OPINION OF ADVOCATE GENERAL JACOBS
delivered on 30 June 1992 *

My Lords,

1. In this case, the Commission seeks a declaration under Article 141 of the Treaty establishing the European Atomic Energy Community ('the Treaty') that, by failing to take the steps necessary to implement Articles 10(2) and 44 of Council Directive 80/836/Euratom of 15 July 1980 amending the Directives laying down the basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation (OJ 1980 L 246, p. 1), Belgium has failed to fulfil its obligations under that Treaty. It may be noted that both the reasoned opinion delivered by the Commission and the Belgian Government's response refer to Article 169 of the EEC Treaty, but this is clearly not a material error and it does not in my view have any bearing on the admissibility of the action.

2. The Commission's application originally embraced Article 45 of the directive. Indeed, the Belgian Government accepted in its defence that it had failed properly to implement both that article and Article 44. However, the Commission announced at the hearing that measures intended to give effect to Article 45 in Belgium had recently been adopted and that it considered those measures satisfactory. It therefore abandoned its claim relating to Article 45. For its part, the Belgian Government announced that the steps necessary to give effect to Article 44 of the directive would soon be adopted. The Court must accordingly find against Belgium on that aspect of the Commission's claim, inasmuch as Belgium has not taken the necessary measures to ensure the health surveillance of the population, both in normal circumstances and in the event of an accident. The only outstanding issue is therefore whether Belgium has given effect properly to Article 10(2) of the directive.

Directive 80/836

3. Directive 80/836 is designed to protect human health by preventing and measuring exposure to radiation and ensuring the medical surveillance of those who are so exposed. By virtue of Article 2, the directive applies to 'the production, processing, handling, use, holding, storage, transport and disposal of natural and artificial radioactive substances and to any other activity which involves a hazard arising from ionizing radiation'.

4. Title III of the directive, which consists of Articles 6 to 13, is entitled 'Limitation of doses for controllable exposures'. Article

* Original language: English.

6 of the directive, as amended by Council Directive 84/467/Euratom (OJ 1984 L 265, p. 4), provides:

'The limitation of individual and collective doses resulting from controllable exposures shall be based on the following general principles:

(a) the various types of activity resulting in an exposure to ionizing radiation shall have been justified in advance by the advantages which they produce [1];

(b) all exposures shall be kept as low as reasonably achievable;

(c) without prejudice to Article 11, the sum of the doses and committed doses received shall not exceed the dose limits laid down in this Title for exposed workers, apprentices and students and members of the public.

The principles set out in (a) and (b) shall apply to all exposures to ionizing radiation and include medical exposures. The principle set out in (c) shall not apply to the exposure of individuals as a result of medical examination and treatment undergone by them.'

1 — There is a footnote to Article 6(a) of the directive which provides: 'Account being taken, for medical activities, of Council Directive 84/466/Euratom of 3 September 1984, laying down basic measures relating to the radiation protection of persons undergoing medical examination or treatment (OJ No L 265, 5.10.1984, p. 1).'

5. The remaining provisions of Title III are divided into four Chapters. Chapter I (Articles 7 to 9) is headed 'Limitation of doses for exposed workers'. According to Article 7(1), 'Workers under 18 years of age may not be assigned to any work which would result in their being exposed workers.' By virtue of Article 8(1), 'The dose limit for whole body exposure of exposed workers shall be 50 mSv (5 rems) in a year.' Article 9 deals with 'partial body exposure', that is, exposure of part of the body or of one or more organs or tissues, and exposure which is not regarded as uniform throughout the body: see Article 1, which defines some of the terms used in the directive.

6. Chapter II, which consists solely of Article 10, is headed 'Limitation of doses for apprentices and students'. Article 10(2) provides:

'The dose limits for apprentices and students aged between 16 and 18 years who are training for employment involving exposure to ionizing radiation or who, in the course of their studies, are obliged to use sources, shall be equal to three-tenths of the annual dose limits for exposed workers laid down in Articles 8 and 9.'

7. Among the other terms defined by Article 1 of the directive, reference should be made to the following:

— The expression 'dose limits' means 'the limits laid down in this Directive for the

doses resulting from the exposure of exposed workers, apprentices and students, and members of the public, excluding the doses resulting from natural background radiation and exposure of individuals as a result of medical examination and treatment undergone by them. The dose limits apply to the sum of the doses received from external exposure during the period considered and the committed doses resulting from the intake of radionuclides during the same period.'

