE PEACEFUL USES OF ATOMIC ENERGY  
AND PROTECTION AGAINST ITS HAZARDS

(ATOMIC ENERGY ACT)

of 31st October 1976

(Bundesgesetzblatt I, p. 3053)

C H A P T E R I

GENERAL

.....

Section 2 - Definitions

(1) "Radioactive substances" within the meaning of this Act mean:

1. special fissionable material (nuclear fuel) in the form of
  - (a) plutonium 239 and plutonium 241;
  - (b) uranium 233;
  - (c) uranium enriched in the isotopes 235 or 233;
  - (d) any substance containing one or more of the aforesaid substances;
  - (e) uranium and substances containing uranium of the natural isotopic mixture of such purity as to enable a continuous self-sustaining chain reaction to be maintained in a suitable installation (reactor).

The term "uranium enriched in the isotopes 235 or 233" means uranium containing the isotopes 235 or 233 or both in such

quantity that the ratio of the sum of these two isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature.

2. Substances which, without being nuclear fuel, emit ionizing radiation spontaneously (other radioactive substances).

- (2) *Such radioactive wastes that are not to be transferred to installations pursuant to sub-section 3 of Section 9a and for which, because of their low activity, no special disposal has been required, ordered or licensed pursuant to the second sentence of sub-section 2 of Section 9a for the purpose of protecting life, health and property from the hazards of nuclear energy and from the harmful effects of ionizing radiation, shall not be considered as radioactive substances within the meaning of this Act .*
- (3) For the application of the provisions on liability and financial security, the terms "nuclear incident", "nuclear installation", "operator of a nuclear installation", "nuclear substances" and "units of account" shall have the meaning given to them in Annex 1 of this Act.
- (4) "Paris Convention" means the Convention of 29th July 1960 on Third Party Liability in the Field of Nuclear Energy *in the version published on 5th February 1976* /17 (Bundesgesetzblatt /27 II, p.p. 310, 311).
- (5) "Brussels Supplementary Convention" means the Convention of 31st January 1963 Supplementary to the Paris Convention *in the version published on 5th February 1976* /17 (BGBl. II, p.p. 310, 318).

.....

#### Section 5 - Custody, possession and surrender of nuclear fuel

- (1) Nuclear fuel shall be kept in Government custody. Such precautions as are necessary in the light of existing scientific knowledge and technology shall be taken to prevent damage resulting from such keeping in custody, and the necessary protection shall be provided against disturbance or other interference by third persons.
- (2) No person shall be permitted to have nuclear fuel in his immediate possession outside Government custody, unless he

---

/17 These versions incorporate the provisions of the respective Additional Protocols signed on 28th January 1964.

/27 Bundesgesetzblatt (BGBl.): Federal Gazette.

1. stores nuclear fuel by virtue of a licence granted under Section 6,
  2. treats, processes or otherwise uses nuclear fuel in an installation licensed under Section 7 or by virtue of a licence granted under Section 9,
  3. is entitled to carry nuclear fuel by virtue of Section 4.
- (3) Any person who is in immediate possession of nuclear fuel, without being authorised under sub-section 2, shall surrender it to the custodial authority without delay.
- (4) The obligation to surrender nuclear fuel shall cease to apply if the fuel is transferred to a carrier licensed under Section 4,
1. for the purpose of export licensed under Section 3, or
  2. for the purpose of delivery to a consignee licensed under no. 1 or 2 of sub-section 2.
- (5) Nuclear fuel in Government custody under sub-section 1, or in licensed storage under Section 6 shall be delivered only if
1. the consignee is authorised to have nuclear fuel in his possession under no. 1 or 2 of sub-section 2,
  2. nuclear fuel is to be carried, for the purpose of export, under a licence pursuant to Section 4.
- (6) *Sub-sections 1 to 5 shall not apply to nuclear fuel contained in radioactive wastes.*

.....

Section 7 - Licences for installations

- (1) Any person who constructs, operates or otherwise holds a stationary installation for the production, treatment, processing or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or who materially alters such installation, or its operation, shall require a licence.
- (2) A licence may be granted only if
  1. there are no known facts giving rise to any doubts as to the reliability of the applicant and of the persons responsible for the construction and management of the installation and the control of its operation and such latter persons possess the requisite competence,
  2. it is ensured that the persons who are otherwise engaged in the operation of the installation possess the necessary knowledge concerning the safe operation of the installation, the possible hazards and the safety measures to be applied,

3. every necessary precaution has been taken in the light of existing scientific knowledge and technology to prevent damage resulting from construction and operation of the installation,
4. the necessary financial security has been provided to cover all legal liability to pay compensation for damage,
5. all necessary protection is provided against disturbance or other interference by third persons,
6. the choice of the site of the installation, in particular with respect to non-contamination of water, air and soil, is not contrary to overriding public interests.

- (3) *The decommissioning of an installation within the meaning of sub-section 1, as well as the safe enclosure of a finally decommissioned installation or the dismantling of the installation or parts thereof, are subject to a licence. Sub-section 2 shall apply accordingly. A licence under the first sentence shall not be required to the extent that the measures planned have been subject to a licence under sub-section 1 hereof or an order under sub-section 3 of Section 19.*
- (4) All authorities of the Bund /17/, the Länder /17/, the communities and other regional authorities whose jurisdiction is involved, shall take part in the licensing procedure. In case of a difference of opinion between the licensing authority and any federal authority concerned, the licensing authority shall obtain instructions from the Federal Minister competent for nuclear safety and radiation protection. In all other respects, the licensing procedure shall be governed by statutory ordinance in accordance with the principles laid down in Section 8, sub-sections 1 to 4 and 6 to 8 of Section 10, and Section 18 of the Federal Act on Protection Against Nuisances of 15th March 1974 (BGBl. I, page 721) /27/.
- (5) Sub-sections 1, 2 and 4 shall apply analogously to non-stationary installations. However, the statutory ordinance referred to in the third sentence of sub-section 4 may provide that the project shall not be publicly announced and the documents shall not be laid open for public inspection and that in such case objections shall not be heard orally.
- (6) Section 14 of the Federal Act on the Protection Against Nuisances shall apply analogously if other premises are affected by a licensed installation.

---

/17/ "Bund": The Federal State. "Länder" (singular "Land"): States forming the Federal Republic of Germany.

