

1982 UNITED NATIONS CONVENTION ON THE LAW OF THE SEA  
BEFORE AN ARBITRAL TRIBUNAL ESTABLISHED UNDER ANNEX VII

---

IN THE DISPUTE CONCERNING  
THE MOX PLANT, INTERNATIONAL MOVEMENTS OF  
RADIOACTIVE MATERIALS, AND THE PROTECTION OF THE  
MARINE ENVIRONMENT OF THE IRISH SEA

IRELAND V. UNITED KINGDOM

**REPLY OF IRELAND**

VOLUME I

7 MARCH 2003



## REPLY OF IRELAND

### CONTENTS

List of Colour Plates in Volume I .....	viii
<b>CHAPTER 1: INTRODUCTION</b> .....	<b>1</b>
The United Kingdom’s Defence .....	2
The Plan of the Reply .....	4
<b>CHAPTER 2: FOUR SALIENT ISSUES</b> .....	<b>7</b>
The Key Questions.....	7
A. Is There a Link between MOX and THORP? .....	7
The United Kingdom Must Take Account of All Intended or Foreseeable Harm .....	8
It Was Foreseen and Intended That MOX and THORP Should Operate in Tandem .....	10
Conclusion Regarding the Link between MOX and THORP.....	15
B. Are Discharges of Nuclear Waste into the Irish Sea “Pollution” within the Meaning of UNCLOS? .....	15
C. Is it Necessary for the Tribunal To Decide Scientific Controversies in Order to Decide This Case? .....	20
D. In Fulfilling its Obligations under UNCLOS Part XII May the United Kingdom Have Regard Only To the Radiation Dose to Susceptible Groups? .....	23
(1) The MOX/THORP Link.....	24
(2) The Effect on other Biota .....	24
(3) The Effects of Low-Dose Radiation.....	26
Conclusion .....	26
<b>CHAPTER 3: THE MOX PLANT AUTHORISATION: PROCESS AND STANDARDS</b> .....	<b>27</b>
A. The Authorisation of THORP .....	28
B. The MOX Authorisation, UNCLOS and Applicable Rules and Standards .....	30
C. The Authorisation of the MOX Plant: Other Aspects .....	37
The Grant of Outline Planning Permission (23 February 1994).....	37
The European Commission’s Article 37 Opinion (February 1997) .....	38
The Environment Agency’s Draft Decision (October 1998).....	38
The Secretary of States’ Decision (3 October 2001) .....	39
The Health and Safety Executive’s Decision (19 December 2001) .....	40

D. Discharge Authorisations for the Sellafield site, Including MOX and THORP .....	41
Conclusions.....	43
<b>CHAPTER 4: JURISDICTION.....</b>	<b>45</b>
<b>CHAPTER 5: APPLICABLE LAW .....</b>	<b>47</b>
Introduction.....	47
A. The Interpretation of UNCLOS Rules in the Light of “Other Rules of International Law .....	48
B. UNCLOS and the <i>Renvoi</i> to Applicable International Rules and Standards.....	54
<b>CHAPTER 6: ENVIRONMENTAL ASSESSMENT .....</b>	<b>59</b>
Introduction.....	59
A. Article 206 is Applicable to the Authorisation of the Operation of the MOX Plant .....	61
The MOX Plant Was a “Planned Activity” in August 1997 When UNCLOS Came into Force.....	61
There are Reasonable Grounds for Believing that the MOX Plant May Cause Substantial Pollution of, or Significant and Harmful Changes to, the Marine Environment .....	65
B. The Substantive Obligations under Article 206 .....	66
The Purpose of Environmental Assessment .....	68
The Manner in Which the Assessment Is To Be Conducted .....	69
“As Far As Practicable” .....	73
Summary and Conclusions .....	73
C. The United Kingdom’s Failure To Comply with Article 206 .....	73
Supplementary material provided by BNFL.....	75
Article 37 Submission .....	76
The Environment Agency’s Proposed Decision, 1998 .....	76
Justification Decision of 3 October 2001 .....	77
The HSE’s Consent Decision of 19 December 2001 .....	78
Conclusions.....	78
<b>CHAPTER 7: THE OBLIGATION TO COOPERATE AND THE VIOLATIONS BY THE UNITED KINGDOM .....</b>	<b>79</b>
Introduction.....	79
A. Article 123 .....	81
The Obligations in Article 123 .....	81
Good Faith.....	83
Abuse of Right.....	83
B. Article 197 .....	85

C. Summary regarding UNCLOS Articles 123 and 197.....	90
D. The Substance of Ireland’s Claim.....	90
(1) Ireland’s “Failure to Respond”.....	90
(2) The Profusion of Mechanisms.....	92
(3) The Lack of Specific United Kingdom Responses to Ireland’s Complaints .....	92
E. Consultation over the Development of the Sellafield Site .....	93
(1) Bilateral Consultation between Ireland and the United Kingdom.....	95
(2) Embassy Contacts .....	95
(3) The UK-Ireland Contact Group.....	96
(4) The British-Irish Council.....	96
(5) British-Irish Inter-Parliamentary Body .....	97
(6) The Draft Coastguard Agreement .....	98
(7) Exchange of Information between Health and Safety Executive and Radiological Protection Institute of Ireland (RPII) .....	99
(8) Co-operation between the RPII and the UK’s National Radiological Protection Board (NRPB) .....	99
(9) Draft Agreement on Early Notification.....	99
(10) Food Standards Agency Contracts .....	100
(11) United Kingdom’s Invitation to Improve These Arrangements.....	100
F. Cooperation in the MOX Consultations .....	100
G. Cooperation in Relation to Marine Transports.....	100
Ireland’s Main Concerns .....	100
The TranSAS Report .....	102
The Number of Shipments.....	104
The Assurances Regarding Shipments .....	105
H. Co-Operation in Respect of Terrorist Threat .....	106
I. Co-Operation with Respect to the Marine Environment.....	108
J. Co-Operation with Respect to the Communication of Information (1998- 2001) .....	108
General Non-cooperation and Unreasonableness .....	109
Criticism of Ireland’s Choice of Procedure .....	110
Criticism of the Basis of Ireland’s Complaints.....	111
Conclusion .....	112
<b>CHAPTER 8: POLLUTION.....</b>	<b>113</b>
Introduction.....	113
A. Factual Matters.....	116
(1) MOX and THORP are linked.....	116
(2) The discharges into the Irish Sea from the MOX Plant and related activities (including THORP) are “pollution” .....	117
B. General Legal Matters.....	117

(1) Jurisdiction and Applicable Law .....	117
(2) The Extent of Ireland’s Claims .....	117
(3) The Precautionary Principle .....	118
(4) Best Practicable Means .....	120
(5) Abatement Technologies .....	122
(6) Cost-Benefit Analysis .....	123
(7) Authorisation Process and Evaluation of Risk and Harm .....	125
Process of Evaluation .....	126
Scientific Evidence .....	127
Design, Structural and Security Considerations .....	127
Evaluation of Risk and Harm .....	127
C. Specific Claims .....	128
Violations of General Obligations To Prevent Pollution .....	128
(1) The United Kingdom has failed to “take all measures consistent with UNCLOS that are necessary” to prevent, reduce and control pollution of the Irish Sea .....	128
(2) The United Kingdom has failed to take all measures necessary to ensure that the MOX Plant does not cause damage by pollution to Ireland and its environment .....	130
(3) The United Kingdom has failed to take all measures necessary to ensure that pollution from the MOX Plant does not spread beyond the areas where it exercises sovereign rights .....	131
Violations Relating to Obligations To Prevent Pollution from Land-Based Sources .....	132
(4) The United Kingdom has failed to take measures designed to minimise to the fullest extent possible the release of radioactive substances arising from the authorisation of the MOX Plant .....	132
(5) The United Kingdom has failed to implement applicable international rules and standards to prevent, reduce and control pollution of the Irish Sea arising from the authorisation of the MOX Plant .....	133
Violations Relating to Obligations To Prevent Pollution from Vessels .....	137
(6) The United Kingdom has failed to take all measures necessary to minimise to the fullest extent pollution from vessels involved in transports of radioactive substances associated with the MOX Plant .....	137
(7) The United Kingdom has failed to ensure compliance by vessels flying its flag or of its registry, with applicable international rules and standards, and has failed to ensure that vessels associated with MOX transports are prohibited from sailing where not in compliance with those rules and standards .....	138
Violations Relating to Obligations to Prevent Pollution through the Atmosphere .....	138

