CHAPTER 6

ARTICLE 206: ASSESSMENT OF POTENTIAL EFFECTS OF PLANNED ACTIVITIES

6.1 In Chapter 5 of its Counter-Memorial, the United Kingdom set out in some detail why the threshold requirements of article 206 of UNCLOS are not met in this case and how, in any event, the substantive requirements of article 206 have been satisfied in that the potential effects of the MOX Plant have been assessed by the United Kingdom at three junctures.[1] In its Reply, Ireland maintains its case of breach of article 206, and characterises the United Kingdom's "procedural and jurisdictional points" as "defensive" and "formalistic".[2]

6.2 The United Kingdom is nonetheless correct to insist that article 206 be applied by reference to its true meaning and effect. As appears from Section A below, Ireland has no convincing answer to the United Kingdom's case that the assessment of the potential effects of the MOX Plant does not fall within article 206: the threshold requirements of that article are not met. Ireland's case on breach should be rejected for this reason.

6.3 In addition, in Section B below, the United Kingdom addresses such further points as Ireland has raised concerning the substantive obligation under article 206 to assess the potential effects of activities on the marine environment.

A. THE THRESHOLD REQUIREMENTS OF ARTICLE 206 ARE NOT MET

6.4 It is recalled that the substantive obligation of assessment under article 206 of UNCLOS only arises where "States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment". The parties have now joined on two issues, namely whether, at the material time: (i) the MOX Plant was a "planned activity" for the purpose of article 206; (ii) the United Kingdom had reasonable

[1] That is (i) in the 1993 Environmental Statement prepared by BNFL, (ii) in the United Kingdom's Submission to the European Commission under Article 37 of the Euratom Treaty, and the Article 37 Opinion of the European Commission, (iii) as part of the justification exercise in the United Kingdom Environment Agency's Proposed Decision of October 1998

[2] Reply, paragraphs 6.1 and 6.67.

grounds for believing that the MOX Plant might cause substantial pollution of or significant and harmful changes to the marine environment.[3]

(i) The MOX Plant did not constitute a "planned activity" when UNCLOS came into force for the parties

6.5 The United Kingdom's case is that, at the planning stage for the MOX Plant, there was an obligation to carry out an environmental assessment as a matter of domestic and European law.[4] As a matter of fact, that assessment was carried out (in 1993-1994). Ireland has not at any time suggested that there was any breach of either domestic or European law in respect of that assessment.[5] Construction of the MOX Plant commenced in April 1994 and was completed in August 1995. As at August 1997, when UNCLOS came into force between the parties, it was not therefore a "planned activity" and, moreover, it had been subjected to an environmental assessment procedure.

6.6 Ireland raises two arguments in its Reply. First, on interpretation, it says that a "planned activity" is merely an activity that is "intentional" as opposed to an activity that happens by accident. Second, it says that even if the United Kingdom is right to say that a "planned activity" is an activity at the planning stage, so far as this case is concerned the MOX Plant was a planned activity in August 1997. The argument is that this case concerns the operation, as opposed to the construction, of the MOX Plant, and such operation did not cease to be "planned" until December 2001.[6]

6.7 The first of these two points can be dealt with very briefly. In the context of article 206, the word "activity" of itself comprises the idea of development or at least an element of human intent (unlike incident, or event, for example).[7] It is very forced to interpret "activity" in the context of article 206 as including accidents of nature or events like terrorist attacks.[8] It would anyway be strange indeed if the negotiators of UNCLOS had considered it necessary expressly to exempt such events from the obligation to assess potential effects. Environmental assessment is an important tool for the control and

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[3] These two issues are separate from the jurisdictional issues that the United Kingdom also raises in respect of article 206. See Chapter 4 above, where the United Kingdom contends that environmental assessment is a matter of exclusive European Community competence.

[4] I.e. pursuant to the United Kingdom's 1988 Regulations and Directive 85/337/EEC. See, Counter-Memorial, paragraphs 5.35-5.42.

[5] Reply, paragraph 6.15.

[6] Reply, paragraphs 6.10 and 6.12.

[7] This is confirmed within UNCLOS by the definition at 1.1(3), where "activities in the Area" is defined as "all activities of exploration for, and exploitation of, the resources of the Area".

[8] Reply, paragraph 6.10.

regulation of development; it is not, and could not practicably be, the means of assessing all impacts to the environment however they occur.

6.8 The true meaning of "planned activities" is further evident once article 206 is seen in the context of section 4 of Part XII of UNCLOS, which provides for the monitoring of ongoing activities on the one hand (article 204) and assessment of the potential effects of planned activities on the other (article 206). As explained in the *Virginia Commentary*:

> "The obligation under article 206 to make environmental assessments of the potential effects on the marine environment of pollution-threatening activities is related to the duty of monitoring specified in article 204, which relates to ongoing activities by States or activities permitted by States. Article 206 differs, however, in that it is concerned with the assessment of planned activities *before* they are begun."[9]

6.9 As to Ireland's second contention, the emphasis that the *Commentary* places on assessing planned activities "*before* they are begun" is consistent with the generally accepted principle that the assessment of environmental impacts should take place at the early stages of the planning process, i.e. well before construction works commence.[10] This makes obvious sense: it is in the interests of decision-makers and developers alike that potential environmental impacts be identified early such that, say, where a decision-maker decides that an activity should not be realised because of its environmental impacts, that decision is communicated before harm to the environment has been caused and before the developer has invested substantially in the activity. That the States Parties to UNCLOS intended to adopt this principle is reflected in the use of the phrase "planned activities".

6.10 Once this is accepted, the issue for the Tribunal is whether article 206 should apply so as to create a *fresh* obligation to carry out an assessment for any activity that has not in fact been commenced by the date of UNCLOS coming into force – regardless of the fact that there has already been an environmental assessment, and however close the

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[9] *Virginia Commentary*, Vol. IV, p. 122, paragraph 206.1 (emphasis in the original).

[10] See for example the three instruments on which Ireland places great emphasis in its Memorial and Reply. The 1987 UNEP Goals and Principles of Environmental Impact Assessment (the "1987 UNEP Goals and Principles") provide that the assessment should take place "at an early stage" (principle 1); Directive 85/337/EEC affirms the need to take account of environmental effects "at the earliest possible stage in the technical planning and decision-making processes" (preamble); the 1991 Espoo Convention similarly refers to the need to carry out the assessment at "an early stage in the decision-making process" (preamble). See, for example, Ireland's expert Mr Sheate, at Memorial, Volume II, p. 201.

activity may be to being put into operation. There are two reasons why article 206 should not then apply:

1. Article 206 refers expressly to "planned activities" as opposed to, say, "new" or "future" activities.

2. Ireland cannot be right in suggesting that article 206 creates obligations additional to the requirements already arising as a matter of the applicable domestic and European regulations, as it would be inappropriate to add a further layer to the relevant procedures which are already complex and which, in the event, had already been complied with.[11]

6.11 To this may be added the factual point that, as of December 2001, there had been further assessments of the MOX Plant (the Article 37 Submission and Opinion, the 1998 Proposed Decision of the Environment Agency) and these had not suggested that there was any risk of harm to the marine environment. There had been no suggestion that the 1993 Environmental Statement had been inaccurate in any way. As of the date of the authorisation of the MOX Plant in December 2001, there was no basis for concluding that a further environmental assessment was warranted.

6.12 Ireland's reference to article 8 of the 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management does not assist. There are three points:

1. The MOX Plant is not "a spent fuel management facility" falling within article

[11] This has been the approach adopted in the European context. Case C-81/96, *Burgemeester en Wethouders van Haarlemerleide en Paarnwoude v. Gede Puteerde Staten van Noord-Holland,* [1998] ECR I-3923, paragraphs 23-24. In its Reply (paragraph 6.15), Ireland seeks to confuse the issues raised by this case. For present purposes, the *Burgemeester* case is relevant because it shows how Directive 85/337/EEC does not apply where an application for consent has been lodged before the Directive came into force. In the instant case, the United Kingdom contends for the application of a far more modest position: that article 206 should not apply where an application for the relevant consent has been (i) lodged, but also (ii) granted subsequent to (iii) the conduct and consideration of an environmental impact assessment. Ireland also refers to a recent notification by the European Commission with regard, it is said, to an alleged failure to conduct an environmental impact assessment for those parts of a multi-stage development occurring after the transposition of Directive 85/337/EEC. In fact, that notification concerns the decision taken by the local planning authority (the London Borough of Bromley) that an environmental impact assessment was not required for a multiplex cinema and other commercial development. The infringement proceedings relate to whether the local planning authority exceeded its discretion and whether an environmental impact assessment should be required at the reserved matters stage. The proceedings do not concern the issue of whether an assessment can be required after the transposition of Directive 85/337/EEC and are irrelevant to this case.

8 and this provision is not applicable (even if the Tribunal had jurisdiction in respect of the 1997 Convention, which it does not).

2. Article 8 does not make an environmental assessment process mandatory prior to construction and also prior to the operation of a facility.[12] This provision actually states that an updated and detailed version of the environmental assessment should be prepared before operation "when deemed necessary".[13]

3. In any event, Ireland's reference to article 8 of the 1997 Convention merely highlights a distinction between assessment prior to (i) construction and (ii) operation that could have been drawn in article 206 of UNCLOS, but was not. Ireland's case is that the United Kingdom has violated article 206, not some other treaty (although this is far from clear given the broad range of other instruments it relies on).[14]

6.13 The Tribunal should also be aware that Ireland's argument that the construction and operation phases of a project are to be seen as separate in the context of environmental assessment is a familiar one, and that this argument has been rejected as a matter of domestic and European law. As part of the application for a judicial review of the authorisation of THORP, it was argued that the construction of THORP was one project whilst its operation (leading to radioactive emissions) was a second. It was maintained that each of these required an environmental impact assessment pursuant to Directive 85/337/EEC. This was rejected by the English High Court as follows:

> "I accept the respondents' submission that the whole thrust of the directive is to require an environmental impact assessment at the outset, that is to say 'at the earliest possible stage in all the technical planning and decision-making processes' (see the preamble to the directive). Article 2.1 moreover requires member states to make an environmental impact assessment 'before consent is given'. This is in accordance with the preamble which refers to 'development consent'. Development consent means 'the decision of the competent authority … which entitles the developer to proceed with the project' (art 1.2). In my judgment such consent in this case means the decision of the competent authority which entitles the developer to proceed with the execution of the installation 'for the reprocessing of irradiated nuclear fuels' (Annex II, para 3(h)). It is a distortion of language to regard the authorisation of emissions as such a decision. …

[12] Cf. Reply, paragraph 6.16.
[13] 36 ILM 1431 (1997); Reply, Volume III, Part Two, Annex 162.
[14] Reply, paragraph 6.15.

> Thus I conclude that on a true construction of the directive, the construction of THORP and the bringing into operation of THORP and consequent discharges were and are one project."[15]

6.14 As a matter of the United Kingdom's domestic law, and of European law, no further environmental assessment was required prior to the operation of the MOX Plant.

6.15 Ireland also accords undue relevance to the fact that the outline planning consent granted in respect of the MOX Plant provided that the MOX Plant could not be brought into use without notification to Copeland Borough Council (the concerned local planning authority) that all required licences under the Radioactive Substances Act and the Nuclear Installations Act had been received.[16] Of course, the planning consent represented no more than the conclusion of one aspect of an extensive regulatory process. But the fact that the final authorisation to the operation of the MOX Plant was not given until December 2001 does not detract from the fact that, as of August 1997, the MOX Plant had been subjected to a planning process including an environmental assessment and, after planning consent had been granted, built at a cost in excess of £400 million. It was no longer a "planned activity".

6.16 Ireland's invocation of the fact that the assessment of the MOX Plant continued after August 1997 does not assist in relation to the question of the true meaning of article 206 of UNCLOS and the requirement of "planned activities" thereunder.[17] The United Kingdom's case is in no way inconsistent. On the one hand, the threshold requirements of article 206, which include the need for "planned activities" as at August 1997, are not met in this case. On the other hand, at that date a further evaluation of the environmental impacts of the MOX Plant was required as a matter of the applicable Euratom law, i.e. as part of the justification exercise under Directive 96/29/Euratom. This is to be found in the United Kingdom Environment Agency's Proposed Decision of October 1998. There would undoubtedly be an inconsistency in the United Kingdom's argument if the

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[15] *R v Secretary of State for the Environment and Others, ex parte Greenpeace Ltd and Another* [1994] 4 All ER 352 at 377b-377f. It was also found in this case that, although Directive 85/337/EEC did not apply, the information provided and made available for consultation by the inspectorates and the Ministers met the substantive requirements of that Directive. Ireland says that the Tribunal does not have to express a view on whether this decision is correct so far as the applicability of the Directive is concerned. Reply, paragraph 3.10. It is very unclear what this means. Ireland has contended that there has been no environmental assessment of THORP. The *ex parte Greenpeace* case shows that this argument has already been made, and has been rejected. In particular in circumstances where Ireland is not challenging that decision, the Tribunal is entitled to take it into account.

[16] Counter-Memorial, paragraph 5.48.

[17] Reply, paragraph 6.17; cf. paragraph 6.15.

Proposed Decision referred to article 206 as creating a further assessment obligation for the MOX Plant. It does not.[18]

6.17 The issues in relation to THORP have already been considered at paragraphs 2.6-2.17 above. The United Kingdom cannot see how an activity (the extended operation of THORP that is said by Ireland to be a consequence of the operation of the MOX Plant) can be construed as a "planned activity" when it is not planned. This was no less true at the time of the 1993 Environmental Statement than it is today. Then, the planning decision of Copeland Borough Council was predicated on the conclusion that: "In practice THORP will operate with the same environmental effects with or without MOX".[19]

(ii) The United Kingdom did not have reasonable grounds for believing that the MOX Plant might cause substantial pollution of or significant and harmful changes to the marine environment

6.18 The point has already been made in Chapter 2 above that Ireland has not even attempted a rebuttal of Chapter 3 of the Counter-Memorial, where it was shown (*inter alia*) that the MOX Plant would have no significant impacts on the marine environment (let alone impacts that might cause substantial pollution or lead to significant and harmful changes). It follows that, in its Reply, Ireland is particularly ill-placed when it comes to contending that the second threshold requirement of article 206 is met, i.e. that the United Kingdom had reasonable grounds for believing that the MOX Plant might cause substantial pollution of or significant and harmful changes to the marine environment.