/27/ Gesetz zum Schutz vor schädlichen Umwelteinwirkungen durch Luftverunreinigungen, Geräusche, Erschütterungen und ähnliche Vorgänge (Bundes-Immissionsschutzgesetz).

Section 7a - Provisional decision

The reference to sub-sections 3 and 4 of Section 7 is replaced by a reference to sub-sections 4 and 5 in sub-section (2) of this Section.

Section 7b - Interventions by third parties in case of a partial licence and provisional decision

To the extent that a decision rendered in a procedure covering a partial licence or a provisional decision pursuant to Section 7 or Section 7a has become final, third parties shall be precluded, in any further licensing procedure, from intervening on the basis of facts which had already been presented or which such parties could have presented in view of the document or the decision laid open for public inspection.

Section 8 - Relation to the Federal Act on Protection Against Nuisances and the Trading and Industrial Code /1/

Sub-sections 1(a) and 2 of this Section are renumbered 2 and 3 respectively.

.....

Section 9a - Utilisation of radioactive residues and disposal of radioactive wastes

- (1) Any person who constructs, operates, holds, materially modifies, decommissions or disposes of installations in which nuclear fuel is handled, or who handles radioactive substances outside such installations, or who operates installations for the production of ionizing radiations, has to ensure that residual radioactive substances as well as radioactive parts of plant and equipment which are removed or dismantled
1. are utilised without harmful effects in accordance with the purposes laid down in nos 2 to 4 of Section 1, or
  2. are disposed of as radioactive wastes in an orderly manner to the extent that the foregoing, in the light of existing scientific knowledge and technology, is not possible, economically not feasible or inconsistent with the purposes laid down in nos 2 to 4 of Section 1.
- (2) Any person who holds radioactive substances shall transfer them to an installation pursuant to sub-section 3. This shall not apply if it is otherwise provided by an ordinance issued hereunder, or has been ordered or licensed by virtue of this Act or such an ordinance.

---

/1/ Gewerbeordnung .

- (3) *The Länder shall establish collecting agencies /17 for the interim storage of radioactive wastes originating in their territories; the Bund shall establish installations for the safekeeping and final storage of radioactive wastes. The Bund and the Länder may, for the purpose of fulfilling their obligations, avail themselves of the services of third persons.*

Section 9b - Land use planning procedure

- (1) *The construction and operation of the federal installations referred to in sub-section 3 of Section 9a, as well as any material modification of such installations or of their operation are subject to land use planning .*
- (2) *In order to achieve the purpose laid down in Section 1, the land use planning decree may be made subject to restrictions and conditions. Insofar as it is necessary to achieve the purposes laid down in nos 2 to 4 in Section 1, conditions may be imposed subsequently.*
- (3) *The land use planning decree may be granted only if the requirements specified in nos 1 to 3, 5 and 6 of sub-section 2 of Section 7 have been met. It shall be denied if*
1. *it is to be expected that the construction or operation of the planned installation will impair the common welfare, and such impairment cannot be prevented by restrictions and conditions, or*
  2. *other provisions of public law are contrary to the construction or operation of the installation.*
- (4) *If the rights of another person are adversely affected as a consequence of such land use planning decree, and it is not possible to prevent or compensate such effects by restrictions and conditions, such other person shall be compensated in money for the material damage caused by such effects.*
- (5) *Sections 21 to 29 of the Waste Disposal Act /27 shall apply to the land use planning procedure with the following modifications:*
1. *The publication of the project and of the date of the hearing, the public inspection of the plan, the filing of interventions, the conduct of the hearing and the service of the decisions shall be made in accordance with the ordinance issued pursuant to the third sentence of sub-section 4 of Section 7.*

---

/17 Landessammelstellen.

/27 Abfallbeseitigungsgesetz.

2. *Prior to rendering a decision the right to which has been reserved, the publication and public inspection of documents subsequently submitted may be dispensed with if such publication and public inspection does not reveal further circumstances which may be relevant to the interests of third persons.*
3. *The land use planning shall not extend to the admissibility of the project under the legal provisions relating to mining and deep storage. This question shall be decided by the authority competent in this respect.*

Section 9c

*The construction and operation of the collecting agencies of the Länder referred to in sub-section 3 of Section 9a, as well as any material modification of such installations or of their operation, are subject to a licence by the competent authority under Section 9 of this Act or Section 3 of the Radiation Protection Ordinance.*

.....

Section 11 - Enabling provisions (licences, notifications, general permits)

- (1) Unless special provision for nuclear fuel and installations within the meaning of Section 7 has been made under this Act, it may be provided by statutory ordinance with a view to achieving the purposes specified in Section 1
  1. that prospecting for or handling of radioactive substances (extraction, production, storage, treatment, processing or any other use or disposal), transactions in radioactive substances (acquisition, or delivery to others), the carriage and import or export of such substances shall require a licence or notification,
  2. that the construction or operation of an installation for the production of ionizing radiation shall require a licence or notification,
  3. that a general permit may be issued for installations, apparatus and equipment containing radioactive substances or producing ionizing radiation after their design and construction have been examined by an authority to be specified in such statutory ordinance, which shall also specify the notifications to be made by the operators of such installation, apparatus and equipment,
  4. that components of plant and equipment which are significant from the standpoint of safety technology, and which are to be manufactured before a licence is applied for or granted, may be built into installations pursuant to sub-section 1 of Section 7 only if the importance of prior manufacture can be justified and it has been proven by tests that the materials used, the design, construction and manufacture

*meet the requirements laid down in no.3 of sub-section 2 of Section 7; which authority shall be competent for the test procedure; what documents have to be submitted and which legal effects shall be accorded to such permit for prior manufacture,*

5. *that radioactive substances shall not be used in certain ways or for certain purposes to the extent that such prohibition is required for the protection of life and health of the population against the hazards of radioactive substances or for the enforcement of decisions by international organisations of which the Federal Republic of Germany is a member.*

- (2) The statutory ordinance may make the granting of licences and general permits subject to personal and objective requirements within the purposes of this Act, and may regulate the procedure for such licences and general permits.