— 'Exposure' means 'any exposure to ionizing radiation', that is, 'radiation consisting of photons or of particles capable of producing ions directly or indirectly'.

— A 'source' is defined as 'an apparatus or substance capable of emitting ionizing radiation'.

— A 'committed dose' is 'the dose to an organ or to a tissue over a period of 50 years, resulting from an intake of one or more radionuclides'.

— 'Exposed workers' are 'persons subjected, as a result of their work, to an exposure liable to result in annual doses exceeding one-tenth of the annual dose limits laid down for workers'.

8. Comments on some of the provisions of the directive, as amended by Directive 84/467, may be found in a Communication published by the Commission on 31 December 1985 (OJ 1985 C 347, p. 9). The Communication states that Article 8 'establishes the limits for whole body exposure for workers ... For less uniform exposure of the body, or for radiations of low penetrating power, Article 9 is relevant.' The dose limits laid down in Articles 8 and 9 therefore seem to be the 'annual dose limits laid down for workers' to which the definition of 'exposed workers' in Article 1 refers, even though neither Article 8 nor Article 9 uses the term 'workers' *simpliciter*. It appears to be in this sense that the directive is understood by the parties.

The dispute between the parties

9. By virtue of Article 20.6.2 of a Belgian Arrêté Royal of 28 February 1963, as amended by Article 9 of an Arrêté Royal of 16 January 1987, the dose limits laid down in Belgium for apprentices and students aged between 16 and 18 who are training for employment involving exposure to ionizing radiation or who, in the course of their studies, are obliged to use sources, are equal to one-tenth, rather than three-tenths, of the dose limits for exposed workers. The Commission takes the view that the setting of stricter dose limits than those laid down by Article 10(2) of the directive is unlawful.

10. The Belgian Government maintains that the dose limits laid down in the directive represent the minimum level of protection which the Member States are required to ensure and that they remain free to set stricter standards if they consider it desirable

to do so. Moreover, it claims that the dose limits for apprentices and students aged between 16 and 18 should be set at the same level as the dose limit for workers under 18 years of age. It will be recalled that Article 7(1) prevents workers in this category from being assigned to work which would result in their becoming exposed workers. The effect of that provision, in combination with the definition of exposed workers given in Article 1 of the directive as interpreted in the sense set out above, is that, in order to confer on apprentices and students between 16 and 18 years of age the same protection as that enjoyed by workers below 18 years of age, the dose limit for the former group must be set at one-tenth of the annual dose limits for exposed workers.

11. The Commission denies that there is any necessary link between the dose limits applicable to apprentices and students between 16 and 18 years of age and those applicable to workers below 18 years of age. The Commission takes the view that, in order to ensure that the training received by apprentices and students falling within Article 10(2) is useful and effective, it is necessary to allow them to be exposed to higher doses of radiation. Article 10(2) must therefore be considered a derogation from, or *lex specialis* in relation to, the general rule laid down for workers under the age of 18 in Article 7(1).

The obligations imposed on Member States by Directive 80/836

12. In order to establish the extent of the obligations imposed on Member States by Article 10(2) of the directive, it will be convenient to begin by considering the relevant provisions of the Treaty. According to the second paragraph of Article 1, the task of the European Atomic Energy Community, or Euratom, is 'to contribute to the raising of the standard of living in the Member States and to the development of relations with the other countries by creating the conditions necessary for the speedy establishment and growth of nuclear industries'. In order to perform this task, which is expressed in somewhat out-of-date terms, Article 2 of the Treaty imposes a number of more specific duties on the Community. In particular, Article 2(b) provides that the Community shall 'establish uniform safety standards to protect the health of workers and of the general public and ensure that they are applied'.

13. In order to give effect to the general duty laid down in Article 2(b), Chapter III of Title Two of the Treaty, which comprises Articles 30 to 39, contains more detailed provisions on health and safety. Article 30 provides:

'Basic standards shall be laid down within the Community for the protection of the health of workers and the general public against the dangers arising from ionizing radiations.

The expression "basic standards" means:

(a) maximum permissible doses compatible with adequate safety;

(b) maximum permissible levels of exposure and contamination;

(c) the fundamental principles governing the health surveillance of workers.'

14. According to Article 31, the basic standards are to be worked out by the Commission and established by the Council acting by a qualified majority. Article 32 makes provision for the basic standards to be revised or supplemented. It was under Articles 31 and 32 that Directive 80/836 was adopted. It will be observed that neither of those articles imposes on the Council the use of a particular type of instrument. Thus, Directive 80/836 could have taken the form of a regulation. I do not consider, however, that the use of a directive rather than a regulation has any bearing on the content of the substantive obligations imposed on the Member States, for it is clear that the obligations laid down in a directive may be as strict or as flexible as those laid down in a regulation.