(8) The United Kingdom has failed to take measures designed to minimise to the fullest possible extent the release into the atmosphere of radioactive substances arising from authorisation of the MOX Plant.....	138
(9) The United Kingdom has failed to adopt laws and regulations and take other measures necessary to implement applicable international rules and standards to prevent, reduce and control pollution of the Irish Sea from or through the atmosphere.....	139
Conclusions.....	139
<b>CHAPTER 9 THE ROLE OF THE TRIBUNAL AND THE RELIEF SOUGHT BY IRELAND.....</b>	<b>141</b>
Conclusion .....	147
<b>LIST OF ANNEXES AND APPENDICES.....</b>	<b>149</b>
Volume II: Reports and Statements Commissioned by Ireland.....	151
Volume III: Annexes.....	152

## LIST OF COLOUR PLATES IN VOLUME I

All maps and figures are for illustrative purposes  
and are shown for the purposes of the present proceedings only

No.	Title	At para
<b>Plate 1:</b>	United Kingdom Strategy for Radioactive Discharges, 2001-2020, Appendix 1, Figure 7.....	3.27
<b>Plate 2</b>	Passage of the MV Pacific Pintail and MV Pacific Teal through the Irish Pollution Response Zone (IPRZ) and Irish Search and Rescue Region (ISRR) on 15-16 September 2002 .....	7.59



## CHAPTER 1

### INTRODUCTION

1.1. The issues at the heart of this case are straightforward and plain. Ireland maintains that the discharges from the MOX Plant and associated activities (notably THORP) constitute pollution of the Irish Sea, which is a semi-enclosed sea within the meaning of the United Nations Convention on the Law of the Sea (“UNCLOS”). Ireland and the United Kingdom are Parties to UNCLOS. Accordingly, the United Kingdom has certain obligations towards Ireland, including the obligations to co-operate and co-ordinate with Ireland, to engage in a prior assessment of all the environmental consequences of the authorisation and operation of the MOX Plant, and to prevent pollution of the Irish Sea. Ireland maintains that the United Kingdom has not acted in accordance with those duties.

1.2. Ireland is well aware that the planned discharges into the Irish Sea of radioactive wastes from the MOX Plant itself, taken in isolation, are intended to impart such a low dose of radiation as to have a very small effect indeed upon the average incidence of cancer in the Irish population. The main elements of Ireland’s case are:–

- \* that MOX discharges cannot be considered in isolation but must be assessed together with discharges from other Sellafield plants (notably THORP) that can be foreseen to result from the operation of the MOX Plant;
- \* that it is foreseeable, and intended, that the MOX Plant will enable THORP to process more spent radioactive fuel, and over a longer period of time, than would be expected if the MOX Plant were not in operation;
- \* that the foreseeable discharges will add to the 200+kg of plutonium already trapped in the Irish Sea as a result of the operations at Sellafield, and add further quantities of other radionuclides;
- \* that the additional discharges will further degrade the Irish Sea and are incompatible with the United Kingdom’s international obligations to prevent the pollution of the Irish Sea;
- \* that the United Kingdom has not taken all measures necessary to minimize the discharges resulting directly and indirectly from the operation of the MOX Plant to the fullest possible extent, as required by UNCLOS;
- \* that the prolongation of activity at THORP that the MOX Plant makes possible, and the associated shipments of radioactive material through the Irish Sea, will extend the risk of accidental discharges;
- \* that the prolongation of activity at THORP that the MOX Plant makes possible, and the associated shipments of radioactive material through the Irish Sea, will also extend the risk of deliberate attacks upon nuclear facilities or nuclear transports, that would result in discharges of radionuclides into the Irish Sea;

- \* that the United Kingdom has not taken proper account of the risks to non-human biota of exposure to the radioactive discharges, or of the exposure of human beings to low dose radiation resulting from the discharges;
- \* that the United Kingdom has failed properly to co-operate and co-ordinate with Ireland its activities relating to the operation of the MOX Plant;
- \* and that in all of these respects the United Kingdom has violated its obligations towards Ireland arising under UNCLOS and other rules and standards of international law adopted in accordance with UNCLOS that are to be applied by the Tribunal under UNCLOS Article 293.

### **THE UNITED KINGDOM'S DEFENCE**

1.3. These claims were set out in Ireland's Memorial, dated 26 July 2002. The United Kingdom response is set out in its Counter Memorial dated 9 January 2003 and received by Ireland shortly thereafter. The detailed points raised in that Counter Memorial are discussed below; but equally significant is the broad approach taken by the Counter Memorial. That approach has three salient characteristics.

1.4. First, the Counter Memorial largely ignores the detailed complaints made by Ireland. It aims to present an account of all that is compatible with the United Kingdom's obligations under UNCLOS, without offering any explanation or defence of specific matters that Ireland says are incompatible with the United Kingdom's obligations under UNCLOS. An example is the complete silence of the Counter-Memorial in respect of the United Kingdom's failure to engage with Ireland in the exchanges of correspondence described in paragraphs 8.112 – 8.124 of the Memorial (and rehearsed in the oral pleadings in the ITLOS)<sup>1</sup> and in the period 1998-2001 more generally. Other examples include the silences relating to obligations to minimize pollution from MOX/THORP "to the fullest possible extent," to require the use of "best available techniques" and "best environmental practices," and to comply with the requirements of the 1998 Sintra Ministerial Declaration.

1.5. Second, the Counter Memorial sets out a series of broad propositions, ostensibly based upon the expert evidence annexed to it. As is explained in the sections that follow, some of those propositions are simply unsupported by the expert evidence.<sup>2</sup> Furthermore, some of that evidence is in turn based upon documents not before the Tribunal, and not in the public domain. For example, statements are made about the obligations of customers under reprocessing contracts, not one of which is before the Tribunal.<sup>3</sup>

1.6. A similar approach is adopted to other factual issues. The Counter-Memorial focuses on broad questions of form, avoiding the details of the history of the dispute. For example, the response concerning Ireland's complaints of non-co-operation lists the various bodies through which co-operation could and should take place, but does not

---

<sup>1</sup> The MOX Plant Case, (Ireland v. United Kingdom), Provisional Measures, Oral Proceedings, Verbatim Records, 19 & 20 November 2001 at <http://www.itlos.org/start2.en.html>, (site last accessed 26 February 2003).

<sup>2</sup> See the comments of Ireland's experts Prof Liber (Appendix 16) and Dr. Hartnett (Appendix 14) on the Counter Memorial, in the Reply at vol 2.

<sup>3</sup> Ireland sought access to these, and other documents on 4 February 2003; but it was refused. See the exchange of letters in Annexes 152 and 155, vol 3(1) to this Reply.

engage with Ireland's complaints that in practice those bodies have in the past not resulted in satisfactory co-operation and co-ordination between the two States. Similarly, the obligations under Articles 213 and 222 are said to amount to nothing more than obligations to adopt national laws.

1.7. Third, the Counter Memorial sets out a defence to a case that is materially different from that which Ireland is in fact advancing. For example, the defence is concerned almost exclusively with the question of the additional *dose* of radiation that will be transmitted to susceptible groups as a result of the operation of the MOX Plant, and seeks to argue that this is so small that the radioactive discharges arising from the MOX project can simply be ignored. Ireland, in contrast, is by no means concerned solely –or even primarily– with the effects of discharges on dose. It is concerned with the deliberate and continued degradation of the Irish Sea by its use as a receptacle for radioactive discharges on an industrial scale from the largest commercial nuclear facility in the United Kingdom.

1.8. The Counter Memorial fails to engage with Ireland's substantive arguments, including those parts of its case which address the United Kingdom's obligations to minimise radioactive pollution from the MOX Plant and THORP "to the fullest possible extent," to require the use of "best available techniques" and "best environmental practices," and to achieve "progressive and substantial reductions of discharges, emissions and losses of radioactive substances" and ensure that such discharges are "reduced by the year 2020 to levels where additional concentrations in the marine environment above historic levels ... are close to zero."