6.19 Rhetoric aside, Ireland's principal contention is that because an environmental impact assessment would be mandatory for the MOX Plant pursuant to the 1991 Espoo Convention and the amendments to Directive 85/337/EEC effected by Directive 97/11/EEC, article 206 is to be treated as applying to the MOX Plant. This argument is to be rejected:

1. Article 206 lays down a straightforward test. Its substantive requirements only bite where a State has reasonable grounds for believing that planned activities may cause substantial pollution of or significant and harmful changes to the

[18] The assessment requirements imposed by the different applicable legal regimes, and the United Kingdom's compliance with these, are as set out at Counter-Memorial, paragraphs 5.33-5.57.
[19] Copeland Borough Council report of 22 February 1994, paragraph 3.7 (**Annex 21**).

marine environment. Whether or not this test is met is an important matter for this Tribunal, which is to be decided by reference to the precise wording of article 206. Other international agreements have different tests. Whether or not those tests would be met is not at issue before this Tribunal.

2. Directive 97/11/EC can have no application to the MOX Plant. This has been accepted by Ireland in its Memorial.[20] The Directive applicable to the 1993 Environmental Statement was Directive 85/337/EEC, pursuant to which environmental assessment was not mandatory. It is not in any event Ireland's case that there has been a breach of European law.[21]

3. Further, the 1991 Espoo Convention would not apply to the MOX Plant. Although installations designed for the production of nuclear fuels are listed in Appendix I to that Convention, the obligations in respect of the conduct of an environmental impact assessment only apply in respect of activities listed in Appendix I "that are likely to cause significant trans-boundary impact".[22]

4. In fact, the comparison with the three instruments on which Ireland relies extensively in its Memorial and Reply (Directive 85/337/EEC, the 1978 UNEP Goals and Principles, the 1991 Espoo Convention) shows that the article 206 threshold requirement is stringent. These instruments require environmental impact assessment where there is a likelihood of significant impact. That is a lower threshold (which would not in any event be met).

[20] Memorial, paragraph 7.21. This Directive would make an environmental impact assessment mandatory for (*inter alia*) a nuclear fuel production facility in respect of which a request for development consent was submitted after March 1999. This merely underscores how different the approach under UNCLOS is which (i) gives a discretion to the State in the reference to "reasonable grounds" (*raisons sérieuses* in the French text, which suggests that the qualifier "reasonable" requires that the grounds must have some substantive weight), and (ii) requires the threshold of substantial pollution/significant and harmful changes to be met.

[21] Reply, paragraph 6.15.

[22] In this respect, it is useful to recall the Article 37 Opinion that the MOX Plant "is not liable to result in radioactive contamination, significant from the point of view of health, of the water, soil or airspace of another Member State". See also the Commentary to article 7 of the ILC draft articles on Prevention of transboundary harm from hazardous activities, paragraph (9), noting: "There are also certain conventions that list the activities that are presumed to be harmful and that might signal that those activities might fall within the scope of these articles": Memorial, Volume III, Part One, p.386. In other words, the test for application of the draft articles is to be carried out regardless, and only the most tentative of "signals" is to be taken from the approach in another convention.

B. THE SUBSTANTIVE OBLIGATION UNDER ARTICLE 206 TO ASSESS THE POTENTIAL EFFECTS OF ACTIVITIES ON THE MARINE ENVIRONMENT HAS ANYWAY BEEN MET

6.20 The parties differ on three issues relating to the interpretation of the substantive obligation under article 206, namely as to: (i) the purpose of environmental assessment, (ii) the required contents of an assessment under article 206, and (iii) whether there is an obligation to update an assessment under article 206. Although these differences are considered below (sub-sections (i)-(iii)), they are not decisive of the issue of whether the three assessments that have been carried out in respect of the MOX Plant satisfy article 206. This issue is re-visited in sub-section (iv) below. Finally, in sub-section (v), the United Kingdom considers what is in truth Ireland's primary argument in terms of the failure to carry out a proper assessment, namely the alleged failure to include the potential effects of THORP within the ambit of the various assessments.

(i) The purpose of environmental assessment

6.21 Ireland seeks to portray the United Kingdom as minimising the importance of environmental assessment and adopting a restrictive approach.[23] There is no justification for this. Of course, the overall purpose of the environmental assessment procedure is to protect and preserve the environment, and article 206 is no exception in this respect. The simple point that the United Kingdom has made in the Counter-Memorial is that the environmental assessment forms part of a decision-making process. It is not the sole determinant of the decision to be taken in relation to any given project but it is intended to ensure that decision-makers and other parties are properly advised of the environmental effects of that project. This is the purpose of environmental assessment according to Ireland's own expert report.[24] Article 206 follows this pattern. The obligation in article 206 is (i) to carry out the assessment of potential effects, and (ii) to "communicate reports of the results of such assessments in the manner provided in article 205" i.e. to publish the results or provide them to the competent international

[23] Reply, paragraphs 6.31-6.36.

[24] See the Report of Mr Sheate at Memorial, Volume II, p. 201. Precisely the same principle may be derived from the 1978 UNEP Principles and Goals (Goal 1 and Principle 1), Directive 85/337/EEC (article 8) and the 1991 Espoo Convention (article 6(1)). These instruments aim at ensuring that due account is taken of the results of the environmental assessment. They do not require a given project to be halted dependent on the results of the assessment. The extract of the 1991 Espoo Convention cited at Reply, paragraph 6.36 does not suggest anything different in its use of language ("so that environmentally sound decisions *can be* made paying careful attention to *minimising* significant adverse impacts" - emphasis added). This does not suggest an obligation to make decisions that prohibit significant adverse impacts.

organisations.[25]

6.22 In any event, this debate adds little. Even if Ireland were right that the purpose of the assessment of the MOX Plant was to put the United Kingdom in a position to take appropriate measures to prevent or mitigate pollution before it occurred and to allow environmentally sound decisions to be taken,[26] the assessments that as a matter of fact were carried out were sufficient to enable such goals to be realised.

(ii) The required contents of an assessment under article 206

6.23 Ireland now accepts that article 206 does not specify the content or form of the environmental assessment process it requires and that States are entitled to exercise a degree of discretion in assessing the potential effects of planned activities.[27] However, it continues to say that "in practice" this means that the Tribunal is effectively to import into article 206 a long list of requirements derived from the 1978 UNEP Principles and Goals, Directive 85/337/EEC and the 1991 Espoo Convention. That these are not, in fact, the "common elements" to be derived from those instruments is clear on the face of that list.[28] In any event, Ireland has not explained how or why article 206 is to be interpreted so as to include a long list of formalities taken from other instruments which, it is implicit in Ireland's argument, are to be applied as the minimum mandatory requirements for an assessment under article 206.[29]

6.24 Confusingly, Ireland says that there is no inconsistency between its approach and

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[25] The United Kingdom did not cite the *Virginia Commentary* selectively in its Counter-Memorial. Cf. Reply, paragraph 6.33. See Counter-Memorial, paragraph 5.26 and footnote 27.

[26] Reply, paragraphs 6.35 and 6.47. It may be noted that Birnie & Boyle, which Ireland cites in these paragraphs, also states: "The object of an EIA is to provide decision-makers with information about possible environmental effects when deciding whether to authorise the activity to proceed. It is fundamental to any regulatory system which seeks to prevent or minimise environmental harm, or to promote sustainable development". This is consistent with the position of the United Kingdom. P. Birnie and A. Boyle, *International Law and the Environment*, 2nd ed., p. 130.

[27] Reply, paragraph 6.38.

[28] Reply, paragraph 6.39 and footnotes 57-66. It is apparent that items 7 and 8 on the list are derived from the 1991 Espoo Convention alone. The United Kingdom notes that Ireland "is content" to add certain elements to its list which, as pointed out in the Counter-Memorial, omitted anything that suggested that the requirements in the various instruments were anything other than absolute. Reply, paragraph 6.40.

[29] See also Reply, paragraph 6.29. Neither here nor at its paragraph 6.39 does Ireland explain the legal basis for its extensive "in practice" requirements. Cf. Counter-Memorial, paragraphs 5.35-5.46, where the United Kingdom does set out the legal basis for the assessments required as a matter of the applicable law; see also Counter-Memorial, paragraphs 5.47-5.57 with respect to the United Kingdom's compliance. A new point appears to be raised by Ireland as to storage and disposal of radioactive wastes. These issues have of course been assessed. See e.g. the 1993 Environmental Assessment, paragraphs 4.34-4.36, 5.47-5.48, at Memorial, Volume III, Part Three, pp. 29-30 and 42.

the approach under article 7 of the ILC draft articles on Prevention of transboundary harm from hazardous activities.[30] This provides in respect of a relevant activity for "an assessment of the possible transboundary harm caused by that activity, including any environmental impact assessment". As the United Kingdom pointed out in the Counter-Memorial, under the regime envisaged by that article, there is no set requirement as to the contents of the assessment, and the specifics of the content of the assessment is left as a matter for domestic law. It is then said by Ireland that the United Kingdom uses the Commentary to the ILC draft articles selectively. This assertion is not substantiated, and it is not correct. Since the assessment required under article 7 of the draft articles is couched in terms substantively far closer to article 206 than to the instruments on which Ireland primarily relies, it is worth setting out the relevant part of the Commentary to article 7 in full:

> "(5) *The question of who should conduct the assessment is left to States.* Such assessment is normally conducted by operators observing certain guidelines set by the States. These matters would have to be resolved by the States themselves through their domestic laws or as parties to international instruments. However, it is presumed that a State of origin will designate an authority, whether or not governmental, to evaluate the assessment on behalf of the Government and will accept responsibility for the conclusions reached by that authority.
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> (6) *The article does not specify what the content of the risk assessment should be.* Obviously the assessment of risk of an activity can only be meaningfully prepared if it relates the risk to the possible harm to which the risk could lead. This corresponds to the basic duty contained in article 3. *Most existing international conventions and legal instruments do not specify the content of assessment. There are exceptions, such as the Convention on Environmental Impact Assessment in a Transboundary Context, which provides in detail the content of such assessment.* The 1981 study of the legal aspects concerning the environment related to offshore mining and drilling within the limits of national jurisdiction, prepared by the Working Group of Experts on Environmental Law of UNEP, also provides, in its conclusion No. 8, in detail the content of assessment for offshore mining and drilling.
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> (7) *The specifics of what ought to be the content of assessment is left to the domestic laws of the State conducting such assessment.* For the purposes of article 7, however, such an assessment should contain an evaluation of the possible transboundary harmful impact of the activity. In order for the States likely to be affected to evaluate the risk to which they might be exposed, they need to know what possible harmful effects that activity might have on them.

[30] Reply, paragraph 6.45.

(8) The assessment should include the effects of the activity not only on persons and property, but also on the environment of other States. The importance of the protection of the environment, independently of any harm to individual human beings or property is clearly recognized."[31]

(iii) Is there an obligation to update an assessment under article 206?

6.25 There is obviously nothing in the wording of article 206 to suggest that any assessment of potential effects is to be updated, and the point has already been made that the monitoring regime envisaged by article 204 militates against the existence of any such obligation.[32] The primary basis for Ireland's contention that there is a requirement to update remains the invitation to the parties in the *Gabcíkovo-Nagymaros* case to "look afresh" at the effects on the environment of their 20-30 year old treaty project.[33] There is nothing in the *Gabcíkovo-Nagymaros* judgment to suggest that the International Court intended to create a principle of general application concerning the mandatory updating of environmental assessments.[34] Ireland mis-characterises the United Kingdom as having accepted a "*Gabcíkovo* principle" on taking into consideration new norms and standards and as having thereby accepted the application of rules and standards in the OSPAR Convention and the Sintra Statement.[35] This takes matters no further.

6.26 Ireland's case on the obligation to update an environmental assessment is further put into perspective once it is recalled that none of the three instruments from which Ireland derives its list of the specific contents of the assessment – the 1978 UNEP Principles and Goals, Directive 85/337/EEC and the 1991 Espoo Convention – contains such an obligation. Thus, for example, under European Community law there is no requirement for continued assessment after the grant of development consent. Ireland's

[31] Memorial, Volume III, Part One, pp. 385-386 (footnotes omitted, emphasis added).
[32] Counter-Memorial, paragraph 5.18.
[33] ICJ Reports 1997, p. 7 at p. 78 (paragraph 140).
[34] Counter-Memorial, paragraphs 5.21-5.22. Ireland also refers in parentheses to the 1994 Convention on Nuclear Safety and the 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. Reply, paragraph 6.41. The obligation under the 1994 Convention concerns solely an obligation to update safety assessments. Ireland has never alleged any failure on the part of the United Kingdom in respect of safety assessments. The obligation under the 1994 Convention has no relevance to this case. The obligation under the 1997 Convention has already been considered briefly at paragraph 6.12 above. The 1997 Convention does not create a mandatory obligation to update an environmental assessment.
[35] Reply, paragraphs 6.42-6.43; cf. Counter Memorial, paragraphs 5.21-5.22. It is noted that, despite the invitation at paragraph 5.22 of the Counter-Memorial, Ireland has still not spelled out what its case is on the relevant norms and standards (let alone why such should bind as rules of law). Notwithstanding Ireland's frequent references to the OSPAR Convention and the Sintra Statement; the environmental assessment of planned activities is not mentioned in either (cf. article 6 of the OSPAR Convention which provides for the joint assessment of the quality status of the marine environment).

case is therefore that the obligation contained in the brief wording of article 206 is more stringent than the extensive regime laid down by Directive 85/337/EEC. It may be added that there is no suggestion of such a continuing obligation under article 7 of the ILC draft articles or the relevant Commentary (which of course post-date the decision in the *Gabcíkovo-Nagymaros* case).

6.27 Moreover, the so-called "modest conclusion" that Ireland reaches – that the United Kingdom could not properly rely in the Decision of 3 October 2001 upon the 1993 Environmental Statement – is premised on an error of fact. The Decision of 3 October 2001 relied on (and annexed) the assessment contained in the Environment Agency's Proposed Decision of October 1998. The Proposed Decision contained the Agency's own assessment of the radiological impact of the MOX Plant derived from calculations made by the United Kingdom's Ministry of Agriculture, Fisheries and Food.[36] Its conclusions were, however, consistent with the conclusions of the 1993 Environmental Statement, the 1996 Submission to the European Commission pursuant to Article 37 Euratom, and the 1997 Article 37 Opinion of the European Commission.[37] To this must be added the fact that, despite the intense scrutiny to which Ireland has no doubt subjected these various assessments, Ireland does not now suggest that any of the various calculations of radioactive discharge or radiation dose are wrong.[38]

6.28 So the conclusion that Ireland must invite the Tribunal to reach is that, in 2001, the United Kingdom was not entitled to come to a decision on the operation of the MOX Plant in circumstances where its potential effects had been assessed in 1993 (by the developer), assessed in 1996 (by the United Kingdom), reviewed in 1997 (by the European Commission) and assessed once more in 1998 (by the United Kingdom's Environment Agency, which is an independent body), and in circumstances where in 2003 there is no suggestion of substantive errors in any of those assessments. That is not a modest conclusion; nor is it a conclusion that could be drawn by any reference to the wording of article 206 of UNCLOS.