15. The Commission acknowledged at the hearing the apparent paradox of suggesting that a Member State could be in breach of its obligations under the Treaty by adopting measures which confer a higher degree of protection than those envisaged by a directive concerned with health and safety. Indeed, at first sight, the term 'basic standards' used in Article 30 of the Treaty, and the definition of that term given by that article, suggest that the dose limits laid down by the directive are merely the maximum doses of radiation permissible, rather than absolute standards which all the Member States are required to respect. That interpretation seems to be supported by Article 6(c) of the directive, which states that '... the sum of the doses and committed doses received *shall not exceed* the dose limits laid down in this Title ...' (emphasis added). In order to establish whether the impression given by those provisions is reliable, however, it is appropriate to consider the aims and objectives of the directive.

16. Guidance on the policy underlying the directive is contained in the Commission's Communication published in 1985 to which I have already referred. The Communication explains that both Directives 80/836 and 84/467 are based on Publications 9 and 26 of the International Commission on Radiological Protection ('ICRP'). Those publications have now been superseded by Publication 60, which is entitled *1990 Recommendations of the International Commission on Radiological Protection* and which was published in 1991. Copies of all three publications were supplied by the Commission in response to a request from the Court.

17. Information on the work and organization of the ICRP is set out at pages 21 to 25 of Publication 9, pages 1 to 2 and pages 45 to 47 of Publication 26 and pages 1 to 2 of Publication 60. The ICRP is an international body established in 1928 by the Second International Congress of Radiology. It gives general guidance on the use of radiation sources caused by the rapid developments in the field of nuclear energy. The ICRP works closely with the International Commission on Radiation Units and Measurements and has official links with the World Health Organization and the International Atomic Energy Agency. It also has important relationships with the International Labour Organization and other United Nations

bodies, with the Commission of the European Communities and with the Nuclear Energy Agency of the Organization for Economic Cooperation and Development. Some of these bodies provide financial support for the ICRP's work. In addition, the ICRP takes account of progress reported by major national organizations.

18. The members of the ICRP are selected by the ICRP from nominations made by the National Delegations to the International Congress of Radiology and by the ICRP itself. Members are chosen on the basis of their recognized activity in particular fields and with regard to an appropriate balance of expertise rather than of nationality. The ICRP is empowered to establish such committees as it deems necessary to perform its functions, but much of its work is performed by *ad hoc* task groups, by means of which it is able to call on the services of those who are not members of a committee.

19. The ICRP has published a number of reports and recommendations on the subject of radiological protection. Its recommendations have been used by many regulatory authorities and management bodies and have provided a basis for national and regional regulatory standards. The purpose of its reports is to set out the fundamental principles on which appropriate radiological protection should be based. Because of the differing conditions that apply in various countries, however, it is intended that authorities should develop their own legislation and codes of practice appropriate to their own conditions.

20. As Publication 60 of the ICRP explains (see paragraph 99), 'Everyone in the world is exposed to radiation from natural and artificial sources. Any realistic system of radiological protection must therefore have a clearly defined scope if it is not to apply to the whole of mankind's activities. It also has to cover, in a consistent way, a very wide range of circumstances.' The ICRP uses the term 'practices' to describe human activities which increase overall exposure to radiation: see paragraph 106 of Publication 60.

21. The general principles upon which the system of radiological protection recommended by the ICRP is based are set out in paragraph 112 of Publication 60. Those principles are reflected in Article 6 of the directive, as is apparent from the Commission's Communication. Paragraph 112 of Publication 60 states:

'(a) No practice involving exposures to radiation should be adopted unless it produces sufficient benefit to the exposed individuals or to society to offset the radiation detriment it causes. (The justification of a practice.)

(b) In relation to any particular source within a practice, the magnitude of individual doses, the number of people exposed, and the likelihood of incurring exposures where these are not certain to be received should all be kept as low as reasonably achievable, economic and social factors being taken into account. This procedure should be constrained by restrictions on the doses to individuals (dose constraints), or the risks to individuals in the case of potential exposures (risk constraints), so as to limit the inequity likely to result from the inherent economic and social judgements. (The optimisation of protection.)

