Regulation of 18 December 2002, no. SAS/2001144917 concerning the publication of justified and unjustified procedures and activities (Justification of Uses of Ionizing Radiation (Publication) Regulation)

The State Secretary for Housing, Spatial Planning and the Environment and the State Secretary for Social Affairs and Employment, M. Rutte, acting in agreement with the Minister of Economic Affairs

Having regard to Articles 4 (2) and 101 in conjunction with Article 4 (2) of the Radiation Protection Decree;

Having regard to Article 19 of the Nuclear Facilities, Fissionable Materials and Ores Decree and Article 1b of the Fissionable Materials, Ores and Radioactive Materials (Transport) Decree

Hereby order:

Article 1

The procedures and activities or categories thereof that are justified in accordance with Article 4 (1) of the Radiation Protection Decree shall be published by being listed in Annex 1 to this Regulation.

Article 2

The procedures and activities or categories thereof that are not justified in accordance with Article 4 (1) of the Radiation Protection Decree shall be published by being listed in Annex 2 to this Regulation.

Article 3

This Regulation may be cited as the 'Justification of Uses of Ionizing Radiation (Publication) Regulation'.

Article 4

This Regulation shall enter into force on the second day after the date of publication of the Government Gazette in which it is published and shall have retroactive effect from 1 March 2002.

This Regulation shall be published with its Explanatory Notes in the Government Gazette.

The Hague, 18 December 2002 The State Secretary for Housing, Spatial Planning and the Environment, P.L.B.A. van Geel The State Secretary for Social Affairs and Employment, M. Rutte

Annex 1 to the Justification of Uses of Ionizing Radiation (Publication) Regulation

This Annex relates to Article 1 of the Regulation. **Justified procedures and activities**

No.	Application or category of application	Examples	Purpose of application	Justifying arguments ¹⁾
I	Research and Industrial ap	plications		
I.A	Sealed sources for			
I.A.1	Instrumentation and control	♦ measurement of thickness	 instrumentation and control of or in various production 	 optimizing processes

			processes	
		 measurement of densities 		 cost saving
		 measurement of levels 		 safer and more reliable process control
		 gram weight measurement (e.g. belt weighing) 		 reduction of environmental impact through lower production losses
		 measurement of humidity 		 ♦ no contact with process medium, hence lower toxic dose from maintenance work
		 measurement of concentrations measurement of displacements measurement of flows 		
		measurement of composition of oil, gas and water mixtures		
I.A.2	Calibration	 various calibration sources 	 testing and calibrating various types of equipment and substances 	 optimizing processes, instrumentation and control systems and analytical set- ups preventing excessively
I.A.3	Analysis	♦ gas chromatography	 analysing particular substances and materials 	high/low radiation levels ♦ taking advantage of physical possibilities
		 element analysis using neutron activation 		monitoring product and production process quality, hence less waste and less danger in use
		 monitoring of substances 		 augmenting knowledge
		 measurement of emissions of substances X-ray fluorescence analysis 		
- - _ <u>I.A.4_</u>	Non-destructive Testing_ (NDT)_	betascope (for measuring thickness of metallic coatings) transmission and backscatter	obtaining information on the quality of an object to be	 improving the integrity of process systems
			investigated (checked) without damaging it	
_		♦ gammagraphy		optimizing processes
_		neutron activation		time and cost savings
-		♦ neutron radiography		 ★ taking advantage of physical possibilities_ ★ augmenting knowledge_
- _ <u>I.A.5</u> -	<u>Shielding or ballast using</u> <u>depleted uranium</u>	 shielding relatively large radiation sources ballast and balancing material, e.g. in aircraft wing tins 	ballast or shielding	 taking advantage of physical possibilities cost saving
				<u>♦ re-use</u>
_ _ <u>I.A.6</u> _	Product treatment	♦ food irradiation	 sterilizing, disinfecting and treating materials 	 optimizing processes
-		sterilization		taking advantage of physical possibilities improving human health
-		solid state materials		
<u>_I.A.7</u>	Process engineering research	gamma transmission, gamma backscatter and neutron backscatter using mobile sources	characterizing and detecting malfunctions in chemical processes	optimizing processes
-		 detecting blockages in pipes 		<u>scheduling maintenance</u> more efficiently
_		♦ investigating the operation		detecting causes of process
-		 of distillation sources measurement of fouling in 		mairunctions early warning of unsafe
-		process devices and		situations
<u>I.A.8</u>	Exploration research	deposition in pipes • gamma backscatter for density measurement of rock in gas and oil fields via boreholes	 increasing output from oil and gas fields 	 optimizing exploitation of energy sources