#### Section 12 - Enabling provisions (safety measures)

- (1) To achieve the purposes specified in Section 1, the following may be provided by statutory ordinance
  1. the precautionary and control measures to be taken for the protection of individuals and of the general public in regard to the handling of and transactions in radioactive substances, the construction, operation and possession of installations as specified in Section 7 and no.2 of sub-section 1 of Section 11, the handling of and transactions in installations, apparatus and equipment as specified in no.3 of sub-section 1 of Section 11,
  2. the precautions to be taken in order to ensure that specified radiation doses and concentrations of radioactive substances in air and water are not exceeded,
  3. that no person shall be employed in areas exposed to radiation hazards unless he produces a certificate issued by a specially authorised medical practitioner, and that if any objections be raised to such employment for reasons of health, the supervisory authority shall decide after consulting medical experts,
  4. that persons who stay or have been staying in areas exposed to radiation hazards shall be under obligation, the extent to be specified, to have the radiation doses at their bodies measured, to undergo medical examination and, insofar as the protection of other individuals or the general public so requires, to undergo medical treatment, such examination or treatment being applied by specially authorised medical practitioners,
  5. that, as to be specified, records shall be kept and reports submitted on the production, extraction, acquisition, possession, delivery and location of radioactive substances, as well as on the measurement of doses and dose rates of ionizing radiation,

6. *that, the manner and extent to be specified, the operator of an installation in which radioactive substances are, or are to be, handled, is required to inform the supervisory authority whether changes have occurred in relation to the statements and documents concerning his application for a licence or in relation to the licence itself,*
7. *that deviations from the designated operation which are significant from the standpoint of safety technology, in particular accidents and other harmful occurrences in the course of handling radioactive substances, of constructing and operating installations in which radioactive substances are handled, as well as of handling installations, equipment and apparatus specified in no.3 of sub-section 1 of Section 11, are to be notified to the supervisory authority; and under what conditions and in which manner the experience thus gained, except individual data concerning personal and factual circumstances, may be published by agencies to be determined in such ordinance for the purpose of improving the safety measures,*
8. *which radioactive substances are to be transferred to the collecting agencies of the Länder and the federal installations pursuant to Section 9a and that, considering the extent of the danger connected therewith, another method of interim storage or further exceptions from the obligation to transfer are permissible or may be ordered or licensed under certain conditions,*
9. *how the transfer shall be carried out; which requirements shall be met for the radioactive wastes at the time of transfer; how the radioactive wastes shall be safely kept and stored in the collecting agencies of the Länder and the federal installations; under what conditions and in which manner radioactive wastes shall be delivered from the collecting agencies of the Länder to the federal installations, and how the installations under sub-section 3 of Section 9a are to be supervised,*
10. *the manner in which radioactive substances and installations within the meaning of Section 7 and no.2 of sub-section 1 of Section 11, shall be protected against disturbance or other interference by third persons,*
11. *which requirements are to be established as regards the training, the professional knowledge and competence and the reliability and impartiality of the experts referred to in Section 20, and which conditions have to be met by organisations which may be called as experts pursuant to Section 20 concerning their technical equipment and the co-operation between members working in different fields,*
12. *which requirements are to be established regarding the requisite competence of persons responsible for the construction of installations under Section 7 and the management and control of their operation, as well as regarding the necessary knowledge of persons otherwise engaged in the operation of installations under Section 7; which certificates shall be submitted concerning such requirements and in which manner the licensing and supervisory authorities competent under Section 24 shall examine the existence of the requisite competence or necessary knowledge,*

13. that the supervisory authority may issue directions for the implementation of any provisions made under nos 1 to 10.

Nos 1 and 7 of the first sentence shall apply analogously to the carriage of radioactive substances to the extent that the purposes stated in Section 1 nos 1, 3 and 4 are to be achieved *and regulations on financial security are concerned.*

- (2) The fundamental right to physical inviolability (first sentence of Section (2) of Article 2 of the Basic Law /17/) shall be restricted under the terms of no.4 of sub-section 1.

.....

#### Section 21 - Costs

- (1) Costs (fees and expenses) shall be charged for licences under Sections 4, 6, 7 and 9, for the provisional decision under Section 7a and for Government custody of nuclear fuel (sub-section 1 of Section 5).
- (2) The following fees shall be charged:
1. for the licence to construct and operate an installation within the meaning of Section 7, 1.5 per thousand of the costs of the construction;
  2. for any other licence under Section 7 or a provisional decision under Section 7a, DM 100 to 20,000;
  3. for licences under Sections 4, 6 and 9, as well as for licences implementing statutory ordinances issued under Sections 10 to 12 of this Act, DM 10 to 10,000;
  4. for Government custody of nuclear fuel, 0.2 per thousand of the value of the nuclear fuel for each begun month of custody; in the case of irradiated nuclear fuel, 0.2 per thousand up to 10 per thousand of the value which the nuclear fuel had before irradiation.

If the construction costs of the installation exceed DM 10 million, the fees under no.1 above shall be reduced to one fifth for the amount exceeding DM 10 million and to one tenth for the amount exceeding DM 100 million.

- (3) *For the use of installations under sub-section 3 of Section 9a, costs (fees and expenses), or an equivalent compensation, shall be levied from the persons under obligation to transfer, in accordance with an ordinance pursuant to sub-section 6. The fees shall be fixed such as to cover the costs. Advance payments on such costs may be required from persons who are granted a licence for the handling of nuclear substances pursuant to Sections 7 or 9 or the provisions of an ordinance issued hereunder, if at the moment of granting the licence it is to be expected that the obligation to transfer will arise.*

/17/ Grundgesetz (Constitution of the Federal Republic of Germany).

*In fixing the costs or compensation which are charged in case of transfer to a collecting agency of a Land, those expenses shall be added that will arise on the occasion of the subsequent delivery to federal installations. The collecting agencies of the Länder shall levy this part of the costs and pay it over to the Bund .*

- (4) In case of Government supervision those expenses shall be reimbursed which are due to the consultation of experts pursuant to Section 20 or to extraordinary measures taken by the supervisory authority if the person concerned has caused such measures to be taken.
- (5) Expert's fees shall be reimbursed if limited to amounts constituting appropriate consideration for the expert's activity, taking into account his requisite expert knowledge and any particular complexity of his opinion.
- (6) Details shall be determined by statutory ordinance in accordance with the principles of the Act on Administrative Costs /17 of 23rd June 1970 (BGBl. I, page 821). Such statutory ordinance may provide that certain expenditures shall not be considered as construction costs of the installation (no.1 of sub-section 2).
- (7) To the extent that the authorities of the Länder carry out statutory ordinances issued under Sections 10 to 12 of this Act, the regulations concerning costs of the Länder shall apply, subject to sub-sections 4 and 5.
- (8) Expenditures for safety measures and medical examinations carried out pursuant to this Act or a statutory ordinance issued thereunder, shall be borne by the person requiring a licence or notification under this Act or a statutory ordinance issued thereunder for the activity which makes such safety measure or medical examination necessary.