(c) The exposure of individuals resulting from the combination of all the relevant practices should be subject to dose limits, or to some control of risk in the case of potential exposures. These are aimed at ensuring that no individual is exposed to radiation risks that are judged to be unacceptable from these practices in any normal circumstances. Not all sources are susceptible of control by action at the source and it is necessary to specify the sources to be included as relevant before selecting a dose limit. (Individual dose and risk limits).'

Publication 60 goes on to explain that 'If the procedures of justification of practices and of optimisation of protection have been conducted effectively, there will be few cases where limits on individual dose will have to be applied. However, such limits provide a clearly defined boundary for these more subjective procedures and prevent excessive individual detriment...' (paragraph 122).

22. Publication 60 sets out in some detail the way in which the ICRP goes about setting dose limits. As paragraph 150 explains:

'The [ICRP] has found it useful to use three words to indicate the degree of tolerability of an exposure (or risk). They are necessarily subjective in character and must be interpreted in relation to the type and source of the exposure under consideration. The first word is "unacceptable", which is used to indicate that the exposure would, in the [ICRP's] view, not be acceptable on any reasonable basis in the normal operation of any practice of which the use was a matter of choice. Such exposures might have to be accepted in abnormal situations, such as those during accidents. Exposures that are not unacceptable are then subdivided into those that are "tolerable", meaning that they are not welcome but can reasonably be tolerated, and "acceptable", meaning that they can be accepted without further improvement i. e. when the protection has been optimised. In this framework, a dose limit represents a selected boundary in the region between "unacceptable" and "tolerable" for the situation to which the dose limit is to apply ...'

The dose limits selected by the ICRP represent the value of dose which 'gives rise to a

combination of consequences that is judged to be just short of unacceptable, i. e. just tolerable' (ibid., paragraph 153).

23. The ICRP emphasizes, however, that:

'The dose limit forms only a part of the system of protection aimed at achieving levels of dose that are as low as reasonably achievable, economic and social factors being taken into account. It is not to be seen as a target. It represents, in the [ICRP's] view, the point at which regular, extended, deliberate, occupational exposure can reasonably be regarded as only just tolerable.

The [ICRP's] multi-attribute approach to the selection of dose limits necessarily includes social judgements applied to the many attributes of risk. These judgements would not necessarily be the same in all contexts and, in particular, might be different in different societies. It is for this reason that the [ICRP] intends its guidance to be sufficiently flexible to allow for national or regional variations. In the [ICRP's] view, however, any such variations in the protection of the most highly exposed individuals are best introduced by the use of source-related dose constraints selected by the regulatory agencies and applied in the process of the optimisation of protection rather than by the use of different dose limits' (ibid., paragraphs 169-170).

24. I have quoted from Publication 60 at some length because the extracts quoted have a considerable bearing on the interpretation of the directive. Although that publication was drafted some years after the adoption of Directive 80/836, the ICRP has been regularly reviewing its recommendations since 1977, when it issued Publication 26. Thus, although the recommendations contained in Publication 60 are new, the preface to that publication makes it clear that the ICRP has tried to maintain as much stability in them as is consistent with recent developments.

25. In my view, the directive should where possible be interpreted in a manner which is consistent with the ICRP's latest recommendations, for it would not be desirable to construe it solely in the light of recommendations which are now considered out of date by the body which made them. Indeed, both the Commission and the Belgian Government sought to rely on Publication 60 in support of their respective positions, the former in its reply, the latter at the hearing. I therefore consider that reference may legitimately be made to that publication as a guide to the interpretation of the directive.

26. It emerges from Publication 60 that dose limits are the final plank in the protection of individuals from excessive exposure to radiation. They are intended to offer protection to those for whom the principles of justification and optimisation may not be adequate. However, the precise levels at which dose limits are set are essentially subjective and

are not based on scientific considerations alone. As the ICRP explains: 'The basic framework of radiological protection necessarily has to include social as well as scientific judgements, because the primary aim of radiological protection is to provide an appropriate standard of protection for man without unduly limiting the beneficial practices giving rise to radiation exposure. Furthermore, it must be presumed that even small radiation doses may produce some deleterious health effects' (Publication 60, paragraph 100).