1.9. These three points reflect the overall approach taken by the United Kingdom. Having chosen not to engage with the case made by Ireland, it constructs a defence based upon silence (as to Ireland's arguments) and exaggeration (as to the material provided by its own experts and witnesses), which is premised upon an interpretation of the 1982 UNCLOS which either ignores its plain language and meaning or seeks to reduce its consequences so far that it becomes devoid of practical effect.

1.10. The United Kingdom's approach is that the 1982 UNCLOS places no constraints whatsoever upon industrial-scale discharges of radioactive substances into a semi-enclosed sea. In particular, it says that UNCLOS imposes no requirement to assess the consequences of such discharges and does not subject the discharges to the requirement to protect the marine environment because the discharges do not amount to pollution; And such co-operation as is required does not extend to meaningful responses to enquiries from the other interested coastal State. For the reasons set out in the Memorial and in this Reply, Ireland takes a different view of UNCLOS, which is widely recognised to be "the strongest comprehensive environment treaty now in existence or likely to emerge for quite some time."<sup>4</sup>

---

<sup>4</sup> Letter of Submittal from the United States Secretary of State to President Clinton, 23 September 1994, forwarded with message from the latter transmitting the United Nations Convention on the Law of the Sea to the US Senate, US. Treaty Doc. No. 103-39, at v, vi-vii (1994).

## THE PLAN OF THE REPLY

1.11. This Reply does not re-state Ireland's case. The case was set out in the Memorial; and to avoid any possible doubt, Ireland now reaffirms that case in its entirety.<sup>5</sup>

1.12. The Reply seeks to clarify certain aspects of Ireland's case that seem to have been misapprehended by the United Kingdom, and to correct certain errors, misconceptions and misrepresentations that occur in the Counter Memorial.

1.13. This introduction is followed by Chapter 2, in which four pivotal issues are addressed, upon whose resolution the determination of the remaining issues in the case depends.

1.14. Chapter 3 explains the MOX Plant authorisation process against the background of UNCLOS, and of rules and standards adopted in accordance with UNCLOS, which is the factual background common to the various breaches of the United Kingdom's UNCLOS obligations alleged by Ireland.

1.15. The next two chapters deal with two matters traditionally regarded as 'preliminary issues,' on which the United Kingdom appears to have misapprehended the nature of Ireland's case (and the scheme established by UNCLOS). For the avoidance of any doubt on the matter, Chapter 4 briefly addresses the question of jurisdiction, which in fact appears not to be contentious.

1.16. Chapter 5 addresses the question of the applicable law in the context of the scheme established by UNCLOS. It seeks to make clear that the Tribunal is both entitled and bound by UNCLOS Article 293 to have regard to, and apply, certain other international instruments and rules of law in the course of determining the precise scope of the Parties' rights and duties under UNCLOS, and that such regard is quite distinct from an extension of the Tribunal's jurisdiction.

1.17. The next three chapters address in detail the arguments on the merits of the case that are set out in the Counter-Memorial. Chapter 6 addresses the question of the extent to which the United Kingdom has fulfilled its obligations under UNCLOS to assess all the environmental consequences of the MOX Plant operation.

1.18. Chapter 7 addresses the question of the extent to which the United Kingdom has fulfilled its obligations under UNCLOS to co-operate and co-ordinate with Ireland its MOX-related activities affecting the Irish Sea.

1.19. Chapter 8 addresses the question of the extent to which the United Kingdom has fulfilled its obligations under UNCLOS to prevent pollution of the Irish Sea resulting from the operation of the MOX Plant.

1.20. The final chapter, Chapter 9, sets out Ireland's observations on the United Kingdom arguments concerning the scope of the remedies to which Ireland is entitled.

1.21. In this *Volume* a number of paragraphs, relating to material which may be considered by one or both States to be subject to a possible requirement of confidentiality

---

<sup>5</sup> Save for the withdrawal on one element of the claim, in respect of UNCLOS Article 211: see below, para 9.8.

on grounds of security, have been blacked out. These paragraphs and certain Annexes are included in a Confidential Folder provided to the Tribunal as *Volume 4*.

1.22. *Volume 2* comprises a set of appendices - independent reports (opinions of experts and scientific reports) - which have been commissioned by Ireland for the purposes of responding to points arising in the Counter Memorial and *Volume 3*, consisting of 2 parts, contains general annexes. In preparing the appendices, Ireland has been subject to constraints of time. The absence of a supplementary statement should not be taken as reflecting acceptance of any points made in the Counter Memorial or in the view of the United Kingdom's experts and witnesses. Ireland has not yet obtained copies of all of the documents to which reference is made in the Counter-Memorial and which it has sought from the United Kingdom. It reserves the right to make further submissions in relation to those documents.

**This page intentionally left blank**

## CHAPTER 2

### FOUR SALIENT ISSUES

#### THE KEY QUESTIONS

2.1. It will be appreciated that Ireland has had, under the agreed timetable, only a short period in which to prepare its response to the Counter-Memorial. Ireland has prepared two further technical reports to assist the Tribunal,<sup>1</sup> but it has not been able to commission further detailed responses to some of the scientific propositions set out in the Counter Memorial. Ireland does not, however, believe that this hampers the Tribunal in discharging its task. This is not a dispute about science. It is a dispute that turns upon a number of straightforward questions.

2.2. There are four central issues in this case. First, are the MOX Plant and THORP linked, so that the radioactive discharges from both must be considered together?

2.3. Second, do the MOX/THORP discharges amount to ‘pollution’ within the meaning of UNCLOS?

2.4. Third, is it necessary for the Tribunal to decide scientific controversies in order to decide this case?

2.5. Fourth, is it correct, in considering what obligations attach to the discharges of radioactivity into the sea, to have regard only to the question of the effects of the discharges on the resultant radiation dose to susceptible groups?

2.6. Once these four key questions are answered it is possible to reach a judgement upon the extent to which the United Kingdom has complied with its UNCLOS obligations.

#### A. IS THERE A LINK BETWEEN MOX AND THORP?

2.7. The United Kingdom challenges Ireland’s arguments based upon the link between the MOX Plant and THORP. It does so in terms that are robust, but drafted with great precision and considerable subtlety.

2.8. The Counter Memorial asserts that “there is no inextricable linkage between the operation of the MOX Plant and the operation of THORP,”<sup>2</sup> and that “[t]he MOX Plant and THORP are separate, operationally and commercially.”<sup>3</sup> The first statement may be literally true, but it is irrelevant. As will be explained, the question is not whether it is

---

<sup>1</sup> See the Reports of Gordon MacKerron (Appendix 17) and Richard Killick (Appendix 15) at vol 2 of this Reply.

<sup>2</sup> Counter Memorial, para 1.6.

<sup>3</sup> Counter Memorial, para 1.36.

logically or physically possible to separate or distinguish between the MOX Plant and THORP, but whether the foreseeable consequences of the operation of the MOX Plant include discharges from THORP. The second statement is not a statement of fact, but a statement of the manner in which the MOX Plant and THORP may be characterised and analysed for the United Kingdom's own operational and commercial purposes. Again, it is irrelevant to the question whether discharges from THORP into the Irish Sea are foreseeable consequences of the operation of the MOX Plant.

2.9. The question before the Arbitral Tribunal, in the definitive words of the Statement of Relief Sought, is whether the United Kingdom has breached its duties under UNCLOS that arise as a result of discharges "from the MOX Plant and additional discharges from the THORP plant arising as a consequence of the operation of the MOX Plant."<sup>4</sup>

2.10. It was explained in the Explanatory Note on Ireland's Amended Statement of Claim, dated 21 March 2002, that

"Ireland's original Statement of Claim, dated 25 October 2001, as amended on 21 January 2002 is intended to clarify that Ireland's claim is not confined to the authorisation and operation of the MOX Plant. The dispute, and Ireland's claim and the relief sought, encompasses also the consequences that flow from the establishment and operation of the MOX Plant, including in particular the consequences resulting from the intensification of use of the THORP plant as a consequence of the commissioning of the MOX Plant."<sup>5</sup>

2.11. Ireland does not consider that clarification to entail an extension of the dispute before the Tribunal. The dispute concerns, in short, the United Kingdom's duties to assess the impact of the MOX Plant, to prevent pollution of the Irish Sea, and to co-operate and co-ordinate its activities in this respect with Ireland as co-riparian of the Irish Sea. Those duties are prescribed by the UNCLOS, not by Ireland, and not by the terms of Ireland's Statement of Claim.