### C H A P T E R    I I I

#### PUBLIC AUTHORITIES

##### Section 22 - Competence for import and export licences, import and export control

- (1) The Federal Office for Trade and Industry /27 shall decide on applications for licences under Section 3, and on the withdrawal or revocation of licences already issued. The same shall apply where statutory ordinances under Section 11 provide for import and export licences.

/17 Verwaltungskostengesetz.

/27 Bundesamt für gewerbliche Wirtschaft.

- (2) The Federal Minister of Finance /17, or the customs authorities designated by him, and in the free port of Hamburg the Free Port Authority of the Free and Hanseatic City of Hamburg /27, shall be responsible for import and export control.
- (3) Insofar as the Federal Office for Trade and Industry makes any decisions by virtue of sub-section 1, it shall be bound by the technical instructions issued by the Federal Minister competent for nuclear safety and radiation protection, notwithstanding its subordination to the Federal Minister of Economics /37 and his powers to issue instructions based on other legal provisions.

Section 23 - Competence of the Federal Institute of Physics and Technology /47

- (1) *The Federal Institute of Physics and Technology shall be competent for*
1. *the government custody of nuclear fuel,*
  2. *the construction and operation of federal installations for the safekeeping and final storage of radioactive wastes,*
  3. *the licensing of carriage of nuclear fuel and large sources,*
  4. *the licensing of the storage of nuclear fuel outside government custody, to the extent that such storage is not preliminary to or does not form part of an activity requiring a licence pursuant to Sections 7 or 9, and*
  5. *the withdrawal or revocation of licences pursuant to nos 3 and 4 above.*

*In carrying out these functions, the Institute shall act in accordance with the technical instructions of the Federal Minister competent for nuclear safety and radiation protection who, in cases falling under no. 2 above, shall act in agreement with the Federal Minister competent for nuclear technology, insofar as questions are involved which relate to research and technology in the field of safekeeping and final storage of radioactive wastes.*

- (2) *Large sources within the meaning of no. 3 of sub-section 1 shall mean radioactive substances whose activity per consignment or package exceeds the values set forth in marginal 2450(5) of Annex A to the European Agreement of 30th September 1957 concerning the International Carriage of Dangerous Goods by Road - ADR - (BGBI. 1969 II, page 1491).*

---

/17 Bundesminister der Finanzen.

/27 Freihafenamt der Freien und Hansestadt Hamburg.

/37 Bundesminister für Wirtschaft.

/47 Physikalisch-Technische Bundesanstalt.

Section 24 - Competence of the authorities of the Länder

- (1) All other administrative functions under Chapter II and any statutory ordinances made thereunder shall be discharged by the Länder on behalf of the Bund. Control of any carriage of radioactive substances by rail and by ship which is effected by the German Federal Railways shall, however, be exercised by such bodies of the German Federal Railways as have been designated by the Federal Minister of Transport /1/.
- (2) The supreme authorities of the Länder designated by their governments shall be competent for the granting, withdrawal and revocation of licences under Sections 7, 7a and 9, *as well as for the land use planning pursuant to Section 9b and the cancellation of the land use planning decree*. These authorities shall exercise control over installations coming under Section 7, and over the use of nuclear fuel outside such installations. In particular cases, they may delegate their functions to subordinate authorities. Any complaints against their orders shall be decided upon by the supreme Länder authorities. Insofar as provisions other than those laid down in this Act confer supervisory powers on any other authorities, their competence shall not be affected.
- (3) In matters related to the service of the Federal Armed Forces /2/, the Federal Minister of Defence /3/, or the office designated by him, shall discharge the functions referred to in sub-sections 1 and 2, in agreement with the Federal Minister competent for nuclear safety and radiation protection.

C H A P T E R    I V

LIABILITY

.....

Section 25a - Liability for nuclear ships

- (1) The provisions of this Chapter shall apply to the liability of an operator of a nuclear ship with the following modifications:

---

/1/ Bundesminister für Verkehr.

/2/ Bundeswehr.

/3/ Bundesminister für Verteidigung.

1. *The provisions of the Paris Convention shall be replaced by the corresponding provisions of the Brussels Convention on the Liability of Operators of Nuclear Ships (BGBl. 1975 II, page 977). The latter shall apply as domestic law to the Federal Republic of Germany irrespective of its binding force under international law, unless such application is conditional upon reciprocity effected by its entry into force.*
2. If the damage is suffered in another State, the first sentence of sub-section 1 of Section 31 shall be applicable as regards the amount exceeding the maximum amount of liability under the Brussels Convention on the Liability of Operators of Nuclear Ships, only to the extent that the legislation of that State provides, at the time of the nuclear incident, for a third party liability regime for operators of nuclear ships which is applicable in relation to the Federal Republic of Germany and is equivalent as to its nature, extent and amount. The second and third sentences of sub-section 1 of Section 31, Section 36 and sub-section 1 of Section 38 and Section 40 shall not be applied.
3. Section 34 shall apply only to nuclear ships authorised to sail under the flag of the Federal Republic of Germany. If, within the realm of this Act, a nuclear ship is built or equipped with a reactor for another State, or persons of another State, Section 34 shall apply until the nuclear ship is registered in the other State or acquires the right to sail under the flag of another State. 75 per cent of the indemnification pursuant to Section 34 shall be borne by the Bund and the remainder by the Land competent for the licensing of the nuclear ship under Section 7.
4. In the case of nuclear ships which are not entitled to sail under the flag of the Federal Republic, this Chapter shall apply only if the nuclear damage caused by the nuclear ship has been suffered within the realm of this Act.
5. The courts of the State under whose flag the nuclear ship is entitled to sail shall have jurisdiction over actions for compensation; in the case referred to in no.4, the court of the place within the realm of this Act where the nuclear damage was suffered shall equally have jurisdiction.

- (2) To the extent that international agreements on the liability for nuclear ships contain mandatory provisions derogating from this Act, such provisions shall take precedence over the provisions of this Act.