(iv) The three assessments that have been carried out in respect of the MOX Plant satisfy the substantive requirements of article 206

6.29 Ireland's specific allegations in respect of inadequacies in the different

[36] Memorial, Volume III, Part Two, at pp. 385 (paragraph A3.13) and 397 (paragraph A4.95).
[37] Counter-Memorial, paragraphs 3.9-3.12.
[38] Ireland even states expressly that it does not take issue with the Article 37 Opinion. Reply, paragraph 3.45.

assessments of the impacts of the MOX Plant are, inevitably, formalistic.

1. It is said that the assessment has focused merely on radiation doses to humans instead of on the environmental consequences of operation.[39] This is (i) incorrect,[40] (ii) misconceived in that a focus on doses is consistent with the applicable standards, including ICRP 60,[41] and (iii) adds little or nothing in the context of the insignificant radiological impact of the MOX Plant. In that context, it makes little odds whether impact is estimated in terms of effective doses to humans (in sieverts), or radioactive discharge (in becquerels), or absorbed doses to biota (in grays). The fact remains that the discharges from the MOX Plant are below the current limits of detection.[42]

2. It is said that the 1993 Environmental Statement is limited when compared with other environmental assessments that Ireland has selected (including with respect to a recent assessment of a MOX fabrication facility in the United States).[43] The United Kingdom does not understand how this assists the Tribunal in deciding whether the substantive requirements of article 206 of UNCLOS were met in this case.

3. It is said that Ireland was never invited to comment on the Article 37 Submission.[44] This is correct, but is no more than a reflection of the workings of the Article 37 procedure which, while it does not involve public participation, does involve the independent review of data by a group of experts appointed by the European Commission.[45]

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[39] Reply, paragraph 6.49.

[40] See e.g. the 1993 Environmental Assessment, section 5, at Memorial, Volume III, Part Three, pp. 33-54. See also Reply, paragraph 6.60, where it is alleged that the Article 37 process addresses impacts on human health, not the environment. This is inaccurate for the reasons set out at Counter-Memorial, paragraph 5.53(1).

[41] Paragraphs 2.28-2.33 above.

[42] Counter-Memorial, paragraph 7.4.

[43] Reply, paragraph 6.50.

[44] Reply, paragraph 6.60. Ireland also says here that the Article 37 Submission did not add anything beyond the information which formed the basis of the 1993 Environmental Statement. This is simply wrong.

[45] It is not the United Kingdom's case that the Article 37 Submission or the Proposed Decision of October 1998 constituted part of the domestic environmental assessment procedure. They did not. Cf. Reply, paragraph 6.61. As the Counter-Memorial makes clear, in accordance with different aspects of the relevant regulatory background (Article 37 Euratom and justification pursuant to Directive 96/29/Euratom), the potential impacts of the MOX Plant have been further assessed. See Counter-Memorial, paragraphs 5.43-5.44 and 5.53-5.54. The precise contents of the Article 37 Submission or the Proposed Decision of October 1998 are of course a reflection of the regulations giving rise to each document.

4. It is said that the Proposed Decision of October 1998 and the Decision of 3 October 2001 make no reference to UNCLOS or the Sintra Statement. As noted in Section A above, it is the United Kingdom's position that the threshold requirements of article 206 of UNCLOS are not met with respect to the MOX Plant. It would have been surprising if article 206 had been expressly mentioned. Moreover, the failure expressly to refer to article 206 at any given time is hardly dispositive of the issue of whether there has been an assessment of potential effects to the marine environment as required by that article.[46] The Environment Agency was aware of the Sintra Statement at the time of the Proposed Decision of October 1998, but the assessed discharges from the MOX Plant were considered to be insignificant in that context.[47]

6.30 The recurrent theme in Ireland's allegations of inadequate assessment is the alleged failure to include in the 1993 Environmental Statement (or elsewhere) an environmental assessment of "the increased operation of THORP".[48] This is dealt with separately in the following sub-section.

(v) The environmental assessment of "the increased operation of THORP"

6.31 Ireland's case on the assessment of the increased operation of THORP is as follows:

1. There has never been an environmental assessment of THORP. There has never been an assessment of the impacts of THORP on the marine environment.[49]

2. The authorisation of the MOX Plant is intended to result in further reprocessing activity at THORP.[50]

3. The obligation under article 206 to assess the potential effects of planned activities requires an assessment of all intended and reasonably foreseeable effects. This includes the identification of potential effects arising from the

[46] Cf. Reply, paragraph 6.4.
[47] Second report of Mr Parker, paragraph 6.6 (**Annex 40**).
[48] Reply, paragraphs 6.3, 6.20, 6.29, 6.49, 6.52, 6.54-6.58, 6.60, 6.62 and 6.65.
[49] Reply, paragraphs 3.7-3.11.
[50] Reply, paragraph 6.24.

intensification of the use and the extension of the life of THORP which arises as a result of the operation of the MOX Plant.[51]

4. Consistent with the United Kingdom's own approach in other cases (notably in respect of the consideration of the NIREX Rock Construction Facility), the foreseeable consequences of planned activities must be taken into account.[52]

6.32 It is important that the Tribunal approach this argument with some care. It must not lose sight of the fact that Ireland has brought no case on the failure to carry out an assessment of the potential effects on the marine environment of THORP *per se* (i.e. without reference to alleged increased operation due to the operation of the MOX Plant). Its claim is confined to the claim pleaded in the Amended Statement of Claim, which contains no such case. This is not a point of formality. Ireland could not bring a case on the failure to carry out an assessment of the potential effects on the marine environment of THORP *per se*. THORP had been constructed and had been operational for several years when UNCLOS came into force for the parties. Article 206 could not apply. Further, THORP has been constructed and operates in accordance with (*inter alia*) a valid planning consent and Article 37 Opinion.[53]

6.33 Ireland seeks to avoid these limitations by a legal sleight of hand and a mis-construction of article 206. It says, in effect, that (i) the MOX Plant is a "planned activity" under article 206, (ii) article 206 requires an assessment of the potential effects of the MOX Plant, (iii) one of the potential effects of the MOX Plant is increased operation at THORP, therefore (iv) article 206 requires an assessment of the potential effects of increased operation at THORP.

1. The sleight of hand is at the third stage of this argument. Leaving to one side all issues of jurisdiction and fact, the operation of THORP is an "activity" for the purposes of article 206, and increased operation at THORP might be characterised as a "planned activity". If increased operation of THORP is a "planned activity" within article 206, an assessment of the potential effects follows (assuming the threshold of substantial pollution, etc. is met). If increased operation of THORP is not planned, it cannot be a "planned

[51] Reply, paragraphs 3.12 and 6.29.
[52] Reply, paragraphs 3.13, 6.2 and 6.50.
[53] It remains the case that the argument that there was no environmental impact assessment for THORP has already been made and rejected: *R v Secretary of State for the Environment and Others, ex parte Greenpeace Ltd and Another* [1994] 4 All ER 352, at 377.

activity", and this threshold requirement cannot be avoided by characterisation of increased operation as a potential effect.

2. This is confirmed by the misinterpretation of article 206 which appears at the fourth stage of this argument. Article 206 requires the assessment of potential effects on the marine environment. The increased operation of THORP is not a potential effect on the marine environment. It *has* (according to Ireland) a potential effect on the marine environment and therefore can only correctly be the subject-matter of an assessment. Put simply, Ireland says that article 206 requires an environmental impact assessment for the MOX Plant and increased operation at THORP is to be seen as one of the environmental impacts.

6.34 It follows that Ireland's case could only be based on the factual premise that THORP and the MOX Plant are inter-linked such that the relevant "planned activity" for the purposes of article 206 is the MOX Plant together with increased operation of THORP consequent upon the MOX Plant. This factual premise has already been considered at paragraphs 2.6-2.17 above. There is no increased operation of THORP consequent upon the MOX Plant; as already noted at paragraph 6.17 above, such alleged increased operation could not be construed as a "planned activity".

6.35 This leaves Ireland's contention that the United Kingdom is being inconsistent with the approach that it has adopted elsewhere, in particular in respect of the NIREX Rock Characterisation Facility. There is no inconsistency. The NIREX Rock Characterisation Facility was to be a very substantial underground construction.[54] It was potentially the precursor of a Deep Waste Repository on the same site, i.e. an underground store for intermediate level radioactive waste. However, a decision to proceed with the Repository could not be taken until (at the earliest) halfway through the excavation of the shafts of the Rock Characterisation Facility and construction of its first connecting galleries. Planning consent for the Rock Characterisation Facility was refused by Cumbria County Council, and the Secretary of State for the Environment subsequently (after a public enquiry) refused the appeal against that decision. He found that there was a relationship between the Rock Characterisation Facility and the Deep Waste Repository. This was not surprising: the Rock Characterisation Facility was to assess the rock strata with a view to seeing whether there could be a subsequent development of the Deep Waste Repository. In such circumstances, the Secretary of

[54] It was to involve the construction of two shafts of 5m diameter and up to 1020m deep, with galleries of 5m height and width and 975m length.

State concluded that in the context of environmental assessment (in particular effects on the marine environment) the Facility should not be considered without reference to the effects of the Repository.[55]

6.36 The position so far as the MOX Plant and THORP are concerned is quite different. The MOX Plant is not to be equated with the Rock Characterisation Facility such that THORP can then be equated to the Deep Waste Repository. This is most obviously because THORP was granted its planning consent and built *before* the MOX Plant, not *vice versa*. The assessment, construction and operation of THORP have all *preceded* the authorisation of the MOX Plant. Further, the MOX Plant has an existence that is independent of THORP and, more particularly, the possibility of increased operation of THORP. It is not reliant on the possibility of such increased operation for its raison d'être.

6.37 There is, however, an analogy to be drawn between the environmental assessment of the MOX Plant (alone) and the approach taken in the NIREX case. When the relationship between the Rock Characterisation Facility and the Deep Waste Repository is understood, it becomes clear that all that the Secretary of State decided was in effect that the impacts of construction (the Facility) and putative operation of that construction (as the Repository) were to be considered together. This is consistent with (i) the environmental assessment that has taken place in respect of the MOX Plant, and (ii) the United Kingdom's position in this case on the need to carry out the environmental assessment of both construction and operation at the planning stage.

[55] Memorial, Volume III, Part Three, p. 381.

CHAPTER 7

CO-OPERATION

A. INTRODUCTION

7.1. The factual issues dividing the parties on the question of co-operation are now somewhat reduced. In the Memorial, Ireland alleged that:

> "The United Kingdom's failure to fulfil its duty to co-operate with Ireland is pervasive. It reaches across all aspects of the State-to-State relationship in respect of the MOX Plant and associated activities".[1]

In its Reply, Ireland adopts a new tone:

> "Ireland does not complain that there is *no* co-operation. Its complaint is that the existing co-operation, though valuable and appreciated, does not reach the standard that is necessary, and to which Ireland has a right".[2]

7.2. The reason for this may lie in the account given in the Counter-Memorial of ten different mechanisms through which the United Kingdom has co-operated with Ireland, for many years, in respect of the MOX Plant and Sellafield more generally. Ireland does not challenge the United Kingdom's account of cooperation through six of those mechanisms; and in the case of the other four, it fails to establish a basis for its claim that the co-operation has been inadequate.

7.3. It also appears from Ireland's Reply that legal issues dividing the parties in relation to co-operation are now somewhat reduced. Both parties agree that article 123 of UNCLOS is hortatory rather than mandatory, but that it may have some effect on the interpretation of other articles of the Convention. Both agree that the special characteristics of a semi-enclosed sea may be relevant to an environmental impact assessment. On article 197 of UNCLOS there is a more substantial difference between the parties. Ireland submits that this imposes an obligation to co-ordinate the implementation of rights and duties with respect to the protection and preservation

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[1] Memorial, paragraph 8.109.
[2] Reply, paragraph 7.104.

of the marine environment.[3] The United Kingdom's position is that article 197 requires co-operation in formulating rules. It is not concerned with the implementation of such rules, which is a matter dealt with by other provisions of UNCLOS.

B. THE INTERPRETATION OF UNCLOS

(i) Article 123

7.4. In providing that littoral States "should co-operate with each other in the exercise of their rights and in the performance of their duties under [UNCLOS]", article 123 uses hortatory rather than mandatory language. The hortatory character of the wording does not, of course, deprive it of all effect on the interpretation of other articles of the Convention. Ireland asserts that the legal relationship between the littoral States is not the same as it would be if the article had said "States are under no duty to co-operate with each other."[4] The United Kingdom does not claim that it is. Equally, however, it does not accept that the relationship created by article 123 is the same as it would be if the article had said "States shall co-operate with each other."

7.5. Under article 123 States Parties are to "endeavour ... to co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment." To co-ordinate means to "bring the different elements of a complex activity into a harmonious or efficient relationship."[5] With respect to activities at Sellafield the United Kingdom and Ireland have co-ordinated their laws, procedures and practices on environmental impact assessment, control of pollution, and notification and consultation through the European Community.[6] Ireland does not allege that the co-ordination brought about by European Community law is inadequate to implement UNCLOS, nor could proceedings against the United Kingdom before an UNCLOS tribunal remedy any such inadequacy.

7.6. As regards the special characteristics of semi-enclosed seas Ireland misunderstands the United Kingdom's argument. Of course the special characteristics of a particular semi-enclosed sea may be relevant to an environmental impact assessment, or to the appreciation of a risk of

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[3] Reply, paragraph 7.48.
[4] Reply, paragraph 7.19.
[5] *Compact Oxford English Dictionary* (2002).
[6] Counter-Memorial, paragraph 6.15.

harm, or to emergency preparedness and notification, or to the setting of emissions standards. It does not require reliance on article 123 to reach such an obvious conclusion. Rather, as the United Kingdom argues in its Counter-Memorial, reference to special characteristics is controlled by the relevant articles of the Convention, including articles 207 and 211. This must be so. UNCLOS sets out to establish a common legal regime for the oceans as a whole, not simply a series of special regimes for every regional sea. Article 123 is expressed in hortatory terms for precisely this reason. It emphasises co-operation between States "in the exercise of their rights and in the performance of their duties under this Convention." This indicates that it does not stand on its own or create a special regime for semi-enclosed seas separate, *inter alia*, from Part XII of the Convention.

(ii) Article 197

7.7. Ireland and the United Kingdom disagree on the correct interpretation of article 197 of UNCLOS. Ireland is simply misreading Article 197 when it claims that it does not stipulate that States Parties must co-operate in order to formulate and elaborate international rules, standards and recommended practices and procedures.[7] How otherwise could such rules be agreed?