2.12. Ireland submits that there is no remotely plausible argument to be made out for the proposition that when embarking upon the MOX project the United Kingdom was entitled in assessing its impact to disregard consequential discharges arising from THORP, or that its duty to prevent pollution did not extend to any consequential discharges from THORP, or that its duty to co-operate attached only to the operations of the MOX Plant itself, considered in isolation, and not to consequential activities in THORP.

#### THE UNITED KINGDOM MUST TAKE ACCOUNT OF ALL INTENDED OR FORESEEABLE HARM

2.13. The United Kingdom's case appears to be that there are no such consequential discharges and activities in THORP, because there is no 'inextricable linkage' between the MOX Plant and THORP. Ireland does not accept that analysis. It considers that as a matter of international law the obligations arising from the operation of the MOX Plant extend to all those consequences that are the intended or foreseeable results of the operation of the MOX Plant.

---

<sup>4</sup> Ireland's Amended Statement of Claim, Memorial, vol 3(1), Annex 1, para 41.

<sup>5</sup> Memorial, vol 3(1), Annex 2.



2.14. It is firmly established in international law that a State is in principle responsible for those injuries that are the ‘foreseeable’ or ‘proximate’ consequences of its actions. That was recognised by the International Law Commission in the Commentary to its Articles on State Responsibility, where it was noted that “[i]n some cases, the criterion of ‘directness’ may be used, in others ‘foreseeability’ or ‘proximity’.”<sup>6</sup> The responsibility of States for the foreseeable consequences of their acts has frequently been noted by international tribunals.<sup>7</sup> It extends, in the much-quoted words of the *Samoan Claims* award, to those consequences that “a reasonable man in the position of the wrongdoer at the time would have foreseen as likely to ensue from his action.”<sup>8</sup>

2.15. The significance of this uncontroversial principle is immediately apparent if the United Kingdom’s duty under UNCLOS Article 207(2) to take measures necessary to “prevent, reduce and control” pollution of the marine environment from land-based sources is considered. Its responsibility is limited by the principles of causation and remoteness. It is responsible for intended and foreseeable consequences; but it may not<sup>9</sup> be responsible for unforeseeable consequences. A ‘Twin Towers’-style attack on a nuclear installation using two large commercial airliners, for example, was arguably not foreseeable before 11 September 2001, although it plainly is foreseeable now.

2.16. If, as a matter of fact, it was intended or foreseeable that the operation of the MOX Plant would lead to an increase in discharges from THORP above the level that would have occurred had the MOX Plant not been in operation, those additional discharges are as a matter of law consequences of the operation of the MOX Plant. Ireland returns below to the question whether this was in fact the case.

2.17. The same analysis applies to the duty upon UNCLOS Parties, imposed by Article 206, to assess the potential effects upon the marine environment of planned activities under their jurisdiction. Plainly, the State must assess *all* intended or foreseeable consequences of the activity. It cannot place certain consequences beyond the scope of the duty of assessment by notionally attributing them to some other cause, if they are in fact among the intended or foreseeable consequences of the project in question. It is nonsensical to suggest otherwise.

2.18. Similarly, the duty to co-operate and co-ordinate must be co-extensive with the duties of prevention and assessment. It would make no sense to impose upon an UNCLOS State Party liability for not assessing the risk of, or not preventing, a particular stream of marine pollution but to say, on the other hand, that while it has an undoubted duty to co-operate and co-ordinate in respect of anti-pollution measures that duty does not extend to the particular stream of marine pollution in question.

---

<sup>6</sup> Commentary to Article 31, paragraph 10 (footnotes omitted).

<sup>7</sup> See, for example, the *Samoan Claims* award (1902), cited in M. Whiteman, *Damages in International Law*, vol. 3 (1943), p. 1778 at 1780 and by A. W. Rovine and G. Hanessian, “Towards a Foreseeability Approach to Causation Questions at the United Nations Compensation Commission,” in R. B. Lillich, *The United Nations Compensation Commission* (1995), 235 at 248; the *Naulilaa* award (1928), 2 *RIAA* 1011 at 1031; *Amco Asia Corporation v. Indonesia* (1984) 23 ILM 351, paragraphs 266, 268; *Houston Contracting Company v. National Iranian Oil Company* (1988), 20 Iran-US Claims Tribunal Reports 3; *Behring International Inc. v. Iran* (1991) 27 Iran-US Claims Tribunal Reports 218; the *Egyptian Workers’ Claims (Jurisdictional Phase)*, UN Doc. S/AC.26/1997/3, paragraphs 213, 214, 217.

<sup>8</sup> M. Whiteman, *Damages in International Law*, vol. 3 (1943), p. 1778 at 1780.

<sup>9</sup> The possibility of strict liability is not considered here.

2.19. The coherence of the UNCLOS system (and of international law more generally in this context) requires that the duties be co-extensive, and that they attach to all marine pollution that is the intentional or foreseeable result of the project in question.

IT WAS FORESEEN AND INTENDED  
THAT MOX AND THORP SHOULD OPERATE IN TANDEM

2.20. The essential difference between Ireland and the United Kingdom in the perception of the facts concerning the relationship between the MOX Plant and THORP is that the United Kingdom relies upon the technical possibility of separating the MOX Plant and THORP, ignoring the commercial realities. Ireland, on the other hand, is concerned with what is likely to happen in the real world, as a matter of fact; and it bases its claim upon the best available evidence of intended and likely developments associated with the MOX Plant.

2.21. The documentary evidence demonstrates that the fact that the MOX Plant is likely to lead to a prolongation and intensification of the operation of THORP with all the gaseous and liquid discharges of radioactivity entailed thereby was not merely foreseeable but was actually foreseen and intended from the time that the MOX Plant was planned.

2.22. Some of this evidence is explained in greater detail in the report by Gordon MacKerron entitled *Interconnections between THORP and SMP*.<sup>10</sup> This part of the Reply summarizes the evidence.

2.23. The link between MOX manufacture and THORP was explicit from the very outset. BNFL Information Brief 19, dated 10 November 1992, stated that :-

“In 1990, it was announced that BNFL and AEA Technology were to collaborate and design, construct and operate a thermal MOX Demonstration Facility (MDF). This is located at AEA Windscale on the Sellafield site. The decision to proceed with the demonstration facility has enabled BNFL to make commercial offers for the supply of fuel to Japanese and Swiss customers.

[...]

It is anticipated that a large amount of the plutonium recovered from the reprocessing, in THORP, of LWR fuels for overseas customers will be manufactured into MOX fuel in the commercial scale plant. It is anticipated that our ability to return plutonium in the form of valuable MOX fuel will also enhance the potential for securing post-baseload reprocessing contracts for THORP.

[...]

Returning customers plutonium mixed with uranium in the form of MOX fuel is politically more acceptable than returning it as pure plutonium which, although perfectly safe and secure, causes concern to the public.”<sup>11</sup>

---

<sup>10</sup> See the Report of Gordon MacKerron, Reply, vol 2, Appendix 17.

<sup>11</sup> Reply, vol 3(2), Annex 192.

2.24. The early intentions regarding the MOX Plant were again made plain by the United Kingdom Government in a statement made to the House of Commons on 28 June 1993, when it was said that: –

“subject to resolving the outstanding planning and commercial issues, BNFL intends to build a full scale MOX Plant at Sellafield. This is most unlikely to be a commercial possibility if THORP were abandoned.”<sup>12</sup>

2.25. Similarly, in BNFL’s statement, *The Economic and Commercial Justification for THORP*, prepared in July 1993, it was said that

“indications from customers are that substantial quantities of THORP output will be returned to them in the form of MOX fuel fabricated in the commercial scale plant.”<sup>13</sup>

2.26. Again, BNFL’s own October 1993 Environmental Statement was prefaced by the statement that: –

“[i]n part, the proposals for SMP, as detailed in the application to Copeland Borough Council and described in this Environmental Statement, assume the availability of certain operational facilities within THORP. BNFL wishes to make clear that its proposals for SMP are not intended to prejudge the public consultation currently taking place..... The Company recognises that should the consultation result in THORP not becoming operational then the terms of the planning application for SMP may need to be reviewed.”<sup>14</sup>

That 1993 statement then asserted that:

“when SMP is operational, the primary source of [its] feed material will be the new Thermal Oxide Reprocessing Plant (THORP)”

and that the MOX Plant:

“will be designed to have an operational life of at least 20 years.”<sup>15</sup>

2.27. The statements from 1992 and 1993 are plain and unequivocal. It was intended from the outset that the MOX Plant would be supplied primarily by THORP. The MOX Plant no doubt *could* be supplied from elsewhere; but the actual *intention* was that it would be supplied primarily by THORP.