#### Section 26 - Liability in other cases

- (1) Where, in cases other than those specified by the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, loss of life, personal injury, or deterioration of health was caused to any person or damage was caused to property through the effects of any nuclear fission process or radiation from radioactive substances or the effects originating from an accelerator, the holder of the substances affected by the

nuclear fission, of the radioactive substances or of the accelerator shall be liable to pay compensation for damage in accordance with Sections 27 to 30, sub-section 2 of Section 31, sub-sections 1, 4 and 5 of Section 32 and Section 33. There shall be no liability to pay compensation if the damage was caused by an event which the holder and such persons as are acting for him in connection with such possession could not avoid, even by taking every reasonable precaution, and which is due neither to a defective condition of the safety devices nor to any failure in their performance.

- (2) Sub-section 1 shall apply correspondingly where damage of the nature specified in sub-section 1 was caused by the effects of nuclear fusion.
- (3) Any person who has lost possession of the substances, without having transferred them to a person entitled to such possession in accordance with this Act or any statutory ordinance made thereunder, shall be liable as if he were the holder.
- (4) The provisions of sub-sections 1 to 3 shall not apply
  1. where the radioactive substances or the accelerators have been applied to the injured person by a physician or a dentist, or under the supervision of a physician or a dentist, in the course of medical treatment, and the substances and accelerators used and the necessary measuring apparatus have complied with the current state of science and technology and the damage is not due to the fact that such substances, accelerators or measuring apparatus have not been sufficiently maintained,
  2. where a legal relationship exists between the holder and the injured person under which the latter has accepted the risk associated with the substances.
- (5) *The second sentence of sub-section 1 and no.2 of sub-section 4 shall not cover the application of radioactive substances to human beings in the course of medical research. If the holder of the radioactive substances denies the causal connection between the application of the radioactive substances and the damage suffered, he shall have the burden of proof that under existing scientific knowledge and technology there is no sufficient probability of such a causal connection.*
- (6) Whoever carries substances on behalf of a third party shall not be liable to pay compensation under the provisions of sub-sections 1 to 3. As long as the consignee has not taken charge of the substances, the consignor shall remain liable under the aforementioned provisions, regardless of whether or not he is the holder of such substances.
- (7) Within the scope of application of the first sentence of sub-section 1, no legal provisions shall be affected pursuant to which the holder referred to in sub-section 1 and any person regarded as

the holder under sub-section 3, are liable to a greater extent than under the provisions of this Act or pursuant to which another person is liable for the damage.

.....

## C H A P T E R V

### PENALTIES AND FINES

.....

#### Section 45 - Punishable handling of nuclear fuel and ionizing radiation

- (1) Any person who, without such licence as is required under this Act
1. imports, exports or otherwise conveys nuclear fuel into or out of the realm of this Act,
  2. carries nuclear fuel,
  3. stores nuclear fuel outside Government custody,
  4. constructs, operates or otherwise holds an installation for the production, *treatment*, *processing* or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or materially alters the installation or its operation,
  5. treats, processes or otherwise uses nuclear fuel outside an installation for the production, *treatment*, *processing* or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or who materially deviates from the procedure laid down in a licence issued under sub-section 1 of Section 9 for the treatment, processing or other use or who materially alters the installation or its location as specified in the licence,

shall be liable to imprisonment for a term of up to five years or a fine.

- (2) The same penalties shall be incurred by any person who
1. fails to surrender nuclear fuel without delay, in contravention of sub-sections 3 and 4 of Section 5,
  2. delivers nuclear fuel to unauthorised persons, in contravention of sub-section 5 of Section 5, or

3. *fails to transfer radioactive wastes, in contravention of sub-section 2 of Section 9a in conjunction with a statutory ordinance pursuant to no.8, first sentence of sub-section 1 of Section 12.*
- (3) Any person who, by an act specified in sub-section 1 or 2, knowingly endangers, through nuclear fission or ionizing radiation, the life or health of another person, or property of considerable value belonging to another person, shall be liable to imprisonment for a term running between three months and five years.
- (4) Any person who, through negligence, commits one of the acts specified in sub-sections 1 and 2 shall be liable to imprisonment for a term not exceeding two years or a fine.

Section 46 - Statutory offences

- (1) Any person shall be guilty of a statutory offence who wilfully or negligently
1. carries nuclear substances without having procured the financial security required under sentences 1 or 2 of sub-section 1 of Section 4b,
  2. contravenes a determination under sub-section 1 of Section 13, an enforceable condition imposed under the *second* and third sentences of sub-section 1 of Section 17 or an enforceable order under sub-section 3 of Section 19,
  3. contravenes a statutory ordinance issued under sub-section 1 of Section 11 or *nos 1 to 7 and 9 to 12* of sub-section 1 of Section 12, or an enforceable order under a statutory ordinance issued pursuant to no 13 of sub-section 1 of Section 12, provided that such statutory ordinance refers to this Section with respect to a defined act,
  4. does not carry the licence contrary to the first sentence of sub-section 5 of Section 4, or does not carry the certificate referred to in the second sentence of sub-section 5 of Section 4, or does not produce on request such licence or certificate contrary to the third sentence of sub-section 5 of Section 4.
- (2) The statutory offence shall be punishable with a fine of up to DM one hundred thousand in the cases given in nos 1, 2 and 3 of sub-section 1 and up to DM one thousand in the case given in no.4 of sub-section 1.
- (3) Administrative authority within the meaning of no.1 of sub-section 1 of Section 36 of the Act on Statutory Offences /17 shall be the Federal Office for Trade and Industry as concerns the failure to obtain a licence or to notify in the case of

---

/17 Gesetz über Ordnungswidrigkeiten.

import or export of other radioactive substances pursuant to no.1 of sub-section 1 of Section 11 or to comply with a condition imposed in connection therewith pursuant to sentences 2 and 3 of sub-section 1 of Section 17.

.....

Section 48 - Violation of obligations concerning production and supply

- (1) Any person who knowingly produces or supplies defective installations for the production, *treatment, processing* or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or who produces or supplies defective objects intended for the construction or operation of such installation, and thereby knowingly endangers the life or health of another person, or property of considerable value belonging to another person, such danger being connected with the effects of a nuclear fission process or radiation from a radioactive substance, shall be liable to imprisonment for a term of not less than six months and up to five years.
- (2) The attempt shall be punishable.
- (3) In particularly grave cases the penalty shall be imprisonment for a term of one to ten years.

.....

Section 54 - Issue of statutory ordinances

*In sub-section 1, the reference to sub-section 5 of Section 21 is replaced by a reference to sub-section 6 of Section 21.*

.....