-		neutron backscatter to detect water, gas and oil fields via boreboles	better utilization of energy resources	 better surveying of energy reserves
<u> </u>	Products and consumer products	indicators ² (clocks, watches navigational instruments)	.◆ lighting and emergency lighting	reducing (potential) danger
-		• light builds & tubes (H-3, KF- 85, Th 228, Th 230, Th 232,		◆ effectiveness
		including decay products) • starters (Kr-85 and Th-232)	hazard warning	
-		♦ electronic components	♦ faster operation	
-		• beta lights in aircraft and	<u>♦ brightness</u>	
-		cinemas. ♦ ionization of smoke_ detectors for industrial_ applications ♦ monitors_		
<u>I.A.10</u>	<u>Ignition</u>	◆ spark gap tubes H-3 and Ni- 63_	♦ igniting oil or gas burner using high-energy ignition lance	optimizing processes safer and more reliable process control cost saving
<u>.I.B</u>	Open sources in			<u> </u>
<u>I.B.1</u>	Process industry	ore-processing industry		improving market position
_		♦ oil and gas extraction		♦ promoting investment
_		• minerals and mineral sands		♦ promoting re-use
_		pigment industry		♦ reducing waste streams
_		thorium-processing industry	-	 utilizing natural resources
_	_	chemical industry		improving social aspects
<u>l.B.2</u>	Power generation	♦ coal-fired power stations	♦ electricity production	electricity production
_		♦ natural-gas fired stations	energy production	energy production
-		♦ oil and gas transport		the Strategic Agreement (for the Borssele nuclear plant)
_		♦ Borssele nuclear power		
<u> </u>	Research and experiments	 ♦ industrial, research and hospital radionuclide 	carrying out experiments	improving knowledge
-		♦ High Flux Reactor	<u>♦ in vivo research</u>	 taking advantage of physical possibilities
-		◆ Low Flux Reactor	◆ labelling	optimizing processes
-		Higher Education Reactor	nuclear physics and materials research	Improving human health
-				improving knowledge and understanding
I.B.4	Tracer measurements	♦ carrying out biological and/or any/reapportal	♦ tracer measurements	♦ cost saving
-		research in the field ♦ tracer measurements in industry for process engineering research		optimizing processes
-		♦ tracer measurements for oil and gas extraction (flows)		♦ improving safety
-		♦ measurement of flows		taking advantage of physical possibilities
-		characterizing process control (e.g. measurement of mixing, residence time, short circuits, dead volumes, etc.)		
<u>I.B.5</u>	Production of materials for research and therapy	◆ production of radiopharmaceuticals	 producing radioactive materials for medical research or therapy 	<u>♦ human health</u>
_		◆ production of Mo/Tc and Kr	♦ scientific research	♦ optimizing processes
		<u>generators</u> ♦ High Flux Reactor	♦ industrial applications	♦ industrial requirements
-		♦ cyclotron		
- _ <u>I.B.6</u>	Increasing the mass activity concentration of U-235	♦ enrichment using_ ultracentrifuge_	making uranium ore or used fuel suitable for use/re-use as fuel	 utilizing natural resources