7.8. The wording of article 197 is clear. It provides for co-operation in formulating and elaborating international rules, standards and recommended practices and procedures. Contrary to Ireland's assertion,[8] it is not concerned with the implementation of those rules, standards, practices and procedures. These are dealt with elsewhere, for example in articles 198 and 199 of UNCLOS. Rules formulated or elaborated under article 197 may be governed by treaties or legal systems separate from UNCLOS. The United Kingdom maintains its position that the Tribunal has no jurisdiction to apply substantive rules from other treaties or customary law in the present proceedings.[9]

7.9. Ireland also argues that if, taking into account characteristic regional features, "the pollution or risk of pollution necessitates environmental assessment, notification or consultation in order 'to protect and preserve the marine environment' ... then States Parties are obliged by article 197 to co-operate in formulating and elaborating measures providing for environmental

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[7] Reply, paragraph 7.38.
[8] Reply, paragraph 7.48.
[9] See further Chapter 5 above.

impact assessment, notification or consultation...."[10] Article 197 refers to co-operation "on a global basis, and as appropriate, on a regional basis." It does not refer to bilateral co-operation. Ireland evidently envisages bilateral arrangements resulting from article 197.[11] The United Kingdom has taken the view that multilateral regional arrangements are the principal means of giving effect to its obligations under article 197. However, the United Kingdom has also set out in its Counter-Memorial the evidence of extensive bilateral co-operation and contacts with Ireland.

7.10. The implicit assumption of Ireland's arguments on articles 123 and 197 is that a more extensive bilateral regime for the Irish Sea is what UNCLOS requires. This is evidently the reason why Ireland places so much importance on the special characteristics of the Irish Sea. Plainly, Ireland does not accept that the multilateral co-operation and co-ordination which take place through the European Community, and under the OSPAR Convention, are sufficient to discharge whatever responsibilities arise under articles 123 and 197 of UNCLOS. The United Kingdom does not accept that these articles require co-operation to be conducted at a bilateral level so long as there is appropriate co-operation on a regional basis. The observations of Judge Anderson in this respect were referred to in paragraph 6.21 of the Counter-Memorial and need not be repeated.

C. THE MECHANISMS IN PLACE

7.11. The United Kingdom set out in the Counter-Memorial an account of ten mechanisms through which it had co-operated with Ireland in relation to the MOX Plant in particular and Sellafield more generally. Indeed, it was a remarkable feature of Ireland's Memorial that, while advancing at length an allegation of non-cooperation, it failed to give an account of the very mechanisms through which co-operation has taken place for many years.

7.12. It appears from the Reply that Ireland accepts the account given by the United Kingdom of co-operation through bilateral contacts,[12] co-operation through the British-Irish Council,[13] co-operation between the HSE and RPII,[14] co-operation between the RPII and the

[10] Reply, paragraph 7.43.
[11] Reply, paragraph 7.43.
[12] Counter-Memorial, paragraph 6.56.
[13] Reply, paragraphs 7.95 to 7.96.
[14] Counter-Memorial, paragraph 6.73; Reply, paragraph 7.105.

NRPB,[15] co-operation through the Food Standards Agency[16] and co-operation in preparing a Draft Agreement on Early Notification.[17] In the remaining four instances, Ireland now argues that the co-operation has not reached the standard to which Ireland considers itself entitled; but it fails to establish a factual basis for that complaint.

(i) Embassy Contacts

7.13. Ireland acknowledges that co-operation on matters relating to the MOX Plant and Sellafield more generally has taken place through the two countries' embassies; but alleges that there has been a decrease in the amount of information passed through this route.[18] Ireland does not suggest that it had ever complained previously of a decrease in the amount of information supplied through embassies, as it might have been expected to do if it had ever nurtured a concern on the issue. The British Embassy in Dublin has no record of ever receiving such a complaint.

7.14.

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[15] Counter-Memorial, paragraph 6.78; Reply, paragraph 7.106.
[16] Counter-Memorial, paragraph 6.81; Reply, paragraph 7.108.
[17] Counter-Memorial, paragraphs 6.79-6.80; Reply, paragraph 7.107.
[18] Memorial, paragraphs 8.246-8.249; Reply, paragraph 7.92.
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(ii) UK-Ireland Contact Group

7.18. In the case of the UK-Ireland Contact Group, Ireland accepts that it has for some twenty years been the forum for an exchange of information on matters of radioactivity between representatives of Ireland and the United Kingdom; but claims that the United Kingdom was prepared to disclose only such information as it chooses on its own conditions and its own timetable".[23] The evidence is to the contrary.

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(iii)British-Irish Inter-Parliamentary Body

7.20. Ireland does not challenge the account given in the Counter-Memorial of the exchanges of information through the British-Irish Inter-Parliamentary Body.[26] Ireland refers however to a passage from the 2002 report of the Body, which recalled that in 1996 its Committee D had expressed concern at the unknown impact that THORP might have on future discharges. The 2002 Report stated that concerns over some of the issues raised in 1996 remained because:

> "BNFL is actively pursuing more reprocessing contracts, and the British Government confirmed that it was free to do so, though any such contracts would require Government approval".[27]

This confirms the point made in the Counter-Memorial. Any proposals that might in future be brought forward for increases to the contracted tonnage for reprocessing at THORP, or for modification of existing contracts so as to increase contracted tonnage will require the approval of the Secretary of State. Moreover the White Paper *Managing the Nuclear Legacy* states that major decisions will be taken only in the light of full consultation with stakeholders.[28] The Secretary of State for Trade and Industry reconfirmed the need for Government approval in her response to the 2002 report of the British-Irish Inter-Parliamentary Body.[29] The Secretary of State welcomed the report as "very balanced and considered". Dealing in particular with future contracts for THORP, she commented as follows:

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26 Counter-Memorial, paragraphs 6.67-6.70.

27 Reply, Volume III, Part Two, p. 89, paragraph 10.

28 Counter-Memorial, paragraphs 1.31-1.38 and 6.58; Memorial, Volume III, Part Two, paragraph 3.24.

29 **Annex 48**.

"There is no lack of clarity in the government's position on future contracts for THORP. There are currently no proposals for such contracts. If and when such proposals were put forward to the Government for our approval, we would review the proposals against the criteria specified in paragraph 5.19 of the White Paper on managing the nuclear legacy published in July 2002. Approval would only be given if we were satisfied that such contracts would be consistent with our wider objectives of ensuring the safe and cost effective clean up of the Sellafield site in ways that properly protect the environment. There is no need for the Government to make any substantive decisions on the merits of such proposals unless and until such proposals are received."

(iv) Draft Coastguard Agreement

7.21. Responding to the United Kingdom's account of the co-operation between the coastguards of the two countries, Ireland accepts that this has taken place

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7.22. The text of the draft coastguard agreement was finalized during 2001. The present proceedings were then instituted. Telephone calls and e-mails from the United Kingdom to Ireland elicited no response until June 2002 when the Irish representative stated that they were not in a position to finalise the draft.[32] Ireland states in its Reply that the Irish negotiators did agree to meet representatives from the United Kingdom on 20 February 2003.[33] That is true; but the meeting was postponed on Ireland's initiative and no alternative date has yet been offered.

[30] Counter-Memorial, paragraph 6.71; Reply, paragraph 7.104.
[31] Counter-Memorial, paragraph 6.115.
[32] Counter-Memorial, paragraph 6.72.
[33] Reply, paragraph 7.103.

(v) UK's Offer to Review the Efficacy of Mechanisms

7.23. Ireland's reaction to the United Kingdom's observation that Ireland has yet to respond to the invitation to review the efficacy of the existing arrangements for co-ordination and monitoring discloses a regrettable difference between the parties' aspirations for co-operation.[34]

7.24. The United Kingdom's offer to review the efficacy of the existing arrangements for co-ordination and monitoring was made by letter dated 7 December 2001. Referring to a meeting to take place on 11 December 2001, the letter stated:

> "we see the purpose of this meeting as being primarily for the relevant policy and technical experts to begin to exchange further information with regard to possible consequences for the Irish Sea arising out of the commissioning of the MOX Plant; and to discuss the modalities for further exchanges on the matters set out in paragraphs (a), (b) and (c) of the Order [of ITLOS]. To start this process we suggest that it would be useful to review the efficacy of the various existing arrangements for coordination and monitoring on the matters relevant to the provisional measure."

The United Kingdom reiterated this point at the meeting in Dublin Castle on 11 December 2001.[35]

7.25.

The United Kingdom's offer to review the efficacy of existing arrangements, in a meeting of the officials and technical experts directly involved, remains open to Ireland.

D. THE SPECIFIC IRISH COMPLAINTS

7.26. In its Memorial, Ireland complained of insufficient co-operation in seven principal respects:

(i) in the MOX Plant consultations;

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[34] Counter-Memorial, paragraphs 6.83-6.84; Reply, paragraphs 7.64–7.72.
[35] **Annex 13**, Interim Report of the United Kingdom, paragraph 11; Reply, paragraph 7.67.
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[37]

(ii) in failing to supply full and unedited copies of the PA and ADL Reports;

(iii) in failing to suspend authorisation of the MOX Plant pending outcome of the OSPAR arbitration;

(iv) in the quality of the environmental assessment of the MOX Plant;

(v) in respect of marine transports;

(vi) in respect of terrorist threats;

(vii) in protecting the marine environment.

The Counter-Memorial described steps taken by the United Kingdom to co-operate with Ireland in all of those respects.[38] It is therefore incorrect for Ireland now to assert that the United Kingdom made "no attempt whatever to answer the specific complaints concerning non-co-operation made by Ireland".[39] In so far as Ireland has set out in its Reply new arguments on those issues, they are addressed below.

(i) Co-operation in the MOX Consultations

7.27. Ireland essentially accepts the account given by the United Kingdom of the repeated consultation of Ireland during the process leading to the decision to approve the process of MOX manufacture. Ireland points out that it participated in all five rounds of consultation.[40]

7.28. The point is not merely that Ireland was free to participate, and did participate in five rounds of consultation; but that account was taken of its views at every stage. For instance, following Ireland's submission that there was insufficient information on the economic prospects of the MOX Plant, the United Kingdom engaged PA Consultants to conduct an independent enquiry into those prospects.[41] In the end, Ministers were not persuaded by Ireland's argument that the manufacture of MOX fuel was not justified: that does not mean that Ireland was not consulted.

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[38] Counter-Memorial, paragraphs 6.85 to 6.136.
[39] Reply, paragraph 7.76.
[40] Reply, paragraph 7.77.
[41] Counter-Memorial, paragraph 2.24.

7.29. The complaint now made by Ireland of the consultations is that they failed to consider additional discharges that are likely to arise from THORP as a result of the commissioning of the MOX Plant.[42] That complaint is misplaced. The subject of the last four consultations was BNFL's business case which contemplated the production of mixed oxide fuel using plutonium which had already been separated at THORP, or would be separated at THORP in pursuance of existing reprocessing contracts.[43] As the United Kingdom has repeatedly made clear, if any proposals should be made for additional reprocessing contracts for THORP, these will require approval by the Secretary of State, and will have to be consistent with the United Kingdom's environmental objectives and international obligations. In line with the Government's commitment to transparency and engaging with stakeholders, no decision to authorise further reprocessing at THORP would be taken without consultation, in which Ireland would of course be invited to participate.[44]

(ii) PA and ADL Reports

7.30. Ireland continues to complain about the disclosure by the United Kingdom of the figure, excised from both public versions of the PA Report, representing the estimated annual number of shipments of MOX fuel to all destinations.[45] As Ireland's account confirms, the United Kingdom offered to disclose that figure to Ireland on a confidential basis as early as 15 November 2001.[46] The United Kingdom reiterated that offer three times[47] before Ireland agreed to attend a meeting on the subject. Following that meeting, which took place more than eight months after the offer had been made,[48] the parties reached agreement and the figure was supplied.

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[42] Reply, paragraphs 7.78, 7.80, 7.84.
[43] Counter-Memorial, paragraph 1.34.
[44] See paragraph 2.8(3) above.
[45] Reply, paragraphs 7.125 to 7.130.
[46] ITLOS Written Response, 15 November 2001, paragraph 195 on the ITLOS web-site at http:// www.itlos.org/start2_en.html.
[47] 20 November 2001, ITLOS oral hearing, Verbatim Record, November 20 2001, PM, lines 7-9 on the ITLOS web-site at http://www.itlos.org/start2_en.html; letter of 19 April 2002, Memorial, Volume III, Part One, p. 289; letter of 17 May 2002, Memorial, Volume III, Part One, p. 297.
[48] 25 June 2002, Reply, Confidential Annexes.

(iii) Marine Transports

7.32. As the Counter-Memorial observed,[52] the allegation that the United Kingdom has failed to co-operate with other States in relation to international transports of radioactive material is to be judged in the light of the TranSAS Report, of eleven independent experts appointed by the IAEA. This determined that the United Kingdom has gone well beyond what has been and is currently required in the area of maritime transport of radioactive material.[53]

7.33. By letter to the Director-General of the IAEA dated 10 January 2003 Ireland welcomed the publication of this TranSAS Report. While expressing reservations on some aspects of the report, Ireland commended the IAEA for implementing this service and stated that such initiatives, which contain an important element of peer review, lend credibility to the transparency of the adoption of the IAEA's various regulations and conventions.[54] In its Reply Ireland goes no further than to say:

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[49] Reply, Volume III, Part Two, p. 77.
[50] Reply, Confidential Annexes.
[51] Reply, paragraph 7.130.
[52] Paragraph 6.107.
[53] Counter-Memorial, paragraph 6.104; TranSAS Appraisal, p. 10 (**Annex 15**).
[54] Reply, Annex 191, Volume III, Part Two, p. 333.

"In general terms, however, Ireland shares the approach underlying some of the conclusions of the TranSAS Appraisal Team."[55]

The Reply sets out a number of criticisms of the TranSAS Report.

7.34. The first is an expression of surprise that "Ireland was not invited to participate in the work of the TranSAS team".[56] Membership of the mission is a matter for determination by the IAEA. The IAEA does not select States, or representatives of States, as members of missions but technical experts chosen by reason of their recognised expertise on the safe transport of radioactive materials. Observers are chosen to provide assurance that the appraisal and results will be transparent.