A N N E X 2

EXEMPTION LIMITS FOR LIABILITY AND FINANCIAL SECURITY

*Sub-section 3 of Section 4, sub-section 2 of Section 4b and sub-section 6 of Section 25 shall apply to nuclear fuel or nuclear substances, the activity or quantity of which*

- (1) in a single consignment or package; or*
- (2) within a single installation or an independent subsidiary thereof or, in the case of a person who does not carry out a business, at the place where the applicant carries out his activities*

*do not exceed by a factor of  $10^5$  the exemption limit and which in the case of enriched uranium do not contain more than 350 grammes of uranium 235. Exemption limit shall mean the activity or quantity for the handling of which a licence or notification is not required under this Act or a statutory ordinance issued thereunder.*

FEDERAL REPUBLIC OF GERMANY

ORDINANCE CONCERNING THE FINANCIAL SECURITY  
PURSUANT TO THE ATOMIC ENERGY ACT  
(NUCLEAR FINANCIAL SECURITY ORDINANCE)

By virtue of Section 13(3) and Section 54(1) and (2) of the Atomic Energy Act in the version published on 31st October 1976 (BGB1. I, p. 3053) the Federal Government, with the approval of the Federal Council, hereby orders as follows:

P A R T I

GENERAL PROVISIONS

Section 1 - Types of financial security

Financial security for installations and activities involving nuclear liability under international agreements or under the Atomic Energy Act, may be provided by

1. third party liability insurance, or
2. indemnity or guarantee by a third person.

The public authority may allow a combination of financial security measures of the same or of different types, provided that the effectiveness and clarity of the security is not thereby adversely affected.

## Section 2 - Third party liability insurance

- (1) Financial security may be provided in the form of third party liability insurance only where it is taken out with
  1. an insurer licensed to carry on business within the realm of the Atomic Energy Act, or
  2. an insurer licensed to carry out business outside the realm of the Atomic Energy Act, in case of international carriage (Section 4a of the Atomic Energy Act), provided that an insurer licensed to carry on business within the realm of the Atomic Energy Act or an association of such insurers undertake jointly to assume the obligations of a third party liability insurer.
- (2) To the extent that the Bund and the Länder are under an obligation to indemnify the person required to provide financial security against claims for damages, or to guarantee the payment of such claims made against him, the insurance contract shall contain a clause in favour of the Federal Republic of Germany and the Land concerned, imposing a duty on the insurer to inform the public authority without delay of any alteration to the contract, any event causing damage, any claim for compensation for damage, and any payment of compensation, as soon as such circumstances come to the knowledge of the insurer.

## Section 3 - Indemnity or guarantee

- (1) Financial security may be provided in the form of indemnity or guarantee by a third person only when it is ensured that such third person will be in a position, as long as it is to be expected that he may be resorted to, to fulfil his obligations under the financial security arrangements.
- (2) An indemnity or guarantee by a third person whose principal place of residence or principal place of business is situated outside the realm of the Atomic Energy Act shall only be accepted where such third person either has sufficient assets within the realm of the Atomic Energy Act to cover his obligations during their duration, or where it is ensured that any decision of a court situated within the realm of the Atomic Energy Act concerning his obligations is enforceable, by virtue of an international agreement, in the State where assets of such person are situated. Indemnity or guarantee by another State shall be accepted only where such State submits to the jurisdiction of the Federal Republic of Germany or otherwise guarantees that it will fulfil its obligation.
- (3) Section 2(2) shall apply accordingly.

## Section 4 - Extent of the financial security

- (1) In the case of a nuclear installation the financial security shall cover the legal liability of the operator to pay compensation for damage as defined in Section 13(5) of the Atomic Energy Act, arising

1. as a result of a nuclear incident, and
  2. as a result of ionizing radiation emitted by a source of radiation within the meaning of the second sentence of Section 25(1) of the Atomic Energy Act.
- (2) In the case of activities or installations in respect of which liability may arise under Section 26 of the Atomic Energy Act, the financial security shall cover any legal liability to pay compensation for damage, as defined in Section 13(5) of the Act, which arises in connection with the activity or installation subject to a licence, as a result of effects of the kind mentioned in the first sentence of Section 26(1) and in Section 26(2) of the Act, and which is incurred by
1. the person required to provide financial security,
  2. persons engaged to carry out operations by the person required to provide financial security,
  3. in the case of carriage, also by persons who are or were involved in such carriage together with the person required to provide financial security or who are carrying out or have carried out authorised works or services in connection with the carriage or who are or were engaged to effect an operation for the purposes of such carriage.
- (3) The financial security shall cover events causing damage which occur or have effects outside the realm of the Atomic Energy Act and for which the person required to provide financial security is liable under international agreements or by virtue of liability provisions operative outside the realm of the Atomic Energy Act of the kind specified in Section 13(5) of the Act.
- (4) Financial security, up to the specified amount, shall not be allocated or used in respect of obligations other than those specified in sub-sections (1) to (3) above.
- (5) The public authority may allow exceptions to sub-sections (1) to (3) above, provided that
1. they are justified, having regard to the type of financial security, and
  2. the interests of all those who have suffered damage, and, in cases involving indemnification against liability to pay compensation for damage under Section 34 of the Atomic Energy Act, the interests of those liable to provide indemnification, are not thereby unreasonably prejudiced.
- (6) The financial security to be provided by the operator of a nuclear installation need not cover his liability to pay compensation for damage arising from the handling or carriage of radioactive substances outside the nuclear installation.
- (7) Sub-section (1) and sub-sections (3) to (6) shall apply correspondingly to the operator of a nuclear ship.

Section 5 - Proof of financial security; information and notification

- (1) The provisions of financial security shall not notified to the public authority in an appropriate manner.
- (2) The public authority shall inform the insurer or the third person having provided an indemnity or guarantee of the granting, withdrawal or revocation of a licence.
- (3) A person wishing to make a claim covered by the financial security shall be entitled to request from the public authority the name and address of the insurer or third person having undertaken to indemnify or guarantee.
- (4) The authority competent to receive notification of the non-existence or termination of the insurance contract or contract of indemnity or guarantee (Section 14 of the Atomic Energy Act in conjunction with Section 158c, sub-section (2) of the Insurance Contracts Act) shall be the licensing authority, or, where no licence is required, the public authority otherwise competent.