2.28. That remained the position. The Environment Agency’s Proposed Decision of October 1998 on the Plutonium Commissioning of the MOX Plant noted that “BNFL’s reference economic case depends on the reworking of separated plutonium from THORP into MOX fuel for certain foreign customers.”<sup>16</sup>

---

<sup>12</sup> House of Commons Debates, 28 June 1993, para 72.

<sup>13</sup> Reply, vol 3(2), Annex 186, para 8.3.6.

<sup>14</sup> Memorial, vol 3(3), Annex 103, p. 5.

<sup>15</sup> Memorial, vol 3(3), Annex 103, p. 9. See also various references to the links between the two Plants in Annex 21 to the Counter Memorial.

<sup>16</sup> Memorial, vol 3(2), Annex 95, para 10.

2.29. The MOX-THORP link was clearly reaffirmed by BNFL shortly before the institution of the present proceedings. In March 2001 BNFL issued *The Economic and Commercial Justification for the Sellafield MOX Plant (SMP)*.<sup>17</sup> There BNFL said that

“SMP has been built by BNFL in order to recycle plutonium separated through the reprocessing process at Sellafield into MOX fuel. BNFL has Baseload reprocessing contracts for the THORP plant with European and Japanese customers and also has some post Baseload contracts. Many of these customers have demonstrated their intent to recycle plutonium into MOX and this market situation was known at the time the investment was committed.”<sup>18</sup>

2.30. The fact that the MOX Plant would be fed by plutonium oxide arising from THORP was vigorously asserted by BNFL in its March 2001 report. It presented the argument in favour of a ‘Reference Case’ premised upon “commissioning and operating the SMP using some of the plutonium derived from existing spent fuel reprocessing contracts.”<sup>19</sup> After reviewing the commercial position in some detail it said that

“The European commitment to BNFL has therefore already been demonstrated by contracts or through ongoing discussions to secure MOX fabrication capacity from BNFL for the recycle of PuO<sub>2</sub> arisings in the Reference Case. Customers in these countries have reconfirmed their commitment to receiving MOX from BNFL’s SMP.”<sup>20</sup>

2.31. That intention to link the MOX Plant to the output of THORP reprocessing is in complete conformity with the commercial realities. Indeed, it is the inescapable consequence of those realities, as the reference to customers who have ‘reconfirmed’ their commitment to receiving MOX fuel from the MOX Plant, for example, may have been intended obliquely to suggest. That seems likely to refer to the situation of German customers, whose THORP contracts could not have been executed without the commissioning of the MOX Plant.

2.32. As the MacKerron Report<sup>21</sup> explains in greater detail, BNFL’s German customers were initially committed to the reprocessing of certain quantities of spent fuel through THORP. Changes in German law in 2002 had the effect of prohibiting the return of plutonium oxide to Germany except in the form of MOX. Those changes implemented the terms of an agreement made in 2000 by the German Government (which had initially planned to stop all reprocessing of German spent fuel) and the German nuclear industry.<sup>22</sup>

2.33. It should be noted that this new German policy is reflected in the United Kingdom’s own policies. The United Kingdom Civil Nuclear Policy Including Plutonium was published in November 1997. It states that

“With regard to stocks held on behalf of foreign customers, this is material owned by BNFL’s customers and held by BNFL to their order. All reprocessing customers are contractually required to demonstrate an acceptable end use before

---

<sup>17</sup> Memorial, vol 3(3), Annex 104.

<sup>18</sup> Memorial, vol 3(3), Annex 104, para 2.3.2.

<sup>19</sup> Memorial, vol 3(3), Annex 104, para 1.1.

<sup>20</sup> Memorial, vol 3(3), Annex 104, para 2.3.4.

<sup>21</sup> Reply, vol 2, Appendix 17.

<sup>22</sup> *Ibid*, para 3.2.2 and Section 4.5 and 4.6.

delivery of plutonium. The customers may opt to store the plutonium for a period of time or to convert it to MOX fuel.”<sup>23</sup>

None of the contracts has been submitted to the Tribunal, and Ireland is unaware of the terms of the contracts.<sup>24</sup>

2.34. Had the German Government adhered to its original plan, the German commitments regarding 335tHM of spent fuel stored at Sellafield pending reprocessing, and the further 718tHM due to be transported from Germany, would have been cancelled. In other words, in the absence of the MOX Plant, the German contracts would have been cancelled and discharges from THORP would have been reduced.

2.35. This fact is obscured in the United Kingdom’s analysis by reliance upon the presumption that Germany would have continued with its existing contractual commitments. That presumption, while perhaps theoretically justifiable, does not correspond to the real situation. Nor, it may be noted, should this come as a surprise to the United Kingdom. Experience has already shown that contractual commitments are no reliable guide to future conduct. In its 2002 report the environment committee of the British-Irish Inter-Parliamentary Body recorded that

“[i]t appears that hitherto *none* of the products of BNFL’s reprocessing operations have been returned to the customers who own them and are contractually committed to taking them back. This is a matter of grave concern to the Committee, as Sellafield is increasingly becoming a quasi-permanent storage facility for highly dangerous materials, including plutonium and liquid High Level Waste”<sup>25</sup>

2.36. There is one further aspect of the German contracts that needs to be highlighted: the significance of the obstacles to the international transportation of plutonium in any form *other* than MOX. As the MacKerron Report explains,<sup>26</sup> and as one of the United Kingdom’s witnesses states,<sup>27</sup> transportation of MOX is considered to be a safer and more secure option than transportation of plutonium oxide powder.<sup>28</sup> It is highly unlikely that transportation of plutonium oxide powder will be a viable option in the foreseeable future. It is probable that all plutonium reprocessed at THORP for foreign customers will, accordingly, need to be converted for safety reasons into MOX for its return. Once more, the dependence of the future of THORP upon the MOX Plant is underlined, and in a manner that makes plain that the dependence extends to their future operations.

---

<sup>23</sup> Quoted in the United Kingdom Counter Memorial, p. 66, fn. 30.

<sup>24</sup> By letter dated 4 February 2003, Ireland sought access to these, but this was refused. The exchange of letters are in the Reply, vol 3(1), Annexes 152 and 155.

<sup>25</sup> Reply, vol 3(2), Annex 178, p 38 (emphasis added).

<sup>26</sup> *Supra* n 1, Annex B.1.

<sup>27</sup> Witness Statement of John Simon Clarke, Counter Memorial, Annex 2, para 227.

<sup>28</sup> This is not to be construed as saying that transporting MOX fuel is safe. MOX contains plutonium. It is widely recognised as a proliferation risk, a terrorist risk and an accident risk. The plutonium content can be extracted by chemical means as stated in the Barnaby Report, Reply, vol 2, Appendix 13. See Reply, vol 3(2), Annex 171, the United Kingdom Office of Parliamentary Science and Technology Paper on Mixed Oxide Nuclear Fuel, which states, “[t]he Environment Agency has stated that ‘the risks of transport and proliferation’ would be similar for plutonium oxide or for MOX”. See also Memorial, vol 3(2), Annex 95, para A4.142.