				 improving market position
2				♦ fuel supply to nuclear reactors
<u>l.B.7</u>	Cleaning or decontamination	♦ cleaning contaminated equipment and plant components	♦ cleaning for product or material use/re-use	 ♦ avoiding large quantities of radioactive waste_
-		♦ descaling	♦ cleaning for waste separation	♦ promoting re-use
-		♦ cleaning up contaminated soil		
<u>l.B.8</u>	Construction materials	 ◆ materials for groundworks, road-building and hydraulic engineering 	 ▲ applications in major constructions such as roads, dykes, etc. 	
I.C	Devices for			
<u>l.C.1</u>	Analysis and research using X-rays	♦ X-ray diffraction device	♦ analyses	improving knowledge
-		♦ X-ray spectrograph	♦ fluorescence analysis	 taking advantage of physical possibilities
<u> </u>	Inspecting objects using X- rays	♦ inspecting luggage	♦ detecting weapons, drugs, etc.	preventing or detecting <u>crime</u>
-		♦ industrial radiography	obtaining information on the quality of an object to be investigated (checked) withou damaging it	<u>♦ improving the integrity of</u> process systems t
		X-ray photography		 optimizing processes
-				time and cost saving
-				 taking advantage of physical
-				possibilities
<u>l.C.3</u>	<u>Inspecting objects using</u> <u>particle accelerators</u>	Inspecting containers at ports and airports cyclotron	detection	preventing or detecting <u>crime</u>
<u> </u>	accelerators	linear accelerators	experiments	
-		Van der Craeff generatore		
-				
-		electron microscope		
<u> </u>	Production of electronics using ion implantation Production of radionuclides	 ◆ ion implantation for the microchip industry ◆ production of I-123 and ►DC 18 	 quality checking of microchips medical applications 	 cost saving improving human health
	using particle accelerators	<u>1 DG-10</u>	 (scientific) research 	improving knowledge
-			 industrial applications 	optimizing processes
-	Instrumentation and control	♦ X-ray device	measurement of thickness	optimizing processes
<u>_1.C.7</u>				
-				♦ safer and more reliable process control
<u>l.D</u>	Applications that are possil	Die with Sealed Sources, Ope	in sources and devices allke	
<u>l.D.1</u>	Education	 science teaching in secondary schools, in higher education and at university 	education involving the use of sources	Improving knowledge
		 ◆ radiation hygiene protection courses_ 	♦ instruction on the use of sources	♦ radiation expert training
<u>l.D.2</u>	Demonstrations_	 ♦ demonstrations at scientific meetings ♦ trade fairs 	product demonstrations	♦ promoting sales
- _ <u>I.D.3_</u>	<u>Drills</u>	♦ fire brigade drills	♦ practising the detection of sources_	♦ reducing danger
_		♦ safety drills		♦ improving knowledge
- _ <u>I.D.4</u> _	Waste disposal	approved radioactive waste collection service iandfill	♦ waste disposal	 verified and controllable landfill or waste processing
Ī.D.5	First response in undesirable situations by securing and if necessary removing radioactive materials or fissionablefissile materials or ores from third parties' sites in the event of the unexpected o unplanned and unwanted	• scrap metal and waste processors, warehousing companies, container terminals, maintenance and service companies for oil and gas production companies	 ♦ ending an undesirable and illegal situation ♦ securing or removing unauthorized materials from third parties' sites 	reducing (potential) danger to humans and the environment ending illegal situations