7.35. Ireland's second criticism is that it is "surprising and unsatisfactory" that its views were not sought, particularly on the question of liaison between the Irish authorities and those of the United Kingdom.[57] Again, this is a matter between the IAEA and Ireland; but Ireland does not take issue with the conclusion reached by the TranSAS team. Ireland states that it "does not wish to take issue with the statement" in the TranSAS Report that significant progress has been made, and continues to be made, in negotiations for, *inter alia*, the provision of an emergency towing vehicle in the Irish Sea.[58]

7.36. Regarding the reference in the TranSAS Report to Ireland's attendance at a meeting in May 2002 on joint counter-pollution and contingency planning issues,[59] Ireland comments "The question of transportation of radioactive material was not on the agenda and was not discussed."[60] That misses the point. The TranSAS Report mentioned Ireland's participation in the meeting because it is relevant to the continuing discussions about the provision of an

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[55] Reply, paragraph 7.123. Even that grudging response is qualified. Ireland states by way of example that "th e report suggested *inter alia* that the United Kingdom Department for Transport should "r e-establish and implement plans for joint agency enforcement exercises, with a view to convening at least one exercise per year" and links that quotation with another suggestion to "co ntinue multilateral liaison". In fact, the suggestion in the TranSAS Report, paragraph 4.28, page 40, is that DfT should encourage the Carriage of Dangerous Goods Committee to undertake the action. This suggestion in paragraph 4.28 is quite distinct from the second suggestion to which Ireland's Rep ly has linked it, TranSAS Report, paragraph 4.148, page 76, which deals with maritime transport.
[56] Reply, paragraph 7.116.
[57] Reply, paragraph 7.117.
[58] Reply, paragraph 7.117; TranSAS Report, (**Annex 15**), paragraph 4.147.
[59] TranSAS Report, (**Annex 15**), paragraph 4.146.
[60] Reply, paragraph 7.122.

emergency towing vessel and Ireland's proposed accession to the Bonn Agreement.[61] It was part of the basis for the suggestion that the United Kingdom should continue discussions with Ireland on counter-pollution and emergency response measures, including provision of the emergency towing vehicle.[62]

7.37. Ireland states that it is "unclear how the report reached the conclusion that both BNFL and PNTL are 'technically competent'".[63] The TranSAS Report itself refers to the various guidance documents issued by the IAEA for the competent authorities, in particular, "Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material", in the Safety Standards Series.[64]

7.38. The remaining issues raised by Ireland under the heading *The TranSAS Report* do not in fact concern that report at all. Ireland complains[65] of the United Kingdom's failure to disclose "the precise nature of the contingency plans that the United Kingdom has made for dealing with a terrorist threat to any vessel within the ICES fishing areas 4a, b, c, 6a, 7a, b, c, d, e, f or g, h, j, k, carrying radioactive substances destined for or originating from the Sellafield site".[66] Likewise Ireland complains of the United Kingdom's failure to disclose the shipboard emergency plans for PNTL vessels.

7.39. In the case of the shipboard emergency plans, Captain Miller has made clear that these cannot be disclosed because of the confidential nature of the information that they contain.[67] Mr Rawl has added that at the forty-first session of the IMO's MEPC it was agreed:

> "that there was no need to include any additional specific requirements for shore-based emergency response plans and no need for further discussion of shipboard emergency plans being made available to coastal States."[68]

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[61] Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and Other Harmful Substances, Bonn, 13 September 1983, www.bonnagreement.org/eng/hmtl/welcome.hmtl.
[62] Counter-Memorial, paragraph 6.106.
[63] Reply, paragraph 7.118.
[64] **Annex 15**, paragraphs 1.2-1.3; see in particular Reference [3].
[65] Reply, paragraph 7.120.
[66] Ireland's Qu estion 38, and the United Kingdom's respo nse, Memorial, Volume III, Part One, p. 79.
[67] **Annex 6**, paragraph 108.
[68] **Annex 9**, paragraph 3.60.

7.40. On the disclosure of information with sensitive security implications, UNCLOS is very clear. A State Party is not obliged to supply information the disclosure of which is contrary to the essential interests of its security. In common with many other States, the United Kingdom considers that disclosure of the precise nature of the contingency plans that it has made for dealing with a terrorist threat is contrary to the essential interests of its security. The point is addressed more fully in the next sub-section.

(iv) The Terrorist Threat

7.41. Ireland acknowledges in its Reply the efforts the United Kingdom has made in responding to concerns expressed by Ireland about security.[69]

Nevertheless Ireland claims that the United Kingdom should provide more substantive and specific information about civil nuclear installations, their vulnerability to terrorist attack, the measures in place to counter these, and the potential effects that might arise from such an attack.

[73]

7.42.

. The United Kingdom's reasoning on this

[69] Reply, paragraph 7.138.

[70]

[71] Counter-Memorial, paragraphs 6.3 and 6.125 and **Annexes 24, 25, 26** and **27.**

[72]

[73]

[74]

point was most recently set out in a letter dated 16 April 2003 from the Secretary of State for Trade and Industry to the Irish Minister for the Environment and Local Government. That letter gives a summary account of the measures taken by the United Kingdom to address the issues raised by the Government of Ireland and explains why the United Kingdom does not disclose outside its own Government details of the threat assessments it has made, details of the physical robustness of relevant installations, measures in place to address threats, potential damage that may be caused and counter-measures taken to minimize such effects.[75]

7.43. The United Kingdom has provided information to the Government of Ireland about the way in which the Office of Civil Nuclear Security ("OCNS") has been working closely with the Health and Safety Executive, the safety regulator, to review the safety implications of events, including external hazards such as plane crashes, at nuclear installations. It has been explained to Ireland that, following this work, a range of measures have been introduced – and others are in the process of being introduced - that seek to address any improvements that might be achieved. Information has been provided to Ireland about the work done to assess vulnerabilities concerning facilities at Sellafield and other nuclear sites and to implement measures aimed at preventing a successful attack on these or at mitigating the effects that any such attack might have. Some of the new measures introduced will be visible as they involve additional physical barriers or other engineered features. Increased perimeter security arrangements at specific sites might also be apparent to an observer. Other measures taken will not be visible.

7.44. These matters are considered in the report published in 2002 by the Director for Civil Nuclear Security.[76] Paragraph 12 of that report explains that security threats are assessed based on a Design Basis Threat ("DBT") which is "designed to provide a definitive statement of the possible scale and methods of attack that could be faced at civil nuclear sites or when nuclear material is being transported". It goes on to explain that the DBT "also takes account of the availability of countermeasures and contingency arrangements provided by the police, the Ministry of Defence and other agencies. For obvious reasons the assessment is classified SECRET and no further details can be published". Paragraphs 39, 40, 41 and 42 of that report provide details of work that took place in the aftermath of the terrorist attacks in the United States on 11 September 2001 to review implications for security in the civil nuclear industry and to introduce additional precautions to further improve security.

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[75] **Annex 49.**
[76] **Annex 22.**

7.45. The United Kingdom has explained to Ireland that it has introduced measures aimed at precluding the hijack of an aircraft taking off from within the United Kingdom. The United Kingdom is also working internationally to help reduce this type of risk. The United Kingdom has explained that the Royal Air Force maintains a high state of readiness in support of the air defence of the United Kingdom; that their state of readiness was reviewed in the light of the attacks in the United States and that the availability of such defences is only one element of a range of linked security measures designed to provide protection against the prospect of terrorist attacks from the air. The United Kingdom has explained that there are not considered to be any security benefits from extending no-fly zones currently applying to nuclear facilities.

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(v) Correspondence

7.55. Ireland complains in its Reply that "no comment is made on the chronic failure to respond to requests for information made by Ireland on a Minister-to-Minister basis".[83] The answer to this complaint is given in the responses which Ireland did in fact receive to those very requests.

7.56. In response to the letter dated 30 July 1999 from the Irish Minister of State setting out objections to the MOX Plant,[84] the United Kingdom's Minister for the Environment (Mr Meacher) replied that he had personally noted the points raised, adding:

> "I am sure you will appreciate that because of the quasi-judicial nature of my role, it would not be appropriate for me to respond to each of the issues raised while we are in the process of coming to a decision."[85]

Ireland made further points on 23 December 1999[86] and a following an intervening response from the Minister of State[87], Mr Meacher again responded in similar terms on 9 March 2000.[88] The quasi-judicial nature of the Secretary of State's functions in the consultation precluded Mr Meacher from responding to each of Ireland's points pending the outcome of the consultation.

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[83] Reply, paragraph 7.76.
[84] Memorial, Volume III, Part One, p. 115.
[85] Letter of 22 October 1999, Memorial, Volume III, Part One, p. 123.
[86] Memorial, Volume III, Part One, p. 129.
[87] Memorial, Volume III, Part One, p. 135.
[88] Memorial, Volume III, Part One, p. 137.

7.57. On 18 November 1999 an Irish official sent a letter to an official at the United Kingdom's Department for the Environment, Transport and the Regions ("DETR") conveying the request of the responsible Irish minister to be supplied with an unedited and full copy of the PA Report.[89] By response dated 17 December 1999 the DETR stated that it was unable to comply with that request because the excised information was commercially confidential.[90] Ireland raised the issue again in 25 May 2000.[91] Within a week the United Kingdom reiterated, at a meeting of the UK-Ireland Contact Group, that the excised material could not be disclosed because it is commercially confidential.[92] The United Kingdom further reiterated its position by letter of 27 October 2000.[93] By letter dated 9 February 2001 the Irish Minister of State notified Mr Meacher of Ireland's intention to submit the dispute to arbitration under Article 32 of the OSPAR Convention.[94] In response to Ireland's request dated 7 August 2001 to be supplied with a full and unedited copy of the ADL Report[95], the United Kingdom responded on 5 September 2001 that the excised material could not be disclosed because it is commercially confidential.[96]

7.58. It follows from the above that it is incorrect to state that the United Kingdom was guilty of a chronic failure to respond to Ireland's requests.

E. OTHER ALLEGATIONS

7.59. In its Memorial Ireland made several general statements about the principle of good faith, without drawing conclusions with respect to the facts of the present case. The United Kingdom observed[97] that Ireland had been careful not to allege that the United Kingdom had acted in bad faith. In its Reply, under the heading "Good Faith", Ireland states: "The Tribunal will judge whether Ireland's Memorial and this Reply sufficiently identify conduct in breach of these obligations relating to the duty of cooperation and coordination".[98] If it were Ireland's case

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[89] Memorial, Volume II, Part One p. 125.
[90] Memorial, Volume III, Part One, p. 127.
[91] Memorial, Volume III, Part One, p. 139.
[92] Memorial, paragraph 8.147.
[93] Memorial, Volume III, Part One, p. 143.
[94] Memorial, Volume III, Part One, p. 145. Following a holding reply from Mr Meacher dated 21 May 2001, Memorial, Volume III, Part One, p. 147, Ireland initiated the OSPAR proceedings on 15 June 2001: Memorial, Volume III, Part One, p. 153.
[95] Memorial, Volume III, Part One, p. 155.
[96] Memorial, Volume III, Part One, p. 159.
[97] Counter-Memorial, paragraph 6.23.
[98] Reply, paragraph 7.25.

that the United Kingdom had acted in bad faith, it would need to identify the respects in which the United Kingdom is alleged to have so acted and adduce the evidence on which it relies.

7.60. Ireland makes a number of criticisms of the manner in which the United Kingdom has dealt with requests for information. These have for the greater part been addressed in correspondence, and it is necessary in this Rejoinder only to deal briefly with two of them.

7.61. Ireland recalls that at the hearing before ITLOS in November 2001 it had complained of a letter written by the United Kingdom's Secretary of State, Margaret Beckett, to her Irish counterpart on 24 October 2001 stating in part "the authorisation for the MOX Plant has not yet been completed". Ireland states in its Reply:[99]

> "Ireland was dismayed to discover that BNFL's lawyers had written to Friends of the Earth (with a copy to the Secretary of State's department and to Greenpeace Limited, among others) one week *earlier* on 17 October 2001, stating that following the decision of the Secretaries of State on 3 October 2001 BNFL commenced, with the consent of the Nuclear Installations Inspectorate, the initial stages of plutonium commissioning, which it expects to complete on or around 15 November 2001". Ireland views that episode as an example of others being given a much fuller picture of the current situation and intentions regarding the MOX Plant than the United Kingdom allows Ireland to see".

7.62. There is no substance in the claim that Friends of the Earth and Greenpeace were "being given a much fuller picture" than Ireland. The true position is that for the purpose of fixing a court hearing, BNFL's solicitors informed those organizations that the date for opening a plutonium can at the MOX Plant was currently "scheduled to take place on or about 23 November 2001". The date was approximate and dependent on the further authorisations. Ireland was notified on 15 November 2001 that the date of plutonium commissioning was then scheduled for 20 December: immediately after the further authorisations to which the Secretary of State's letter referred.[100]

7.63. Ireland professes astonishment that the United Kingdom had "obtained" an Opinion under Article 37 of the Euratom Treaty relating to the "reopening" of the MOX Demonstration

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[99] Reply, paragraph 7.6; emphasis in original.
[100] ITLOS, Written Response, paragraph 10.

Facility, stating that it ought to have been informed first.[101] As the United Kingdom has explained, it did not and does not consider that an Opinion under Article 37 was required, since the MOX Demonstration Facility was not a new operation; no new waste streams were created by it; and the facility ceased to manufacture MOX fuel in 1999.[102] Nevertheless as the European Commission asked for a submission, this was provided. The data on which the Commission made its Opinion related to past activities. There has been no re-opening of MOX fuel manufacture at the MOX Demonstration Facility. The data were considered by experts from all Member States including two from Ireland.

[101] Reply, paragraph 7.7.
[102] Letter of 19 February 2003, Reply, Volume III, Part One, p.97.

CHAPTER 8

MEASURES TO PREVENT, REDUCE AND CONTROL POLLUTION

A. INTRODUCTION

8.1 Ireland's case on pollution is hinged on a particular conception of applicable law that would see the Tribunal apply OSPAR terms and adjudicate on compliance with OSPAR obligations in contravention of article 288(1) of UNCLOS. It is focused on speculative allegations of future breach that impugn United Kingdom policy directed at fulfilment of its Sintra commitments in the period up to 2020. It glosses over the express language of UNCLOS, seeking to introduce obligations which its terms cannot sustain. It advances interpretations that sit uneasily with Ireland's own practice in this area. Stripped bare, Ireland's case relies more on the momentum of language than on the substance of either law or fact.

8.2 Ireland addresses a number of general issues in the opening paragraphs of Chapter 8 of its Reply – the alleged link between the MOX Plant and THORP, Best Practicable Means ("BPM"), abatement technologies, cost-benefit analysis, the authorisation process and the evaluation of risk and harm – which have already been addressed earlier in this Rejoinder, notably in Chapters 2 and 3. With one or two exceptions, it is not proposed to go over these issues again here.