2.37. This is well recognised in the United Kingdom. The ADL Report on the economic case for the MOX Plant, for example, stated that BNFL's "[c]ustomers expressed a clear intent, during independent interviews with ADL, to convert all their plutonium arising from the Baseload reprocessing contracts and the Japanese Magnox contracts into MOX fuel", and that "[i]nterviews with customers also confirmed that there would be little point for them to sign further reprocessing contracts with BNFL if SMP did not proceed."<sup>29</sup> Hence the ADL conclusion that "[t]he most direct wider economic impact [of not proceeding with SMP], and the one with the likely largest effect, is the potential loss of future reprocessing contracts for THORP, and associated contracts for SMP."<sup>30</sup> As BNFL itself put it, in March 2001,

"Without the ability to fabricate MOX, BNFL has no proven ability to recycle the plutonium product of reprocessing to customers. Failure to obtain approval for SMP is likely to severely damage BNFL's ability to secure further reprocessing and consequential MOX business and hence valuable export earnings for the UK."<sup>31</sup>

2.38. At one point in the Counter Memorial the United Kingdom seems to suggest that Ireland is premature in referring to these possible future contracts in its claim. It says that no decision has yet been taken which is liable to prolong the life of THORP.<sup>32</sup> That may be technically true (although as is explained below the United Kingdom's Sintra Strategy reflects the expectation that the life of THORP is now extended to 2024);<sup>33</sup> but it is not relevant. Ireland's case is that it is foreseeable as a likely consequence of the authorisation of the MOX Plant that there will be additional reprocessing in THORP, and that both the discharges from the MOX Plant and those from THORP are foreseeable consequences of the authorisation. The relevant point is the stated intention (and commercial necessity) for THORP and the MOX Plant to operate in tandem and for further business to be obtained for them. The link is demonstrated in detail in the reports of Mr MacKerron and of Dr Barnaby.<sup>34</sup> In that context, the need for decisions to authorise any future contracts does not preclude the foreseeability of future discharges.

2.39. It will be noted that the Counter Memorial implicitly confirms the analysis above. In paragraph 6.108 it is said that "in the absence of a decision authorising variation of existing reprocessing contracts, or the conclusion of new reprocessing contracts, the operation of the MOX Plant is not expected to result in any increase in the number of marine transports through the Irish Sea." The link between the MOX Plant and reprocessing through THORP is evident.

---

<sup>29</sup> Memorial, vol 3(2), Annex 97, pp. 9, 30.

<sup>30</sup> Memorial, vol 3(2), Annex 97, p. 4.

<sup>31</sup> *The Economic and Commercial Justification for the Sellafield MOX Plant (SMP)*, Memorial, vol 3(3), Annex 104, Appendix C, para C.2, pages 27-28.

<sup>32</sup> Counter Memorial, para 6.130.

<sup>33</sup> See below paras 3.25 *et seq.*

<sup>34</sup> Reply, vol 2, Appendices 13 and 17. See also paras 2.7- 2. 40 above.

CONCLUSION REGARDING THE LINK  
BETWEEN MOX AND THORP

2.40. That the operation of the MOX Plant was premised upon the continuing operation of THORP is undeniable. That does not in itself demonstrate that the authorisation of the MOX Plant has, as a likely and foreseeable consequence, the prolongation of the life of THORP. That foresight would be demonstrated, however, in one of two scenarios. The first is that THORP is unable to continue functioning as planned unless it has the ability to transfer plutonium to the MOX Plant. The second is that the MOX Plant is unable to function as planned unless it is supplied with greater quantities of plutonium than were originally planned to emanate from THORP and there is no expectation that it is likely that the additional plutonium required by the MOX Plant will come from sources other than THORP. It is possible that both of those scenarios should exist together; and the evidence set out above is that they did.

**B. ARE DISCHARGES OF NUCLEAR WASTE INTO THE IRISH SEA  
“POLLUTION” WITHIN THE MEANING OF UNCLOS?**

2.41. The United Kingdom appears to deny that the discharges arising from the operation of the MOX Plant constitute “pollution” within the meaning of Article 1(1)(4) of UNCLOS. This is because, it is said, those discharges pose no risk of any harm or hazards, and because the discharges constitute “such an infinitesimally small amount of the total emissions from Sellafield as to be below the current limit of detection.”<sup>35</sup>

2.42. This approach marks a clear departure from the position taken by the United Kingdom during the provisional measures phase of these proceedings, when it conspicuously did not challenge Ireland’s assertion that the discharges – however small – constituted “pollution”.<sup>36</sup> In Ireland’s view, this new argument is quite wrong. One of the United Kingdom’s own witnesses estimated that there is the equivalent of about 200 kilograms of plutonium deposited on the bed of the Irish Sea.<sup>37</sup> It has a half-life of 24,400 years; and there is no practical possibility of removing it from the Irish Sea. Ireland finds it astonishing that the United Kingdom should suggest that the deliberate addition of further plutonium, from the MOX Plant and THORP, to this stockpile should be entirely unregulated by the UNCLOS provisions on marine pollution.

2.43. The United Kingdom argument focuses on the small radiation dose that results from the planned radioactive discharges from MOX.<sup>38</sup> That dose being small, it is said that “there is no credible basis” for the assertion that it can constitute pollution.<sup>39</sup> The consequence is that the planned discharges entirely escape the UNCLOS provisions regulating marine pollution.

2.44. Ireland fully accepts that if the harmful consequences of pollution are, in a particular case and in particular respects, very small then the preventive or remedial action

---

<sup>35</sup> Counter Memorial, paras 7.16 and 7.19.

<sup>36</sup> Memorial, para 9.65.

<sup>37</sup> Report by Dr G J Hunt, Counter Memorial, Annex 4, para 29.

<sup>38</sup> Counter Memorial, paras 5.12, 7.13-7.23.

<sup>39</sup> Counter Memorial, para 7.22.

required by UNCLOS is likely to be less than is required if the harmful consequences are significantly greater. It does not accept that planned discharges into the sea of radioactive material on an industrial scale, from a very large and commercially-operated nuclear facility, can ever be regarded as non-polluting and beyond the UNCLOS disciplines relating to marine pollution.

2.45. If the Tribunal were to accept the United Kingdom's argument, the effect would be entirely to remove from the constraints of Part XII of UNCLOS the discharges into the marine environment of radioactive substances in the amounts to be discharged from the MOX Plant. The United Kingdom does not argue in terms that the discharges from THORP are not "pollution" within the meaning of the 1982 Convention (it ignores all discharges not arising directly from the MOX Plant). It is implicit in the United Kingdom's approach, however, that none of the discharges from the Sellafield site constitute "pollution" since they do not (on its argument) give rise to "risk of significant harm" to human health.<sup>40</sup> Even if these claims concerning the health risks are correct (which Ireland does not accept: see below), the United Kingdom has misunderstood and misapplied UNCLOS's definition of pollution. This may explain why, on the basis of the material it has presented to the Arbitral Tribunal, at no point in the process of authorising the operation of the MOX Plant did the United Kingdom have regard to its obligations under UNCLOS. As described in Chapters 3 and 6, the United Kingdom's decision-making process completely ignored the requirements of the Convention.

2.46. Nothing in the text, or the drafting history, of UNCLOS suggests that the Convention has such an attenuated scope as is suggested by the United Kingdom. The UNCLOS definition of pollution appears in Article 1(4), where it is said that

“(4) "pollution of the marine environment" means 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.”

2.47. The United Kingdom's approach is misconceived in several respects.

2.48. First, the definition of "pollution" is not limited to the introduction of substances or energy that result or are likely to result in "hazards to human health," as the United Kingdom suggests. The definition of pollution in the Convention refers also to harm to living resources and marine life, hindrance to marine activities, impairment of quality for use of sea water and reduction of amenities. The United Kingdom ignores the plain meaning of the Convention: it fails to address any of these other aspects, taking refuge once again in the claim that the modest increase in doses to humans will not be harmful. As is explained in Ireland's Memorial evidence, the possibility of harm to living resources and marine life, of hindrance to marine activities, and of impairment of quality for use of sea water and reduction of amenities, cannot be excluded. Indeed, the United Kingdom is careful not to say there is no risk. And as regards risks to human health, Ireland notes the failure of the United Kingdom to respond to the references made in Ireland's Memorial to the view of the National Radiological Protection Board (NRPB), the principal authority on these matters in the United Kingdom, which has stated:

---

<sup>40</sup> Counter Memorial, para 7.17.



“There is very strong scientific evidence that the energy from radioactive material affects the cells of the body, mainly because of the damage it can cause to cellular genetic material known as DNA. DNA controls the way in which each individual cell behaves. At high doses enough cells may be killed by damage to DNA and other parts of the cell to cause great injury to the body and even rapid death. At lower doses there will be no obvious injury but a number of the cells that survive will have incorrectly repaired the DNA damage so that they carry mutations. Some specific mutations leave the cell at greater risk of being triggered to become cancerous in the future. The body will already carry cells with these mutations from other causes but the ionising radiation exposure increases the number of these mutant cells. It therefore increases the chance of cancer development, usually after many years.