	presence of those materials at those third parties' sites if those third parties are not	t i		
	entitled to hold those materials			
<u>_II</u>	Medical and veterinary appli	<u>cations^₄</u>		
_ <u>II.A</u> _	Thorapy	A thorapy using particle	 curative or palliative therapy 	A individual boalth
<u>II.A.1</u>		accelerators	for the treatment of cancer, scar tissue or other skin defects and for pain relief etc.	
-		 therapy or simulation or scheduling in connection with therapy using X-ray equipment in vivo nuclear medical therapy brachytherapy/telecurie 		<u>♦ human health</u>
-		• Boron Neutron Capture Therapy (in HFR) -> α + Li-7		
<u>II.A.2</u>	Examination of persons on medical indications	 <u>static image and/or</u> <u>radiography; fixed or mobile</u> 	obtaining information on a patient's medical condition (diagnostics)	♦ individual health
-		 radiology and/or cardiology intervention dental or oral surgery 	 improving choice and/or implementation of therapy support of in vivo diagnosis 	<u>♦ human health</u>
-		<u>images</u> ♦ support of urological,		
-		pulmonary, surgical or anaesthetic procedures		
-		♦ in vivo and in vitro nuclear		
_ <u>II.A.3</u>	Medical and biomedical research on volunteers	testing new radiopharmaceuticals	♦ improving medical knowledge of diagnostic and therapeutic techniques	<u>♦ human health</u>
_		♦ testing new research or therapeutic techniques		augmenting knowledge
<u>_II.A.4</u>	Prevention/early diagnosis in populations and individuals	◆ X-ray examination using mammography	• early detection of diseases or abnormalities	<u>♦ human health</u>
-		 pulmonary investigation for tuberculosis preventive examination, e.g. 		Individual health
_		<u>preoperative</u> ◆ occupational medicine evamination		
<u>II.A.5</u>	Medical examination for legal purposes	radiological examination of persons for insurance purposes or to detect unlawful objects or substances in or on	obtaining information on the physical condition of persons	◆ confirmation
-		ine body	◆ avoiding physical examination	• preventing crime_
<u>_II.B</u>	Veterinary practice using de	evices and open or sealed so	urces	. Second and the state of the
<u>_II.B.1</u>	or sealed sources	A nuclear medicine		aim often not feasible
-	Padiothorapy using dovices of	a thorany	A thorapy in animals	without the application
<u>_II.B.2</u>	nuclear medicine	<u>• Inclapy</u>		aim often not feasible
-	Transport and storage in co	nnection with transport, impo	ort, export and transit of fissi	without the application onablefissile materials, ores
<u>_III.A</u>	Transport	ation marked t	a device and set of the state	a horacian and a fill
III.A.1	Iransport and import of radioa fissionablefissile materials and where procedures or activities carried out for which a licence of which the notification requir	International content of the second content	 Inward and outward transport of materials, sources etc. within, through and into tand out of the Netherlands 	 transport of the resources needed for the application is automatically justified if the application served by this transport is justified
<u>_III.A.2</u>	Transport and import of the ma exempted from the licensing of	aterials referred to at III.A.1 r notification requirement	 inward and outward transport of materials, sources 	<u>♦ ditto III.A.1</u>