8.3 An examination of Ireland's specific allegations on pollution identify a number of common threads of dispute that require comment: do the discharges in issue constitute pollution within the meaning of article 1.1(4) of UNCLOS; is there harm or damage; what are the risks associated with low dose radiation and have these been adequately addressed; has the United Kingdom failed to inform itself of these and other risks and to exercise due diligence in taking measures to address them; are the measures adequate? These issues are addressed below.

8.4 As has already been pointed out in Chapter 1, Ireland's case has gone through something of a metamorphosis over the course of the various phases of the Dispute. Its focus has shifted from the MOX Plant to THORP and at points now seeks to embrace ever wider aspects of Sellafield operations. The sources of the legal obligations that

Ireland relies upon have become ever broader – most recently drawing in the London (Dumping) Convention, hitherto referred to only in passing. More significant, for present purposes, is the internal dynamic of Ireland's case and the interaction between its three principal heads of allegation, concerning environmental impact assessment, co-operation and pollution. These have become increasingly confused.

8.5 For example, in summarising its case on pollution, Ireland contends that the United Kingdom is in violation of "its obligations not to pollute" because *inter alia* (i) it has failed to identify and take into account the environmental consequences of the authorisation of the MOX Plant, (ii) it has misdirected itself by ignoring the potential consequences of the extended operation of THORP, and (iii) it has focused exclusively on the consequences of discharges from the MOX Plant for human health.[1] There are other similar allegations. What is striking about the core of Ireland's case on pollution is that it does not rest on allegations of pollution *per se* at all but rather on a series of allegations that (1) the United Kingdom has failed to carry out an environmental impact assessment, (2) that, in consequence, the United Kingdom is ignorant of critical elements regarding emissions from the MOX Plant and/or THORP, and (3) that, in consequence, the United Kingdom is in breach of certain obligations regarding pollution. While there are a number of specific allegations of actual pollution, these rest on the most tenuous of factual and legal foundations. In essence, therefore, Ireland's allegations on pollution turn on the question whether the United Kingdom acted properly in authorising the MOX Plant. This is the central substantive issue in dispute in this case.

8.6 The United Kingdom's contention is that it did indeed act properly when authorising the MOX Plant. The process of evaluation was lengthy and detailed. The risks to both human health and to the environment were fully considered by reference to the appropriate national legislation, reflecting applicable international standards. While avenues of further enquiry, as regards environmental protection, have since been identified and prioritised, notably by the ICRP, the scale of existing uncertainties, in the light of current knowledge, has been carefully weighed in the light of current approaches to risk and the conclusion reached that the current approach to radiation risk management does not require revision. The on-going review of Sellafield activities by the relevant regulatory authorities, and BNFL itself, under regulatory supervision, is exacting and takes full account of the United Kingdom's international commitments. The detail behind each of these points has already been set out in Chapters 2 and 3 above as well as in the United Kingdom's Counter-Memorial.

[1] Reply, paragraph 8.4.

B. THE MEANING OF "POLLUTION"

8.7 Ireland contends that the emissions from the MOX Plant and those which it speculates may, in the future, occur from THORP in consequence of the authorisation of the MOX Plant, constitute pollution within the meaning of article 1.1(4) of UNCLOS. It suggests that the contrary view, advanced by the United Kingdom, is "astonishing"[2] and "remarkable"[3] and that, if correct, would free radionuclide discharges from all constraints under Part XII of UNCLOS.[4] "The consequence", Ireland says, "is that the planned discharges entirely escape the UNCLOS provisions regulating marine pollution."[5]

8.8 In support of its case, Ireland makes four points:

(1) The definition of "pollution" in UNCLOS is not limited to the introduction of substances or energy that result or are likely to result in hazards to human health but also refers to harm to living resources and marine life, hindrance to marine activities, impairment of quality for use of sea water and reduction of amenities. In support of this point, Ireland quotes the UK's National Radiological Protection Board ("NRPB") to the effect that "even the lowest dose of ionising radiation, whether natural or man-made, has a chance of causing cancer".[6]

(2) It is implicit from UNCLOS that a State may cause "pollution" without causing "damage".[7]

(3) UNCLOS makes it clear that substances that are toxic, harmful or noxious are always to be considered pollutants, in whatever quantities. In support of this contention, Ireland cites article 194(3) of UNCLOS.[8]

(4) The United Kingdom's argument is inconsistent with international practice in relation to dumping of radioactive substances by vessels at sea which

[2] Reply, paragraph 2.42.
[3] Reply, paragraph 8.15.
[4] Reply, paragraph 8.15.
[5] Reply, paragraph 2.43.
[6] Reply, paragraph 2.48.
[7] Reply, paragraph 2.49.
[8] Reply, paragraph 2.50.

> treats radioactive substances in any quantities as pollutants.[9] Ireland here cites the 1972 London (Dumping) Convention[10] and developments thereunder to the effect that the disposal of radioactive substances in anything other than "*de minimis*" quantities causes pollution within the meaning of that Convention. Ireland goes on to refer to the "Guidelines for the Application of the *De Minimis* Concept Under the London Convention 1972", adopted by the Parties to that Convention on the basis of an IAEA report, and asserts that "[d]ischarges from the MOX Plant are not *de minimis*".[11]

8.9 Various provisions in Part XII of UNCLOS relied upon by Ireland to found its case address measures to prevent, reduce and control "pollution of the marine environment". This term is defined in article 1.1(4) of UNCLOS as follows:

> "the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities."

8.10 The definition is clear. It hinges on three elements: (a) the introduction of substances or energy into the marine environment, (b) which results or is likely to result in, (c) such *deleterious effects* as *harm* to living resources and marine life, *hazards* to human health, *hindrance* to marine activities, *impairment* of quality for use of sea water and *reduction* in amenities. Central to the definition is thus both harm of some appreciable kind and causation. This definition is controlling for purposes of UNCLOS and for purposes of this Dispute.

8.11 Ireland offers no evidence of harm from the MOX Plant and/or THORP discharges and, even if harm was to be assumed, no sustainable link of causation. On the contrary, the evidence before the Tribunal, including from dispassionate Irish and other independent sources, as well as from the evidence tendered by the United Kingdom, affirms the opposite. The point was made in the United Kingdom's Counter-Memorial by reference to the *Annual Report and Accounts* of the Radiological Protection Institute of Ireland and the European Commission's *MARINA II* study, viz:

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[9] Reply, paragraphs 2.51-2.55.
[10] This is now commonly referred to simply as the London Convention.

> "The doses incurred by people living in Ireland today as a result of the routine operation of Sellafield are now very small and do not constitute a significant health risk. The Institute therefore advises that from a radiological perspective it is safe to eat seafood landed at Irish fishing ports and to enjoy the amenities of the Irish maritime area."
>
> "... the estimated dose values were all below the levels of deterministic effects of radiation, so it is unlikely any radiation effects will appear in marine organisms."[12]

8.12 There is no suggestion here of harm to living resources and marine life, of hazards to human health, of a hindrance to marine activities, of impairment of quality for use of sea water or of a reduction of amenities. On the contrary, authoritative scientific advice affirms that no appreciable risk of harm is apparent. The emissions in question are, in the words of the RPII, "well within international standards" or, in the words of the *MARINA II* study, "consistently and significantly below the ICRP and Euratom Basic Safety Standards limit of 1 mSv per year to members of the general public".[13] Both studies conclude that the emissions pose no appreciable risk of harm.

8.13 Ireland's response is to say that, under UNCLOS, substances that are "toxic, harmful or noxious" are always to be considered pollutants. Reliance is here placed on article 194(3)(a), which provides that measures taken pursuant to Part XII "shall deal with all sources of pollution of the marine environment ... [and] shall include, *inter alia*, those designed to minimise to the fullest possible extent: (a) the release of toxic, harmful or noxious substances ...".

8.14 The difficulty with Ireland's argument is that, on a plain reading of its terms, article 194(3) does not characterise some substances as pollutants *per se* while leaving others to be considered by reference to some other test. The term "pollution of the marine environment" applies consistently and uniformly throughout UNCLOS. Article 194(3) indicates the approach to be adopted in respect of substances that are toxic, harmful or noxious. It does not identify what those substances are.

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[11] Reply, paragraph 2.54. See also paragraph 2.53.

[12] Counter-Memorial, paragraphs 7.16 and 7.18. As has been pointed out at paragraph 2.43 above, these quotations relate to the radiological impact of the entire Sellafield site, and not just the MOX Plant and THORP.

[13] See Counter-Memorial, paragraphs 7.16-7.17.

8.15 The reason for this is straightforward. Anything may be toxic, harmful or noxious in sufficient quantity and under appropriate conditions. Core elements of the earth's atmosphere, which sustain all forms of life, oxygen and nitrogen, become toxic under certain conditions and concentrations. Industrial emissions on a significant scale of such substances could well be toxic, harmful or noxious, and accordingly constitute pollution. Small-scale emissions, particularly against the background of the natural incidence of such substances, would cause neither harm nor concern.

8.16 The discharge of fresh water into the marine environment in significantly raised quantities at temperatures which significantly deviate from the norm could similarly cause havoc to certain types of marine life and have an effect on whole ecosystems.

8.17 The point is simple. It is not the introduction of substances *per se* into the marine environment that amounts to pollution but the introduction of substances, any substances, into the marine environment in such quantities and/or circumstances as results or is likely to result in harm. The definition of "pollution" in article 1.1(4) of UNCLOS – a definition drafted by the Group of Experts on Scientific Aspects of Marine Pollution[14] – recognises this. For Ireland's allegations to have any foundation, it must therefore show harm or the likelihood of harm. This it has not done, and cannot do. As has been shown in Chapter 2 above, Ireland has not challenged the United Kingdom's evidence of either the scale of the projected emissions or of their effect on the marine environment.

8.18 A further observation on the question of harm reinforces the point. Professor Roger Clarke, the Chairman of the ICRP, addressed the new ICRP initiative to develop the current ICRP system of radiological protection in a recent Memorandum of the ICRP which was published in the *Journal of Radiological Protection*. Reference has already been made to a number of his observations in Chapter 2 above. Addressing the issue of "Factors in the choice of new constraints", the Memorandum states:

> "... additional effective doses far below the natural background effective annual dose should not be of concern to the individual. Provided that the additional sources come from practices that have not been judged to be frivolous, these doses should also be of no concern to society. If the effective dose to the most exposed is, or will be, less than about 0.01 mSv in a year, then the consequent risk is negligible and protection may be assumed to be optimised, thus requiring no further regulatory concern.

[14] *Virginia Commentary*, Vol. II, p. 41, paragraph 1.22.

Table 3. Levels of concern and individual effective dose received in a year. Global average annual national background effective dose from all sources is 2.4 mSv (UNSCEAR 2000).

High	More than 100 mSv
Raised	More than a few tens millisievert
Low	1 – 10 mSv
Very low	Less than 1 mSv
None	Less than 0.01 mSv"[15]

8.19 Attention is drawn particularly to the last entry in the UNSCEAR table indicating the level of concern at a dose rate of less than 0.01 millisievert per year as "None".

8.20 Ireland attempts to plug this hole in its case on the issue of harm by citing the NRPB report to the effect that even the lowest dose of ionising radiation, whether natural or man-made, has a chance of causing cancer. The evident intent here is to say "there is a chance that emissions will cause cancer; *ergo*, there is harm; *ergo*, the emissions constitute pollution".

8.21 The difficulty with this line of argument is that it flies in the face of any sensible appreciation of either science or risk. The point is addressed in the reports annexed to the Counter-Memorial and to this Rejoinder by Dr Julian Preston, the Director of the US Environmental Protection Agency's Environmental Carcinogenesis Division, and by Dr Simon Bouffler, the Head of the Radiation Effects Department of the United Kingdom's National Radiological Protection Board.[16] At very low doses, the risk that radiation may cause cancer, or have any other ill-effects, is very low. At extremely low doses – as are here in issue – the risk that radiation may cause cancer or have other ill-effects is vanishingly small. Furthermore, as Dr Preston emphasises, at these infinitesimal levels, it is impossible, in any meaningful way, to distinguish the risks that may be associated with anthropogenic sources of radiation from those which result from natural radiation. The former are so small as to be completely subsumed by the latter, which is also small but nevertheless significantly greater than the anthropogenic sources. Lastly, at low and very low doses, the risks of cancer or other ill-effects are stochastic in nature rather than deterministic. In other words, ill-effects are not certain or even likely but simply possible

[15] "The evolution of the system of radiological protection: the justification for new ICRP recommendations", *Journal of Radiological Protection*, 23 (2003), p. 129, at 134 – 135 **(Annex 45).**
[16] **Annexes 41** and **35** respectively.

on a more or less random basis. And at very low doses, the random possibility of ill-effects is vanishingly small.

8.22 This point, which is germane also to the question of precaution and the exercise by the United Kingdom of due diligence in the authorisation process, goes not only to the appreciation of harm but also to the issue of causation. Whether the introduction of substances or energy into the marine environment constitutes pollution within the meaning of UNCLOS will depend on whether it "results or is likely to result" in harm of some form. The test is not whether, hypothetically, in the abstract or on the basis of some mathematical model, harm may possibly, against all odds, result. It is whether harm results or is likely to result. Ireland has not even begun to address this issue.

8.23 Ireland's observation that "[i]t is implicit in [the provisions of UNCLOS] that a State may cause 'pollution' without causing 'damage'"[17] warrants two brief comments. First, as just shown, harm of some form is an essential component of the definition of pollution for the purposes of the Convention. Second, just as Ireland has provided no evidence of harm, so also has it provided no evidence of damage.

8.24 The last of Ireland's arguments on pollution is that the United Kingdom's analysis is inconsistent with international practice in relation to the dumping of radioactive substances by vessels at sea and that the discharges from the MOX Plant are not *de minimis* within the meaning of this term in the London Convention Guidelines and the IAEA report referred to at paragraph 8.8 above. A number of points may be made in response.

8.25 First, we are not here concerned with the dumping of radioactive substances by vessels at sea within the scope of the London Convention but rather with regulated and controlled emissions from land-based sources under the framework of UNCLOS. The London Convention does not apply to land-based sources, and proposals to extend it to such sources have been rejected by the Contracting Parties. Second, as the documents annexed to Ireland's Reply make clear,[18] the London Convention Guidelines and the IAEA report are focused on something quite different from that here in issue. This point is made in the IAEA report,[19] where the *de minimis* criteria are considered for purposes of

[17] Reply, paragraph 2.49.
[18] Reply, Annexes 180 and 181.
[19] Reply, Volume III, Part Two, p. 167.

the London Convention in relation to the various categories of candidate materials for dumping at sea under Annex I (as amended) of the London Convention, namely:

- dredged material;
- sewage sludge;
- fish waste or organic materials resulting from industrial fish processing operations;
- vessels, platforms and other man-made structures at sea; and
- uncontaminated materials (ie, uncontaminated inert geological materials and uncontaminated organic materials of natural origin).