The scientific information that has been obtained worldwide leads NRPB to believe that even the lowest dose of ionising radiation, whether natural or man-made, has a chance of causing cancer. The extra cancer risk from very low doses will be extremely small and, in practice, undetectable in the population. However the extra cancer risk at higher doses may be detectable using statistical methods. Even after high dose exposure it is rarely possible to be certain that radiation was directly responsible for a cancer arising in an individual.”<sup>41</sup> (emphasis added)

The United Kingdom has chosen not to respond to this or to introduce evidence from the NRPB.

2.49. Second, the United Kingdom fails to have regard to the context in which the definition of “pollution” is located. “Pollution” and “damage caused by pollution” are distinct concepts in UNCLOS, as Articles 194(2) and 235 make clear.<sup>42</sup> It is implicit in those provisions that a State may cause “pollution” without causing “damage” (within the meaning of the Convention), and that it may be possible to cause “pollution” without being liable to pay compensation for “damage”. Although the Convention aims to prevent all damage, it does not aim to prohibit all “pollution”. Rather, as Article 194 makes clear, States are required to take steps to “prevent, reduce and control pollution”. The Convention implicitly recognises that in modern industrial society certain “pollution” of the marine environment may be inevitable.

2.50. Third, UNCLOS makes it clear that substances that are toxic, harmful or noxious are always to be considered as pollutants, in whatever quantities. Article 194(3) (which is

---

<sup>41</sup> [http://www.nrpb.org/radiation\\_topics/risks/damage.htm](http://www.nrpb.org/radiation_topics/risks/damage.htm) (web site last visited on 19 February 2003). See Memorial, para 9.66.

<sup>42</sup> Art. 235 entitled “Responsibility and liability” provides:

- “1. States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.
2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.
3. With the objective of assuring prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, States shall cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation funds.

entitled “measures to prevent, reduce and control pollution of the marine environment”) obliges States *inter alia* to take measures to:–

“minimize to the fullest possible extent ... (a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping”.

The provision does not refer to “toxic, harmful or noxious substances which pollute.” The scheme of the Convention is that all such substances, and especially those which are persistent (including radioactive substances), are to be treated as pollutants for the purposes of the obligations under Article 194 and related provisions of UNCLOS. This assumption applies to releases from land-based sources and by dumping from vessels at sea.

2.51. Fourth, the United Kingdom’s approach in the present case is inconsistent with international practice (including its own) in relation to dumping of radioactive substances by vessels at sea, which treats radioactive substances in *any* quantities as pollutants (the practice is referred to by Ireland in its Memorial – at paragraph 9.42 – and has drawn no objection from the United Kingdom). In 1994 the United Kingdom accepted the commitment set forth in Resolution LDC 51(16) Concerning the Disposal at Sea of Radioactive Wastes and Other Radioactive Matter, adopted by the Sixteenth Consultative Meeting of the Parties to the 1972 London Dumping Convention.<sup>43</sup> The Resolution prohibits the dumping of all radioactive wastes at sea (low-, medium- and high-level) in any quantities, by adopting amendments to Annex I of the 1972 Convention. The preamble indicates that the objective of the amendments reflects the desire of the Parties: “desiring to prevent pollution”. The amendment is premised on the Parties’ views that the disposal of radioactive substances in anything other than “*de minimis*” quantities causes pollution within the meaning of the 1972 Convention.

2.52. The same conclusion is reached by reference to the text of the 1992 OSPAR Convention<sup>44</sup> and the 1996 Protocol to the 1972 London Dumping Convention,<sup>45</sup> both of which prohibit the dumping of low- and intermediate-level radioactive substances in any quantities, however infinitesimally or “vanishingly” small. The rationale behind the prohibition may be found in the preamble to the 1992 OSPAR Convention, which states:

“... that the present Oslo and Paris Conventions do not adequately control some of the many sources of pollution, and that it is therefore justifiable to replace them with the present Convention, which addresses all sources of pollution of the marine environment [...].”

Similarly, the Preamble to the 1996 Protocol reflects the Parties’ conviction that

“further international action to prevent, reduce and where practicable eliminate pollution of the sea caused by dumping can and must be taken without delay to protect and preserve the marine environment and to manage human activities in

---

<sup>43</sup> Reply, vol 3(1), Annex 165. The amendment was adopted with thirty-seven votes in favour, none against, and seven abstentions (including the United Kingdom). In 1994 the United Kingdom signalled that it agreed to be bound by the amendment.

<sup>44</sup> (Annex II, Article 3(3)(a)). Ireland and the United Kingdom are Parties.

<sup>45</sup> The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (The London Convention) and the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972. The United Kingdom and Ireland are both contracting Parties to the Convention and the Protocol.

such a manner that the marine ecosystem will continue to sustain the legitimate uses of the sea and will continue to meet the needs of present and future generations”.

2.53. There is a related point. The London Dumping Convention ban does not apply to wastes containing “*de minimis*” (exempt) levels of radioactivity as defined by the IAEA and adopted by Contracting Parties”.<sup>46</sup> In November 1999 the Parties to the 1972 Convention adopted revised Guidelines for the Application of the *de minimis* Concept under the Convention, adopting the recommendations of the IAEA.<sup>47</sup> The Guidelines provide for two categories. The first comprises the following materials which are eligible for consideration for dumping at sea without further consideration. They are:

“(1) natural radionuclides in environmental and raw materials, unless there is concern on the part of the national regulatory authority that the radiation field would be substantially modified;

(2) radionuclides in materials derived from activities involving some modifications of the natural radionuclide composition that has been considered by the national regulatory authority, and deemed not to warrant radiological control, having taken proper account of the marine environmental and other conditions relevant to the disposal, re-use and relocation of materials;

(3) widely-distributed radionuclides resulting from global fallout from nuclear weapons tests, satellite burn up in the stratosphere, and accidents, that have led to widespread dispersion of radionuclides that are deemed by the national regulatory authority not to warrant intervention; and

(4) radionuclides arising from sources and practices that have been exempted or cleared nationally from radiological control, pursuant to the application of the international criteria for exemption and clearance, where proper account has been taken of the marine environmental and other conditions relevant to potential disposal, re-use and relocation of such materials.”<sup>48</sup>

The discharges from the MOX Plant cannot be included within this category. It is of particular note that even for these trivial discharges there will in some cases be a need to take account of effects on marine environmental conditions. The impact on the marine environment is the critical factor, and impacts on human health are not referred to in any way.

2.54. The second category concerns materials that cannot be exempted without consideration but which may be subjected to a specific assessment to determine if they still qualify for exemption under the 1972 Convention. The only materials which may fall within this category are those that “originate from practices and sources previously exempted or cleared by the national regulatory authorities from regulated practices”.<sup>49</sup> The MOX Plant has not been and could not be exempted. Discharges from the MOX Plant are not *de minimis* under this category either.

---

<sup>46</sup> Reply, vol 3(1)Annex 165, LDC Resolution LC.51(16), Annex I, para 3.

<sup>47</sup> Reply, vol 3(2), Annex 180, p 121, LC 21/13, 1 November 1999, at para 6.14 and Annex 6. The IAEA recommendations are set forth in IAEA-TECDOC-1068, March 1999, Reply, vol 3(2), Annex 181.

<sup>48</sup> *Ibid*, p 127, Annex 6, para 2.1.

<sup>49</sup> Reply, vol 3(2), Annex 181, IAEA-TECDOC-1068, p. 10.

2.55. MOX discharges do not meet current *de minimis* thresholds under the 1972 London Dumping Convention. Those standards are now being reviewed on the grounds that they may have insufficient regard to environmental considerations. The parties to the 1972 Convention have noted that some of the criteria set forth in the Guidelines (in relation to specific assessments) only apply to human health “and are not applicable to the protection of flora and fauna and the marine environment”, and expressed the view that “determination of *de minimis* also needs to consider the radiological effects of candidate materials on the flora and fauna of the marine environment”.<sup>50</sup> In 2001 the matter was discussed again by the parties, following a lead taken by Canada. The Report states:

“The delegation of Canada pointed out that guidance on radiological assessment procedures only applied to effects on human health and not on flora and fauna and the marine environment. He invited the IAEA to inform the Meeting on its plans to develop guidance on the matter. It was recalled that this issue had been discussed at the last Consultative Meeting and that eventually ‘*de minimis*’ guidance should also cover effects on flora and fauna and the marine environment. It was agreed that Contracting Parties should apply the ‘precautionary approach’ as a preliminary guidance in this regard.”<sup>51</sup>

The Parties also requested the IAEA to develop specific assessment procedures providing an evaluation of the adverse radiological impacts on flora and fauna and the marine environment.<sup>52</sup>

2.56. Against this background the argument that the discharges from the MOX Plant do not constitute pollution is simply not credible. The United Kingdom has not sought to make the argument in relation to discharges from THORP.