		etc. within, through and into	
	Export and transit of radioactive materials, fiscionablefissile	and out of the Netherlands	A ditto III A 1
III.A.3	materials and ores, provided the notification requirement for	transport of materials sources	
	these materials has been complied with or a licence has	etc. within, through and into	-
	been granted for them and there is written confirmation that	and out of the Netherlands	
	the transit country or country of destination is willing to		
	accept these materials		
III A 4	Transport and import, export and transit of fissionable fissile	inward and outward	A licence previously granted
	materials, ores and radioactive materials, if a licence has	transport of materials, sources	or compliance with the
	previously been granted for similar transport under the same	etc. within, through and into	notification requirement
	conditions or the notification requirement has been complied	and out of the Netherlands	implies justification; transport
	with and the conditions at the place of destination have not		is again justified unless there
	<u>changeu</u>		alternatives
	Transport of fissionablefissile materials ores and radioactive	removal to the approved	 centralized storage of
III.A.5	materials by an approved collection service for radioactive	materials collection service	radioactive waste is preferable
	wastes and wastes containing fissionablefissile material or		<u> </u>
	<u>ore</u>		
III A 6	Transport by an organization or person designated for this	removal of seized materials	 material that has been
	purpose of seized radioactive materials, fissionable fissile		seized must be transported
	materials and ores		the second se
<u>III.A.7</u>	Storage in connection with transport ^o if the transport	preparing and placing	• a necessary part of
	CONCERNED IS INSIDED		
		transport	tionsport, hence justified
	Import, export and transit of radioactive wastes and was	transport stes containing fissionablefis	sile material or ore
<u>_III.B</u>	Import, export and transit of radioactive wastes and waste	transport stes containing fissionablefis	sile material or ore
_III.B _ _III.B.1_	Import, export and transit of radioactive wastes and wastes import, export and transit of radioactive materials and wastes containing fissionablefissile material or one for which the	transport stes containing fissionablefis	sile material or ore • a licence previously granted or compliance with the
_ .B _ .B.1	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence	transport stes containing fissionable <u>fis</u>	sile material or ore a licence previously granted or compliance with the notification requirement
_ .B _ _ .B.1_	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation	transport stes containing fissionablefis	sile material or ore
_III.B _III.B.1	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to	transport stes containing fissionablefis s	sile material or ore • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there
_III.B _III.B.1	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	transport stes containing fissionablefis s	sile material or ore a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable
_ III.B	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	transport stes containing fissionablefis s	sile material or ore a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives
_ III.B III.B.1	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	transport stes containing fissionablefis s	sile material or ore • a licence previously granted or compliance with the notification requirement. implies justification: transport. is again justified unless there are new reasonable alternatives • receipt elsewhere is justified.
_!!!.B . _!!!.B.1	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	transport stes containing fissionablefis s	sile material or ore • a licence previously granted or compliance with the notification requirement. implies justification: transport. is again justified unless there are new reasonable alternatives. • receipt elsewhere is justified, hence also transport to that location.
_!!!.B . _!!!.B.1	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	<u>transport</u> <u>stes containing</u> fissionable <u>fis</u> <u>s</u>	sile material or ore • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location
_ III.B . _III.B.1 _	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	sile material or ore • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location • a licence previously granted or compliance with the
_ III.B _III.B.1 _ 	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	sile material or ore • a licence previously granted or compliance with the notification requirement. implies justification: transport. is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location • a licence previously granted or compliance with the notification requirement for
_ III.B _III.B.1 _ 	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	sile material or ore • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location • a licence previously granted or compliance with the notification requirement for similar transport implies
_ III.B _III.B.1 _ 	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	sile material or ore • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location • a licence previously granted or compliance with the notification requirement for similar transport implies justification; transport is again
_ III.B .1 _III.B.1 _	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	sile material or ore • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location • a licence previously granted or compliance with the notification requirement for similar transport implies justification; transport is again justified unless there are new
_ III.B .1 _III.B.1 _	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	sile material or ore • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location • a licence previously granted or compliance with the notification requirement for similar transport implies justified unless there are new reasonable alternatives
_ III.B .1 _III.B.2	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	 sile material or ore. a licence previously granted or compliance with the notification requirement. implies justification: transport. is again justified unless there are new reasonable alternatives receipt elsewhere is justified, hence also transport to that. location a licence previously granted or compliance with the notification requirement for similar transport implies justification; transport is again justified unless there are new reasonable alternatives
_111.B _111.B.1 _ 	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	stes containing fissionablefis	sile material or ore. • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified, hence also transport to that location • a licence previously granted or compliance with the notification requirement for similar transport implies justification; transport is again justified unless there are new reasonable alternatives
 	Import, export and transit of radioactive wastes and wastes containing fissionablefissile material or ore for which the notification requirement has been complied with or a licence has been granted and for which there is written confirmation that the transit country or country of destination is willing to accept these materials.	e' and 'economic or socia	sile material or ore. • a licence previously granted or compliance with the notification requirement implies justification; transport is again justified unless there are new reasonable alternatives • receipt elsewhere is justified. hence also transport to that location • a licence previously granted or compliance with the notification requirement for similar transport implies justification; transport is again justified unless there are new reasonable alternatives

2) Certain indicators to which radionuclides have been added for illumination purposes cannot be justified for 'civil' use and are therefore prohibited by administrative order (Radiation Protection Decree §4.3, Articles 27-30)

4) Insofar as this relates to exposure of staff or members of the public as a result of examination of or therapy for others or animals, and not to exposure of the persons or animals undergoing examination or therapy

5) Storage in connection with transport is only covered by the Transport Decree if the storage is for no longer than two working days and the transport itself has already been arranged.