Section 6 - Conditions

When the financial security is being determined, the person under obligation to provide the security shall be required:

1. to alter the financial security only with the prior consent of the public authority;
2. to inform the public authority without delay of any alteration to the financial security not attributable to any act of his and, where the matter involves liability to pay compensation for damage covered by the financial security or by the indemnity under Section 34 of the Atomic Energy Act, of any event causing damage, any claim for compensation and any payment of compensation, as soon as such circumstances come to his knowledge;
3. to satisfy the public authority at its request that financial security exists in the amount and to the extent determined and that the conditions under which it was possible to provide financial security other than by third party liability insurance, continue to prevail, and
4. to make good the coverage, to the extent that it is not available in full for every event causing damage, where a reduction of more than 20% or, if such reduction amounts to at least DM 1 million, of more than 10%, has arisen or is to be expected due to the occurrence of one or more events causing damage.

## P A R T   I I

### COVERAGE

#### Section 7 - Coverage and standard coverage

The amount of financial security (coverage) shall be determined on the basis of a coverage for the normal case (standard coverage), unless the coverage is directly determined in this Part of the Ordinance.

#### Section 8 - Handling and carriage

- (1) Except as otherwise stated in this Part of the Ordinance, the standard coverage shall be determined
  1. in accordance with Annex 1 as regards the handling of nuclear fuel,
  2. in accordance with Annex 2 as regards the handling of other radioactive substances,as applicable in each case having regard to the licensed type, mass, activity or characteristics of the radioactive substances.
- (2) Where the handling of other radioactive substances is directed towards their application in human medicine, or their handling involves their getting into air, water, soil or vegetation, without it being possible to prevent their further dispersion, the standard coverage shall be twice the figure given in Annex 2.
- (3) Where radioactive wastes are handled at a collecting agency of a Land or other installation licensed for the disposal of radioactive wastes, the standard coverage shall be DM 10 million. Where radioactive wastes originating in an installation referred to in Section 7 of the Atomic Energy Act are handled in such other installation licensed for the disposal of radioactive wastes, the standard coverage shall be DM 100 million.
- (4) Sub-section 1 shall apply accordingly to the carriage of radioactive substances; in the case of the carriage of other radioactive substances reference shall be made to the figures contained in column 2 of Annex 2. The coverage shall not exceed DM 50 million.

#### Section 9 - Reactors

- (1) For a reactor with a maximum capacity of 1 megawatt the standard coverage shall be DM 5 million; this figure shall be increased by DM 1 million for each additional megawatt up to a maximum of DM 500 million.

The standard coverage shall nevertheless be determined in accordance with Annex 1 if the calculation according to that Annex, having regard to the licensed type and mass of the nuclear fuel, results in a higher figure than the calculation of the standard coverage in accordance with the first sentence of this sub-section. Maximum capacity is deemed to be the thermal capacity under continuous operating conditions at which the reactor is permitted to be operated under the licence.

- (2) The standard coverage under sub-section 1 includes the standard coverage for installations for the storage of nuclear fuel or radioactive products and waste which are intended for the use of the installation itself or originate from the reactor and are temporarily stored pending further use or disposal, provided that such installations form a single nuclear installation as defined in Annex 1, sub-section 1, No. 2, last part of the sentence to the Atomic Energy Act.

#### Section 10 - Ship reactors

The standard coverage in the case of reactors used to propel ships shall be DM 1 million per megawatt of maximum capacity, subject to a limit of DM 400 million. The second and third sentences of Section 9(1) shall apply accordingly.

#### Section 11 - Other nuclear installations

- (1) In the case of installations for the production, treatment or processing of nuclear fuel, the standard coverage shall be determined on the basis of the type and mass of the nuclear fuel which the installation is licensed to handle, in accordance with Annex 1. In the case of installations for the fabrication of fuel elements and for uranium enrichment the maximum coverage, having regard to Sections 16 and 17, shall not exceed DM 200 million.
- (2) In the case of installations for the reprocessing of irradiated nuclear fuel the standard coverage for installations with a licensed annual reprocessing capacity shall be as follows:
1. up to 50 tonnes DM 100 million:
  2. over 50 tonnes DM 300 million:
  3. over 500 tonnes DM 500 million.
- (3) Section 9(2) shall apply accordingly.

#### Section 12 - Decommissioning of installations

Where an installation within the meaning of Section 7 of the Atomic Energy Act is decommissioned or otherwise stops operations, the standard coverage shall be determined in accordance with column 3 of Annex 2 on the basis of the residual activity within the installation, provided that the instal-

lation contains only radioactive and contaminated items of plant and equipment and radioactive substances for monitoring purposes. Where, due to the special circumstances of the case, the level of activity cannot be established or where this would entail unreasonable expense, the public authority may reduce the coverage to 5 per cent of the coverage last determined before the installation was decommissioned or otherwise stopped operations.

#### Section 13 - Installations for the production of ionizing radiations

- (1) In the case of installations for the production of ionizing radiations, the construction and operation of which require a licence, the standard coverage shall be DM 50 million.
- (2) Where only the operation of such an installation requires a licence,
  1. DM 10 million where the installation is used for medical purposes,
  2. DM 3 million where more than  $10^8$  neutrons are produced per second or where the final energy of accelerated electrons exceeds 10 MeV or where the final energy accelerated ions exceeds 1 MeV per nucleon,
  3. DM 1 million in all other cases.

#### Section 14 - Carriage and storage of irradiated nuclear fuel

In the case of carriage and storage of irradiated nuclear fuel the standard coverage calculated on the basis of the licensed mass of the nuclear fuel in accordance with Annex 1 and the standard coverage calculated on the basis of the total licensed activity in accordance with Annex 2 shall be determined separately and aggregated to give a single figure for the standard coverage. The exemption limit under Annex 2 for the purpose of calculating the total activity is 0.1 microcurie.

#### Section 15 - Application of radioactive substances to human beings in medical research

Where radioactive substances are applied to human beings in medical research the coverage for every person to whom such radioactive substances are applied shall be DM 1 million.

#### Section 16 - Determination of the coverage in individual cases

- (1) Where the standard coverage is inappropriate to the circumstances of the individual case, the public authority may increase the coverage, subject to the maximum limits under Section 13(2) No. 1 of the Atomic Energy Act, to twice the standard coverage or may reduce it to one third of the standard coverage.