8.26 Third, the United Kingdom has not advanced a *de minimis* argument in respect of the MOX Plant and any other related emissions even though it considers that such an appreciation is warranted by the very small scale of the discharges. It has not done so for the reason that it did not take the view, as it might have done, that the scale of the projected emissions is so small as not to warrant any further consideration. On the contrary, it considered the potential impact of the emissions closely. Through the Environment Agency – as Mr Parker's reports attest – the United Kingdom assessed the scale and nature of the emissions and their likely effect on human life, marine life and the environment in accordance with relevant domestic law, which is based on applicable international and EC measures.[20] In this context, it will be recalled that paragraph 16 of ICRP 60, the applicable international standard, did indeed address the protection of non-human species and the environment.[21]

8.27 As Ireland has pointed out, the approach taken in ICRP 60 is now being reviewed to take further account of environmental concerns in radiological protection. It is important, however, to be clear about the nature and scope of this review. This was addressed in the ICRP Memorandum referred to in paragraph 8.18 above, in the following terms:

[20] **Annex 7** and **Annex 40**.

[21] Paragraph 16 of ICRP 60 (1990) (**Annex 16**) provides: "The Commission believes that the standard of environmental control needed to protect man to the degree currently thought desirable will ensure that other species are not put at risk. Occasionally, individual members of non-human species might be harmed, but not to the extent of endangering whole species or creating imbalances between species. At the present time, the Commission concerns itself with mankind's environment only with regard to the transfer of radionuclides through the environment since this directly affects the radiological protection of man."

> "The new recommendations should be seen, therefore, as extending the recommendations in Publication 60 (ICRP 1991), and those published subsequently, to give a single unified set that can be simply and coherently expressed. The opportunity is also being taken to include a coherent philosophy for natural radiation exposures and to introduce a clear policy for radiological protection of the environment.
> ...
> The Commission has decided that a systematic approach for radiological assessment of non-human species is needed in order to provide the scientific basis to support the management of radiation effects in the environment. This decision to develop a framework for the assessment of radiation effects in non-human species has not been driven by any particular concern over environmental radiation hazards. It has rather been developed to fill a conceptual gap in radiological protection and to clarify how the proposed framework can contribute to the attainment of society's goals of environmental protection by developing a protection policy based on scientific and ethical-philosophical principles."[22]

8.28 In other words, the recent initiative within the ICRP does not signal concerns over particular shortcomings in the existing recommendations as regards environmental protection. Significant work has been done in this area. It has not, however, been systematically assessed and brought within an authoritative international framework. This is the endeavour in which the ICRP is now engaged.

8.29 In the light of its assessment of the scale and effects of the projected emissions that would result from the authorisation of the MOX Plant, the United Kingdom came to a considered view that these emissions did not pose an appreciable risk of harm to human health, to other species or to the marine environment. This was the basis on which authorisation of the MOX Plant took place. In the United Kingdom's view, these emissions do not amount to pollution within the meaning of UNCLOS and their introduction into the marine environment is not likely to result in any appreciable harm, whether to living resources and marine life, to human health, or of any other kind.

8.30 Ireland relies heavily on the argument that radioactive substances are to be regarded as pollutants *per se*, eschewing any suggestion that they must be assessed by reference to their scale and effects before a determination can be made as to whether they amount to pollution for purposes of UNCLOS. In the light of this argument, the United Kingdom observes in passing that Ireland itself discharges radionuclides into the Irish

[22] "The evolution of the system of radiological protection: the justification for new ICRP recommendations", *Journal of Radiological Protection*, 23 (2003), p. 129, at pp.131 and 139 (**Annex 45**).

Sea. The source of these discharges is waste from hospitals, universities and private and government laboratories. Based on Ireland's most recent report presented to the OSPAR Commission on 1-2 October 2002,[23] these discharges are small and their impact on the marine environment negligible. The level of radioactivity released is, however, far greater than that released from the MOX Plant and includes radionuclides, such as technetium-99m that decays quickly to technetium-99, in respect of which Ireland is pursuing allegations against the United Kingdom.

8.31 Two brief points may be made in respect of this matter. First, as Ireland's OSPAR report shows, Ireland itself, as recently as October 2002, has referred to ICRP 60 as setting the relevant international standard for emissions in this field. Second, the United Kingdom makes no complaint about Ireland's discharges. It simply observes that, in respect of these discharges at least, Ireland has presumably proceeded on the appreciation that they do not constitute "pollution" within the meaning of this term in UNCLOS. The United Kingdom would accept this analysis. There is, however, a measure of inconsistency between Ireland's approach in respect of its own emissions and its approach in respect of those from the United Kingdom.[24]

C. PRECAUTION AND THE EVALUATION OF RISK AND HARM

8.32 Addressing the "precautionary principle", Ireland states that "[t]he United Kingdom has not taken issue with Ireland's view that the language of Article 2(2)(a) of the 1992 OSPAR Convention 'reflects a rule of general international law amongst European States which are parties to the OSPAR Convention or members of the European Community'."[25] Ireland misses the point. In its Counter-Memorial, the United Kingdom observed as follows:

> "The elaboration of the precautionary principle in Article 2(2)(a) of the OSPAR Convention cannot, for two reasons, be controlling. First, the Tribunal does not have jurisdiction over disputes concerning the interpretation or application of the OSPAR Convention. Nor is the OSPAR Convention part of the applicable law which the Tribunal is mandated to apply. Second, the precautionary principle is not articulated in many of the regional conventions which elaborate detailed rules on the protection and preservation of the marine environment. It would not therefore be sound methodologically to draw on the relatively sophisticated

[23] Ireland, National Report on Implementation of the OSPAR strategy with regard to radioactive substances, RSS 02/2/2-E, 1-2 October 2002 (**Annex 50**).
[24] Cf. the measure of inconsistency between Ireland's own legislative approach to radiological protection, and what it demands of the United Kingdom: paragraph 3.18 above.
[25] Reply, paragraph 8.20.

expression of that principle in one regional convention for purposes of 'informing' the interpretation of UNCLOS."[26]

8.33 Nothing that Ireland has said in its Reply either addresses this point or detracts from its cogency. The elaboration of the precautionary principle in Article 2(2)(a) of the OSPAR Convention is not controlling in this case.

8.34 While the precautionary principle as set out in the OSPAR Convention is not controlling in this case, the United Kingdom was, and is today, guided by the precautionary principle as elaborated in European Community law in the context of its *Strategy 2001-2020*.[27] This requires that "use should be made of the precautionary principle where the possibility of harmful effects on health or the environment has been identified and preliminary scientific evaluation, based on available data, proves inconclusive for assessing the level of risk."[28] As shown in its Counter-Memorial, the United Kingdom's practice in respect of the MOX Plant was entirely consistent with a precautionary approach. There was a detailed process of review which involved an evaluation of risk and harm by reference to the available scientific evidence. The scientific evidence was not then, and is not now, contested. It is detailed, compelling and clear, and not in any way ambiguous. It does not point to any possibility of a risk of significant harm from the radioactive discharges now in contention.[29]

8.35 So, how does Ireland tackle this issue? It makes four points:

(1) that the United Kingdom's case on the meaning of "pollution" is "scarcely consistent with precaution" in that it purports to "exclude radioactive discharges on an industrial scale";[30]

(2) that the United Kingdom's approach related "solely to the exposure of individuals and individual doses", ignoring "all of the other matters which are relevant under the 1982 UNCLOS, including environmental risk, potential harm to the marine environment and living resources, and loss of amenity";[31]

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[26] Counter-Memorial, paragraph 7.58.
[27] Counter-Memorial, paragraph 7.54.
[28] *European Council Resolution on the Precautionary Principle*, Annex III of the Presidency Conclusions, Nice European Council Meeting, 7, 8 and 9 December 2000, at paragraph 7; available at http://ue.eu.int/Newsroom/LoadDoc.asp?BID=76&DID=64245&from=&LANG=1
[29] Counter-Memorial, at paragraph 7.144. See also paragraphs 7.113 – 7.146.
[30] Reply, paragraph 8.22.
[31] Reply, paragraph 8.23.

(3) that the United Kingdom ignored even the conclusions of the UK's National Radiological Protection Board that "even the lowest dose of ionising radiation, whether natural or man-made, has a chance of causing cancer";[32] and

(4) that a precautionary approach requires a prior environmental assessment and informs the context of the assessment process.[33]

8.36 The following brief comments are called for.

8.37 As regards the definition of "pollution", the language of "discharges on an industrial scale" is the language of smoke and mirrors. The scale of the discharges is well known. It is very small indeed. The figures are not contested by Ireland. To say that the United Kingdom's approach to the meaning of "pollution" is "scarcely consistent with precaution" is, with respect, to say nothing at all. It does not meet the argument directed to the meaning of "pollution". Precaution requires an evaluation of risk and harm associated with a particular activity on the basis of the available scientific evidence for purposes of assessing whether there is a possibility of a risk of significant harm from that activity. The United Kingdom undertook such an assessment and maintains an on-going rigorous monitoring programme. The available scientific evidence does not disclose a risk of significant harm. The United Kingdom's approach, entirely consistent with the dictates of precaution, is also entirely consistent with the definition of "pollution" which, as has already been shown, hinges fundamentally on evidence of harm.

8.38 The contention that the United Kingdom focused solely on the exposure of individuals and individual doses, to the exclusion of the environment, is addressed in Chapter 2 above.[34] Two points may be recalled. First, the United Kingdom's approach was guided by and entirely consistent with applicable international standards. These did not for a moment eschew environmental protection. They proceeded on the considered basis that protection of the environment would be achieved by the guidelines recommended for the protection of humankind. These guidelines proceed on the basis of recommended dose limits to individuals.

[32] Reply, paragraph 8.24.
[33] Reply, paragraph 8.25.
[34] Paragraphs 2.31-2.33 above.

8.39 Second, as has already been observed, the applicable international standards then remain the applicable international standards now. As noted, the ICRP report of 2003 relied upon by Ireland does not, as is explicitly stated in the ICRP Memorandum referred to at paragraph 8.18 above, signal concerns over particular shortcomings in the ICRP's existing recommendations as regards environmental protection. Significant work has been done in this field, notably in the area surrounding Sellafield.[35] It does not suggest that the application of the current ICRP approach has led to a failure to detect significant risks to the environment. The current ICRP work-plan for the period towards 2005 is to systematically assess the work that has already been done in this area with the view to bringing it into an authoritative international framework.[36]

8.40 Ireland's third argument under this head, citing the NRPB "chance of causing cancer" assessment, has been addressed above in the context of the discussion of harm as part of the definition of "pollution".[37] As there noted, this argument flies in the face of any sensible appreciation of both science and risk. At the dose rates in issue here, the risk that the radiation discharges may cause cancer is vanishingly small such as not even to be distinguishable from the risks associated with natural background radiation.

8.41 There is a more fundamental point to be made. Ireland's case on this point now depends entirely on the uncertainties of knowledge concerning the effects of low dose radiation. Professor Liber and Dr Mothersill are deployed to make this case. There is a fundamental problem, however, with Ireland's expert evidence in this area and with its wider case on this element. Ireland points to uncertainty and, without further enquiry, advances conclusions on risk. But uncertainty and risk are not the same thing. The existence of uncertainty – of gaps in knowledge – does not translate without more ado into risk. Risk may be assessed despite uncertainty. Ireland skips over this point – or misses it – entirely. But its key witness in this area – Professor Liber – does not. His assessment is fundamentally at odds with the central predicate of Ireland's case. He contends that "low dose effects ... are not well understood",[38] but, despite this "uncertainty", concludes his second report as follows:

> "I do not advocate changing risk estimates at this time, because I do not think there is a sufficient basis for doing so."[39]

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[35] Paragraph 2.42 above.
[36] Paragraphs 8.27-8.28 above.
[37] Paragraphs 8.20-8.23 above.
[38] Reply, Volume II, p. 98, final paragraph.
[39] Reply,Volume II, p. 100, final paragraph.

8.42 In other words, the uncertainty of knowledge does not warrant a revision in risk estimates.

8.43 Although Professor Liber suggests that Report No.136 (2001) of the US National Council on Radiation Protection and Measurements ("NCRP"), of which he was a contributing author, is out of date, a point rejected by Dr Julian Preston in his evidence appended hereto, the conclusions expressed by Professor Liber in his second report in this case remain consistent with the conclusions expressed in NCRP Report No.136 (2001). Given their importance, it is useful to set out the relevant paragraphs in the Executive Summary of this Report:

> "In conclusion, the weight of evidence, both experimental and theoretical, suggests that for many of the biological lesions which are precursors to cancer (such as mutations and chromosome aberrations) the possibility of a linear-nonthreshold dose-response relationship at low radiation doses cannot be excluded. The weight of epidemiological evidence, of necessity somewhat more limited, also suggests that for some types of cancer there may be no significant departure from a linear-nonthreshold relationship at low-to-intermediate doses above the dose level where statistically significant increases above background levels of radiation can be detected. The existing epidemiological data on the effects of low-level irradiation are inconclusive, however, and, in some cases, contradictory, which has prompted some observers to dispute the validity of the linear-nonthreshold dose-response model for extrapolation below the range of observations to zero dose. Although other dose-response relationships for the mutagenic and carcinogenic effects of low-level radiation cannot be excluded, no alternate dose-response relationship appears to be more plausible than the linear-nonthreshold model on the basis of present scientific knowledge.
>
> In keeping with previous reviews by the NCRP (1980; 1993b; 1997), the Council concludes that there is no conclusive evidence on which to reject the assumption of a linear-nonthreshold dose-response relationship for many of the risks attributable to low-level ionising radiation although additional data are needed (NCRP, 1993c). However, while many, but not all, scientific data support this assumption (NCRP, 1995), the probability of effects at very low doses such as are received from natural background (NCRP, 1987) is so small that it may never be possible to prove or disprove the validity of the linear-nonthreshold assumption."[40]

[40] *Evaluation of the Linear-Nonthreshold Dose-Response Model for Ionising Radiation*, Recommendations of the National Council on Radiation Protection and Measurements, NCRP Report No.136, 4 June 2001, at pp.6 – 7 (http://www.ncrp.com/). The United Kingdom anticipates that this Report will be readily available to Ireland through its expert witnesses, notably Professor Liber, one of the Report's contributing authors. The United Kingdom would be pleased to make a copy of the Report available to the Tribunal if this would be helpful.