Annex 2 to the Justification of Uses of Ionizing Radiation (Publication) Regulation

This Annex relates to Article 2 of the Regulation. Non-justified procedures and activities

<u>No.</u>	Application category	<u>Examples</u>	Purpose of application	Argument
1	Consumer products			
	Deliberate addition of radioactive		embellishment	the benefit of the application is

	materials to toys, jewellery or cosmetics	2		outweighed by the damage
_				prohibited by Directive 96/29/ELIRATOM
<u>_1.B</u> _	Use of shoe-fitting fluoroscopes and cryptoscopes	★ measuring children's feet in ordinary shoe shops	 measuring feet for correct shoe- fitting 	the benefit of the application is not sufficiently demonstrable
- _ <u>I.C</u> -	Use of radium-containing corsets etc.	<u>unopo</u> _	◆ alleged health benefits	 the benefits are very small compared with the adverse effect on members of the public and workers. the benefit of the application is not demonstrable. the alleged health benefits are not demonstrable and therefore outweighed by the adverse effect on.
_ <u>I.D</u> _	Use of radioactive lightning conductors		♦ alleged improved	the physical mechanism has not been
I.E	Various applications of beta lights	♦ in fishing floats	effectiveness ♦ fishing float	 good alternatives available
-		♦ for labelling animals	 ✓ISIDIE at hight ♦ to enable animals to be tracked at night 	◆ the limited advantage is outweighed by the disadvantage of potential and unverifiable exposure
_ <u>I.F</u> -	Use of lexiscopes			 the benefit of the application is not sufficiently demonstrable the limited advantage is outweighed by the disadvantage of potential and <u>unverifiable exposure</u> micro-level argument comes down in favour of other diagnostic techniques
<u> I.G </u>	Retail trade in thorium welding rods	♦ welding high-alloy steels and non- ferrous metals	♦ high-quality welding results	 inhaled doses during welding are relatively high
_				good alternatives are available
<u>_1.H</u>	Retail trade in incandescent gas mantles containing Th-232	♦ lighting in tents, caravans, etc.	lighting where there is no mains electricity	 the inhaled dose can be excessively high if the mantles are changed incorrectly in enclosed spaces such as tents and caravans good alternatives are available
- _!!!	Retail trade in antistatic devices containing Po-210 or Am-241	brushes for cleaning photographic material	 ◆ reducing static electricity on e.g. photographic material 	• the benefit of the application is outweighed by the dose to staff
-				
_ <u>l.J</u>	Retail trade in gas discharge tubes containing Co-60	electronic devices	Improving tube speed and reliability	the benefit of the application is outweighed by the dose to staff
-	Dateil trada in comora langos	A overieges	t increasing the	+ the herefit of the application is
_ <u>I.K</u> _	containing Th-232	<u>♦ eyepieces,</u> cameras	Increasing the refractive index of lenses	• the benefit of the application is outweighed by the dose to staff
-				good alternatives are available
1.6.	Sale of ionization smoke detectors to the public, with the exception of smoke detectors covered by Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (OJEU 2006, L 374) Food & drink	◆ smoke detection	♦ improving smoke detector speed and reliability	good alternatives are available
_H	Use of radium-containing drinking cups		alleged health	the benefit of the application is not
_ <u>II.A</u> _		-	benefits	sufficiently demonstrable • relatively high dose
<u>II.B</u>	Deliberate addition of radioactive materials to foods	♦ foods for normal use	 deliberate mixing of contaminated and non- contaminated foods dilution with the aim of bringing the 	prohibited by Directive <u>96/29/EURATOM</u>

			level below the	
			limits	
			deliberate	
-			addition of	
			contaminated	
			substances/raw	
			materials to non-	
			contaminated foods	<u>}</u>
	Radioactive scrap metal			
	Storage of radioactive scrap metal at	 scrap aluminium, 	 putting aside for 	 possible exposure of persons at
_ <u></u>	locations where scrap metal is stored,	iron or stainless	further handling of	locations that are not suitable for this
	treated, processed or transshipped,	steel dealers	scrap metal that	
	except storage in connection with		has been found to	
	transport and storage by an approved		be radioactive and	
	collection service or designated		cannot be returned	
	organization, as referred to at 37 (7), or			
	(6) or (8) respectively			
		scrap processing		♦ designated or approved alternative
-		plants		storage facilities are available
-				