27. In its reply, the Commission refers to paragraph 124 of Publication 60, which states:

'In practice, several misconceptions have arisen about the definition and function of dose limits. In the first place, the dose limit is widely, but erroneously, regarded as a line of demarcation between "safe" and "dangerous". Secondly, it is also widely, and also erroneously, seen as the most simple and effective way of keeping exposures low and forcing improvements. Thirdly, it is commonly seen as the sole measure of the stringency of a system of protection. These misconceptions are, to some extent, strengthened by the incorporation of dose limits into regulatory instruments. Causing a dose limit to be exceeded then becomes an infraction of the rules and sometimes a statutory offence. Against this background, it is not surprising that managements, regulatory agencies and governments all improperly set out to apply dose limits whenever possible, even when the sources are partly, or even totally, beyond their control, and when the optimisation of protection is the more appropriate course of action.'

This passage does not mean that the application of dose limits can never be an effective way of increasing protection, but simply that recourse to the principle of optimisation (see paragraph 21 above) may sometimes be more appropriate, a point not contested by the Belgian Government. In citing this passage, the Commission appears to be implying that Belgium has ignored or misapplied that principle, but it has not in my view succeeded in establishing that the imposition by Belgium of stricter dose limits for apprentices and students than those laid down in Article 10(2) of the directive is inappropriate on grounds of radiological protection.

28. Publication 60 therefore makes it clear that the dose limits laid down by the ICRP are not intended as absolute standards but are issued for guidance only. The ICRP clearly accepts that in some circumstances it may be reasonable for stricter dose limits than those it recommends to be imposed. That publication is therefore wholly consistent with the view that 'basic standards' within the meaning of Article 30 of the Treaty simply represent minimum levels of protection which the Member States are entitled to strengthen where they consider it desirable to do so.

29. The question therefore arises whether there are any reasons peculiar to the Community which make it desirable for dose limits to be set at the same level in all the Member States. In this connection, the Commission emphasizes the reference to 'uniform safety standards' in Article 2(b) of the Treaty and argues that the word 'uniform' implies more than mere harmonization, requiring standards that are exactly the same. The preamble to the directive, however, contains no indication that the Council intended to lay down uniform standards in this sense. It contains a number of references to the basic standards envisaged by Article 30 of the Treaty, but, as I have explained, these are merely maximum permissible doses. Moreover, the penultimate recital of the directive states that 'it is clear that Community harmonization of basic standards has a rôle to play'. This suggests that, even if it is correct that the uniformity to which Article 2(b) of the Treaty refers implies complete standardization, the Council was simply intending to lay down a minimum level of protection to be ensured in all Member States, not to prevent individual Member States from applying stricter standards.

30. In the absence of a clear indication in the directive that the dose limits laid down in it were intended to constitute absolute standards which all the Member States are required to respect, Article 10(2) must in my view be interpreted simply as conferring on the Member States a margin for manoeuvre which they are free either to exploit or not to exploit. The Belgian Government argues that it is possible to train students and apprentices for employment involving exposure to ionizing radiation without exposing them to doses which exceed those to which workers under the age of 18 may be subjected. The Commission has not in my view succeeded in refuting the Government's argument.

31. At the hearing, the Commission suggested that, if the view put forward by the Belgian Government were accepted, an apprentice or student who had already received one-tenth of the dose limit for exposed workers in another Member State would be unable to complete his training in Belgium. The Belgian Government responded to this suggestion by claiming that it would be perfectly feasible to allow such a person to complete his training without exposing him to any additional radiation at all. Indeed, it is precisely because the Belgian Government does not accept the need to expose apprentices and students within the scope of Article 10(2) to higher levels of radiation than workers of the same age that it has laid down equivalent dose limits for both categories. Again, the Commission did not succeed in refuting the Government's claim. In those circumstances, I can find no grounds for requiring Belgium to permit the exposure of apprentices and students to the maximum extent allowed by Article 10(2).

32. As a result, I consider that Article 10(2) of the directive does not prevent the Member States from imposing stricter dose limits where they consider it appropriate to do so. Before deciding to take that step, Member States should examine whether the objects they are seeking to achieve could more appropriately be met by applying with

greater rigour the principles of justification and optimisation. But the Member States are in my view free to conclude that protection of apprentices and students aged between 16 and 18 who are training for employment involving exposure to ionizing radiation or who, in the course of their studies, are obliged to use sources, can only be ensured by the use of stricter dose limits.

33. The Commission is therefore entitled to succeed only on the breach of Article 44 of the directive recorded in paragraph 2 above.

34. Accordingly I am of the opinion that the Court should:

(1) declare that, by failing to take the steps necessary to give effect to Article 44 of Council Directive 80/836/Euratom, Belgium has failed to fulfil its obligations under the EAEC Treaty;

(2) dismiss the remainder of the application;

(3) order each party to bear its own costs.