- (2) In determining the coverage appropriate to the circumstances of the individual case special consideration shall be given to:
1. whether and to what extent the possibility exists or is to be excluded that persons other than the person required to provide financial security and his employees may suffer loss of life or bodily injury or damage to health or property;
  2. the level of safety provided by protective measures and safety equipment;
  3. whether and to what extent the possibility exists or is to be excluded, having regard to meteorological and hydrological conditions, that radioactive substances may be dispersed, particularly in the form of gases, aerosols or liquids;
  4. the duration of the hazard, having particular regard to the half-life of the radioactive substances;
  5. whether due to the type, mass or characteristics of the radioactive substances the possibility of damage due to nuclear incidents resulting from nuclear fission processes can be excluded even under the most unfavourable circumstances;
  6. whether and to what extent there exists an especially high or low level of danger in the event of carriage, having regard to the means and route of transport employed, the packaging and the characteristics of the radioactive substances.

Section 17 - Reduction of the coverage in particular cases

The coverage required under this Part of the Ordinance for nuclear ships and for installations for the treatment or processing of nuclear fuel may be reduced to one half, provided that the objective stated in Section 1(1) of the Atomic Energy Act, having due regard also to the interests of those required to furnish indemnity or guarantee under the Act or by virtue of international agreements, calls for the provision of financial security to be made possible or facilitated by such measures. Such reduced coverage shall fall short of the maximum amount of insurance cover which can be obtained under reasonable conditions on the insurance market (Section 13(2), No. 1 of the Act) only where this serves to promote a project of particular significance for research, development or use of nuclear energy.

Section 18 - Coverage in case of multiple handling

- (1) Where the person required to provide financial security handles several substances or several batches of a substance under one or more licences, the relevant coverage shall be separately determined for every activity requiring the provision of financial security.
- (2) An overall coverage shall nevertheless be determined where the multiple handling takes place outside a nuclear installation and is so closely related as to place and time that the several substances or batches must be considered equally as dangerous as a single substance, the activity or mass of which would be equivalent to the total activity or total mass of the substances or batches.

- (3) In the case of sealed and unsealed other radioactive substances, the overall coverage shall be calculated on the basis of the total activity, expressed in multiples of the activity exemption limits. Where substances are handled which belong to both the groups mentioned in the first sentence of this sub-section, the coverage determined separately for each group shall be aggregated. However, the total coverage to be determined shall not exceed that which would result if all the substances were unsealed other radioactive substances.
- (4) As regards carriage sub-sections (1) to (3) shall apply accordingly.

Section 19 - Rounding off the coverage

- (1) The coverage shall be determined to the nearest DM 100,000.
- (2) Where the provisions concerning coverage result in an intermediate amount of less than DM 50,000, the figure shall be rounded down, otherwise it shall be rounded up.

P A R T III

FINAL PROVISIONS

Section 20 - Transitional provision

Where the financial security determined for an activity licensed before the entry into force of this Ordinance does not meet the requirements set out herein, the financial security shall be re-determined at the next review pursuant to the second sentence of Section 13(1) of the Atomic Energy Act, but in any event, in the case of installations referred to in Section 7 of the Act, within six months, and in other cases within one year of the entry into force of this Ordinance.

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, page 1) and the second sentence of Section 58 of the Atomic Energy Act.

Section 22 - Entry into force

This Ordinance shall come into force on the first day of the calendar month following publication. The Financial Security Ordinance in the version published on 10th November 1970 (BGBl. I, page 1523) shall cease to have effect as from the same day.

A N N E X 1

Standard coverage for nuclear fuels in millions of DM

1	2	3	4	5	6
Mass of nuclear fuel*	Plutonium	Uranium <sup>235</sup>	Uranium enriched to more than 20% in the isotope <sup>235</sup>	Uranium enriched to 20% or less in the isotope <sup>235</sup>	Natural uranium being nuclear fuel
Up to 10g	1.0	0.5	-	-	For any mass in excess of the exemption limits  1. up to 10 tonnes: 1.0 for every tonne or part thereof  2. from 10 to 100 tonnes: 0.25 per additional tonne or part thereof  3. over 100 tonnes: 0.025 per additional tonne or part thereof  up to a maximum of 100, and 50 in the case of carriage.
Over 10g to 100g	2.0	1.0	-	-	
Over 100g to 200 g	3.0	2.0	-	-	
Over 200g to 1kg	10.01	10.0	5.0	1.0	
Over 1kg to 100 kg for every additional kg or part of a kg	1.0	1.0	0.3	0.1	
From 100 to 1,000kg for every further 10kg or part of 10kg	2.0	2.0	0.6	0.3	
Over 1,000kg for every further 100kg or part of 100kg	10.0	10.0	1.5	0.3	

\* In calculating the mass of nuclear fuel only the mass of plutonium 239, plutonium 241, uranium 233 and uranium 235 shall be taken into account. For the calculating of the mass of natural uranium being nuclear fuel, the total mass of the uranium is to be taken into account.

A N N E X 2

Standard coverage in case of other radioactive substances  
in millions of DM

1	2	3
Activities in multiples of the exemption limits under Annex IV, Table IV.1 of the Radiation Protection Ordinance <sup>+</sup>	sealed radioactive substances	unsealed radioactive substances
from 10 <sup>5</sup> times to 10 <sup>6</sup> times	0.1	0.5 to 1
from 10 <sup>6</sup> times to 10 <sup>7</sup> times	0.1 to 0.5	1 to 2
from 10 <sup>7</sup> times to 10 <sup>8</sup> times	0.5 to 1	2 to 4
from 10 <sup>8</sup> times to 10 <sup>9</sup> times	1 to 2	4 to 8
from 10 <sup>9</sup> times to 10 <sup>10</sup> times	2 to 4	8 to 12
from 10 <sup>10</sup> times to 10 <sup>11</sup> times	4 to 8	12 to 16
from 10 <sup>11</sup> times to 10 <sup>12</sup> times	8 to 12	16 to 20
from 10 <sup>12</sup> times to 10 <sup>13</sup> times	12 to 16	above 10 <sup>12</sup> times:
from 10 <sup>13</sup> times to 10 <sup>14</sup> times	16 to 20	20 to 30
from 10 <sup>14</sup> times to 10 <sup>15</sup> times	20 to 24	
above 10 <sup>15</sup> times	24 to 28	

<sup>+</sup> The standard coverage in case of natural uranium which is not nuclear fuel and in case of depleted uranium is determined according to column 6 of Annex 1.