8.44 As this summary makes clear, there is continuing uncertainty in the area of low dose radiation. The considered assessment, however, with which Professor Liber continues to agree, is that the present degree of uncertainty on these matters does not warrant a change in the current approach to radiological protection, namely, the linear-nonthreshold ("LNT") model. According to the NCRP, there is "no conclusive evidence on which to reject the assumption of a linear-nonthreshold dose-response relationship". Even where there is doubt, "the probability of effects at very low doses such as are received from natural background (NCRP, 1987) is so small that it may never be possible to prove or disprove the validity of the of the linear-nonthreshold assumption." In other words, the current LNT approach to radiological protection is, as Dr Simon Bouffler of the NRPB points out in his evidence, "conservative in that it assumes some very small risk in the low dose region where no such risk has been demonstrated."[41]

8.45 Dr Mothersill, Ireland's second witness in this area, is at odds with this analysis, including that of her co-expert, Professor Liber. She observes that "uncertainty is a very solid basis for the Irish case since no one can define the risks associated with low radiation doses."[42] This is the fundamental fallacy of Ireland's case. The point is addressed in the second report of Dr Julian Preston, Director of the Environmental Carcinogenesis Division at the US Environmental Protection Agency:

> "The critical issue is how do the cellular responses to radiation discussed above impact the *current* cancer risk assessment. The answer is that for a qualitative description of the low dose cancer response they can be informative, if an association between a particular cellular response and cancer formation has been established. This indeed is how NCRP used cellular data in Report No. 136 to establish the LNT conclusion. However, in a quantitative risk assessment, as is the case for the current radiation one, it is not possible to incorporate mechanistic information. Prof Liber and I agree that it is not necessary to change the risk numbers at this time based upon the use of newer mechanistic cellular information. Dr Mothersill is much more ambivalent. On the one hand she sees the need for more linkage between mechanistic information on bystander effects and genomic instability, for example, and cancer and yet states that cancer risks are lower than they should be in the light of new mechanistic data. This conclusion ignores the conduct of the cancer risk assessment process for radiations.
>
> ...

[41] Report by Dr Simon Bouffler, at paragraph 10 **(Annex 35).**
[42] Second Report of Dr Mothersill, Reply, Volume II, Appendix 18, page 156, paragraph 2.

> In summary, current cellular research for radiation exposures is of great interest for the potential understanding of underlying mechanisms of how radiation can impact cells and tissues. A completely new approach for conducting risk assessment, based on biologically-based dose response models, would be required to be able to use these mechanistic data as a component of a quantitative risk assessment. This is not possible at the present time because the mechanisms underlying the induction of human tumors by radiation are not known. Such an approach might be used in the future. However, it must be emphasized that whatever approach is used for quantitative risk assessment, it will be sustained that the current risk assessments for low radiation doses do not greatly underestimate the risk because the estimates are disease based and therefore the tumor frequencies used take account of the underlying biological mechanisms of the disease."[43]

8.46 Ireland's case on precaution requires evidence of harm. None is produced. Instead, Ireland points to uncertainty on the fringes of scientific knowledge and says that this means risk, that risk means harm, that the risk of harm has not been assessed by the United Kingdom and, therefore, in its final sweeping submissions on remedies, that the United Kingdom must be restrained from operating the MOX Plant. But this chain of reasoning is weak at every link. Uncertainty does not equate simply to risk, with the scale of uncertainty saying little, if anything, about the scale of risk. The mere existence of risk, a commonplace of life, in every aspect, says little, if anything, about harm. And the risk of harm has been assessed by the United Kingdom, both in its close and on-going scrutiny of the MOX Plant and THORP and in its adherence to the accepted international guidelines of radiological protection, guidelines which are conservative, proceeding on the assumption of risk where none has been demonstrated.

8.47 The final head of precaution advanced by Ireland is that it requires an environmental assessment and informs its content. The re-emergence of this argument at every turn of Ireland's case highlights the point made at the outset of this Chapter, namely, that it is this that is the essence of Ireland's case; not whether there is pollution or even a risk of pollution but simply whether the United Kingdom acted properly in authorising the MOX Plant.

8.48 These issues have been addressed in Chapters 2, 3 and 6 above and require no further comment here. One point, however, may be made. The suggestion is that the United Kingdom was lax in its scrutiny of the MOX Plant and that it failed to take into

[43] Second Report of Dr Julian Preston, paragraphs 23 and 29 (**Annex 41**).

account developing thinking on the frontiers of science. It is a poor argument. The United Kingdom is in the forefront of research and development in this area. It is an area of activity which is highly regulated, by reference to applicable international standards, by national authorities which have significant regulatory and enforcement powers. The two reports of Mr Parker[44] address this element as also does the first Witness Statement of Mr Clarke annexed to the United Kingdom's Counter-Memorial.[45]

[44] **Annex 7** and **Annex 40.**

[45] **Annex 2**. BNFL itself, as the operator of both the MOX Plant and THORP, conducts and supports an extensive programme of scientific research on the effects of low dose radiation. This includes funded work undertaken by demonstrably independent national institutions, including major universities, the United Kingdom's National Radiological Protection Board, the United Kingdom Co-ordinating Committee on Cancer Research, and others. Second Statement of John Simon Clarke, at Part C, paragraphs 41–47 **(Annex 36).**

CHAPTER 9

THE RELIEF SOUGHT BY IRELAND

9.1 In Chapter 9 of its Reply, Ireland restates its claim for relief – a declaration in relation to past events and an order in relation to future conduct. The United Kingdom maintains its objections to these claims on the grounds expressed in Chapter 8 of the Counter-Memorial. There is nothing in Ireland's Reply that adequately addresses the issues already raised by the United Kingdom in response to Ireland's claims.

9.2 There continues to be a lack of clarity and precision in Ireland's case. It is ameliorated somewhat by the withdrawal of certain allegations, as in the case of article 211 of UNCLOS. While Ireland seems to want to maintain its claim under article 217, the absence of any particularisation of claim under this head, and the fact that Ireland seeks no relief on the point, leaves the allegation hollow. As regards claims under other heads, it is an axiomatic principle of the administration of justice that an applicant must particularise the precise content of its allegations. Ireland has not done so with a precision, in each case, that would allow the United Kingdom to respond with a clear sense of the conduct that is being impugned. It is said, for example, as regards article 207, that the claims in respect of this article "are particularised in the pleading with respect to land-based discharges and with respect to breach of UNCLOS Article 222 in the pleadings in relation to aerial discharges".[1] But, while it is apparent that Ireland is indeed advancing allegations under article 213, which refers to article 207, it is not at all clear what the nature of any article 207 allegations are intended to be. Does Ireland allege, for example, that the United Kingdom has failed to adopt laws and regulations to prevent, reduce and control pollution contrary to paragraph 1 of article 207? Perhaps the allegation is different, that the United Kingdom has failed to take other measures as may be necessary to prevent, reduce and control pollution contrary to paragraph 2 of the article? Maybe the putative allegation relates to another part of article 207 altogether.

9.3 The reference to article 222 in this context is also mystifying, particularly as article 222 cross-refers to article 212, not to article 207.

9.4 There is an entanglement to Ireland's pleadings that leaves the United Kingdom entirely unclear about the points to which it needs to direct its response. As has been

[1] Reply, paragraph 9.8.

observed elsewhere, at its core, Ireland's complaint seems to be that the United Kingdom acted improperly in its authorisation of the MOX Plant. Everything else seems either to be preliminary or consequential, particularised with varying degrees of precision or imprecision, as the case may be, by reference to obligations which are anchored, for reasons of formality, to provisions of UNCLOS but which turn ultimately on terms drawn from other instruments. The reference to "Best Available Techniques" and "Best Environmental Practices",[2] citing OSPAR commitments rather than the corresponding obligations under UNCLOS, illustrates the difficulty. Ireland's case is mercurial. Just as the United Kingdom thinks that it has the measure of the case, and endeavours to respond, the beads slip away as the allegation is recast in some different form and the nature of the case shifts.

9.5 The temporal dimension of the case is particularly important. It is not simply that Ireland seeks to read UNCLOS obligations back to 1993 and the years prior to the United Kingdom's accession to UNCLOS. It is also that Ireland wishes to read into the decision-making responsibility of the time standards and initiatives which have emerged later and, in some cases, are still a matter of speculation. Its approach to the new ICRP agenda of research illustrates the point. Under existing international guidelines, going back to 1990 and still operative today, the protection of the environment was pursued by reference to a particular formulation. The United Kingdom followed such an approach. Nothing that has emerged since suggests that that approach understated the risks to the environment or provides any basis for raising concerns about the authorisation of the MOX Plant. As the ICRP Memorandum notes, the current ICRP endeavour is focused on developing a unified approach to radiological protection. Yet somehow, this work in hand becomes, for Ireland, the touchstone of principle against which United Kingdom practice since 1993 has to be assessed.

9.6 At the other end of the temporal spectrum, Ireland's complaints include allegations of a breach of commitments that will crystallise over time towards 2020 as if somehow Ireland has perfect vision into the future in an area in which even the OSPAR Commission is grappling to give specific content. The relief for which Ireland contends can relate neither to actions undertaken prior to the United Kingdom's ratification of UNCLOS nor to those that may or may not take place after the point at which Ireland commenced these proceedings.

[2] Reply, paragraph 9.6.

9.7 As regards Ireland's application for injunctive relief, it would be quite exceptional for an international tribunal to make an order of the kind sought here. With few exceptions, international courts and tribunals have refrained from such an approach – and with good reason. Even where specific conduct on the part of a respondent has been envisaged, the remedy has invariably been a declaration of rights leaving it to the State concerned to decide on the method and means of compliance.

9.8 Ireland relies on the *Trail Smelter* case in support of its contention. It is not an appropriate example. The competence of the tribunal in that case arose from the 1935 Convention for the Settlement of Difficulties Arising from the Operation of the Smelter at Trail agreed by the parties at an advanced stage in the history of the proceedings in that matter. The questions put to the tribunal pursuant to this Convention expressly sought a determination not only of responsibility but also, if responsibility was established, of the "measures or régime, if any, [that] should be adopted or maintained by the Trail Smelter".[3] The *Bering Sea Fur-Seals* case, also cited by Ireland in support of its claim,[4] similarly hinged on the express terms of the 1892 Washington Treaty for Submitting to Arbitration the Questions Relating to the Seal Fisheries in Bering Sea.[5] There is no such font of exceptional competence in this case. Nor do the *Tehran Hostages* or *LaGrand* cases assist, neither even remotely raising questions of injunctive relief of the kind sought here by Ireland.

9.9 A fundamental problem with a request for an order in respect of future conduct of the kind sought by Ireland is that it assumes that Ireland's claims will be upheld at every turn and makes no allowance for the possibility of a partial award which may or may not uphold central elements of Ireland's claim. Ireland's claim for injunctive relief, however, hinges fundamentally on an assessment that there is harm or a likelihood of harm. But Ireland presents no evidence to this effect – at most speculating about uncertainties in the furthest reaches of scientific knowledge. Yet harm or a likelihood of harm would be a necessary predicate for the order that Ireland seeks.

9.10 Proportionality is an essential principle in the administration of justice and a core component of the concept of good faith which shapes the conduct of the parties and

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[3] *Trail Smelter Case (Canada/United States of America)*, International Environmental Law Reports, Volume 1, p.231, at p.235, Article III(3) of the 1935 *Convention for the Settlement of Difficulties Arising from the Operation of the Smelter at Trail*.

[4] Reply, paragraph 9.16, note 14.

[5] *Bering Sea Fur-Seals Case (Great Britain/United States of America)*, International Environmental Law Reports, Volume 1, p.43, at p.65, Article VII of the 1892 *Washington Treaty for Submitting to Arbitration the Questions Relating to the Seal Fisheries in Bering Sea*.

the Tribunal alike. Judicial remedies are not monochromatic fiats that dispense relief in complex cases by simply giving to the successful party, no matter how nuanced its success may be, the remedy that it thinks it is due. If there is any finding of breach, contrary to the United Kingdom's contentions in this case, the appropriate remedy would be a declaration of rights. As the International Court of Justice observed in the *Northern Cameroons* case, noted in the Counter-Memorial, it is not for the Court "to concern itself with the choice amongst various practical steps which a State may take to comply with a judgment."[6] Ireland has avoided addressing this clearest of juridical principles.

[6] Counter-Memorial, paragraph 8.17.

CONCLUDING SUBMISSIONS

10.1 For the reasons given in the Counter-Memorial and this Rejoinder, the United Kingdom requests the Tribunal to:

(i) adjudge and declare that it lacks jurisdiction over the claims brought against the United Kingdom by Ireland;

or, in the alternative

(ii) to dismiss the claims brought against the United Kingdom by Ireland.

10.2 The United Kingdom further invites the Tribunal to reject Ireland's request that the United Kingdom pay Ireland's costs, and instead to order Ireland to pay the United Kingdom's costs.

M C Wood
Agent of the United Kingdom
of Great Britain and
Northern Ireland

24 April 2003

LIST OF ANNEXES

VOLUME VII

Expert Reports and Witness Statements

35. Expert Report of Simon Bouffler (National Radiological Protection Board)

36. Second Witness Statement of John Clarke (BNFL)

37. Second Expert Report of Edward Hill (Proudman Oceanographic Lab)

38. Second Expert Report of John Hunt (CEFAS)

39. Expert Report of Steven Jones (Westlakes Scientific Consulting)

40. Second Expert Report of Ian Parker (Environment Agency)

41. Second Expert Report of Julian Preston (US Environment Protection Agency)

42. Second Witness Statement of Jeremy Rycroft (BNFL)

43. Second Expert Report of Dennis Woodhead (CEFAS)

VOLUME VIII

Annexes referred to in the Rejoinder

44. "Tracked changes" version of the revised report by Dr Barnaby at Reply, Volume II, Appendix 13.

45. "The evolution of the system of radiological protection: the justification for new ICRP recommendations", Memorandum of the International Commission on Radiological Protection, *Journal of Radiological Protection,* 23 (2003), p.129.

46. Letter of 9 January 2002 from Renee Dempsey, Department of Public Enterprise, Government of Ireland, to Lorna Stevens, Consultant, ENTEC UK Ltd.

47. European Community's instrument of formal confirmation of UNCLOS, with Declaration concerning the competence of the European Community with regard to matters governed by UNCLOS.

48. Letter of 20 March 2002 from Patricia Hewitt, Secretary of State for Trade and Industry, to David Winnick, Member of Parliament.

49. Letter of 16 April 2003 from Patricia Hewitt, Secretary of State for Trade and Industry, to Martin Cullen, Irish Minister for the Environment and Local Government.

50. Ireland, National Report on Implementation of the OSPAR strategy with regard to radioactive substances, RSS 02/2/2-E, 1-2 October 2002.

51.