### **C. IS IT NECESSARY FOR THE TRIBUNAL TO DECIDE SCIENTIFIC CONTROVERSIES IN ORDER TO DECIDE THIS CASE?**

2.57. The central question in this case is whether or not the United Kingdom has fulfilled its duties under UNCLOS to co-operate and co-ordinate with Ireland, and to prevent pollution of the Irish Sea. That question can be answered without the Tribunal needing to decide between different views on matters of scientific controversy. Most of the scientific issues touched upon in the pleadings in this case are not contentious. There are some disagreements between the Parties’ experts over issues where there is a shortage of data or a lack of consensus concerning the inferences to be drawn from the data. But none of the disagreements go to the heart of the issues that fall for decision.

2.58. While the measures to be taken in respect of the foreseeable pollution will naturally depend upon the nature and extent of that pollution, the duties of assessment, consultation and co-operation in relation to those measures is constant: a thousand-fold increase in the risk of pollution does not entail a thousand-fold increase in the extent of the consultation and co-operation involved.

---

<sup>50</sup> Reply, vol 3(2), Annex 180, p 137, Report of 22<sup>nd</sup> Consultative Meeting of Parties to the 1972 Convention, LC 22/14, 25 October 2000, p. 24

<sup>51</sup> *Ibid*, p 145, Report of 23<sup>rd</sup> Consultative Meeting of Parties to the 1972 Convention, LC 23/16, 10 December 2001, p. 31, para 7.10.

<sup>52</sup> *Ibid*, p. 148, para 7.12.

2.59. The duties to prevent the pollution will vary according to the nature and extent of the pollution or risk of pollution that exists. Ireland's case, however, does not require the Tribunal to determine what specific practical measures the United Kingdom ought to have taken in the light of a proper appraisal of the scientific facts. Ireland rests its case against the United Kingdom upon two kinds of failing that can be identified clearly without evaluating the scientific evidence as such. First, the evidence before the Tribunal clearly indicates that in taking steps to implement its duties under UNCLOS to prevent pollution arising from the operation of the MOX Plant the United Kingdom ignored certain factors that it was obliged to take into account. Prominent examples are the failure to consider the consequential discharges from THORP that were among the foreseen and intended consequences of the operation of the MOX Plant, and the failure to assess the MOX / THORP discharges in terms other than their effect upon the health of the human population. Secondly, in implementing its UNCLOS duties the United Kingdom failed to apply the correct environmental standards. For example, it applied the cost-dependent notion of the 'Best Practicable Means' rather than the UNCLOS standard, which refers to measures that minimize discharges "to the fullest possible extent."

2.60. Both of those failings are apparent from the face of the documentary evidence before the Arbitral Tribunal; and neither depends upon an evaluation of the scientific evidence, let alone a decision upon scientific controversies.

2.61. Nonetheless, there are passages in the Counter Memorial and certain of the reports attached to it that are incorrect or misleading and which Ireland considers it necessary to correct; and there are mistakes in a report annexed to the Memorial that also need to be corrected. (There are further detailed corrections and responses to the Counter Memorial annexed to this Reply.)

2.62. Dr Barnaby has corrected a number of errors in the version of his report that was printed in the Memorial and updated his report to take account of materials previously not available to him. The revised text appears as Appendix 13 to this Reply. Dr Salbu has also responded to criticisms of her report.<sup>53</sup>

2.63. Dr Hartnett points out<sup>54</sup> the high degree of consensus between his views and those of the United Kingdom expert, Dr Hill. He expresses his surprise that the United Kingdom cites no details drawn from the environmental study carried out during the planning stages of the MOX Plant to argue that the Irish Sea is a suitable receptor for radionuclides, and that it refers to no system for modelling the movement of radioactive discharges that would allow the real-time prediction of movements of radionuclides for the purpose of emergency response planning. He also notes that the United Kingdom's general discussions of the oceanography of the Irish Sea as a whole do not acknowledge the localised effects of the operation of the Irish Sea gyre, which was in any event unknown during the original planning of the Sellafield site. The gyre may occupy approximately 25% of that area of the Irish Sea that is most significantly affected by Sellafield discharges.

2.64. Professor Liber was a member of the NCRP group that produced the report (Report No. 136, June 2001) that the United Kingdom expert Dr Preston says "reviewed in detail" the question of the effects of low-dose radiation, and on which the United Kingdom relies to demonstrate that the linear model held good for the dose-response relationship in the

---

<sup>53</sup> Reply, vol 2, Appendix 20.

<sup>54</sup> Reply, vol 2, Appendix 14.

low dose region, so that effects of MOX-related discharges could be ignored.<sup>55</sup> Professor Liber points out that his report annexed to the Memorial was based on quantitative data that became available after Report No. 136 was published.<sup>56</sup> The new data are not taken into account in the Counter Memorial.

2.65. The United Kingdom's general approach to the scientific evidence on the effects of low-dose radiation is discussed by Dr Mothersill, who says that the discounting of any evidence that seems to run counter to current ICRP analyses "is not a tenable position and in this area of low dose risk analysis makes all research apparently meaningless." She points out that the analysis put forward by the United Kingdom is based on a number of assumptions: that cancer (of little relevance to biota other than man) is the only consequence to be considered; that background radiation that is constant produces the same effects as sudden or pulsed exposure. The impact upon non-human biota is the central concern of the recent and important ICRP study, *Protection of Non-Human Species From Ionising Radiation* (2003), annexed to this Reply,<sup>57</sup> which considers this matter in considerable detail.

2.66. Dr Mothersill acknowledges that bodies such as the NCRP have not changed the basis of risk assessment in the light of the considerable body of emerging evidence (including about 200 papers in the last 3-5 years on 'bystander effects,' including data obtained *in vivo*) on the effects of low dose radiation. She summarises the position thus:

"The fact that an august established body such as the NCRP is cautious about changing the basis of risk assessment in the absence of a new way to regulate does not mean that the effects are not relevant, merely that they do not know what to do about these new data, or what way they may change the shape of the low dose part of the response curve. Regulators above all, need to regulate. My role is to present the new data and explain why people might be concerned about low doses of radiation. How the information is transformed into regulatory policy is not really the crux of the argument at all. Accepting that it exists is."<sup>58</sup>

2.67. She explains the limited basis and role of the current approach to low dose radiation:

"Models are mathematical tools which allow scientists to derive numbers. They are rarely based on experimental data as they are mostly used where data are unobtainable. In the face of such uncertainty, ICRP adopt the Linear No Threshold (LNT) relationship *as an operational tool*, because it represents a mean of the existing views and allows regulators to regulate. This is not the same as defining a risk, it just indicates that the risk cannot be uniquely assigned or defined with any certainty."

2.68. Towards the end of her response Dr Mothersill gives what may be thought a helpful insight into the way that the matter is considered by the Irish public. She writes:

"No one is saying that the radiation discharges from the Sellafield site will definitely cause massive increases in cancers in Ireland or cause untold harm to

---

<sup>55</sup> NCRP Report No. 136. See United Kingdom Counter Memorial, para 7.130 and Annex 8, para 13.

<sup>56</sup> Professor Liber also notes that Report No. 136 itself concluded that "it seems probable that exposure of humans to very low doses and low-dose rates of ionising radiation does result in permanent alterations in DNA sequences." See Reply, vol 2, Appendix 16.

<sup>57</sup> Reply, vol 3(2), Annex 184.

<sup>58</sup> Reply, vol 2, Appendix 18. See also Appendix 19.

the marine ecosystem but we are saying that we do not know how many cancers or other health effects might be due to historic, or current releases. When it became apparent that low doses induced a range of effects that could not simply be predicted using an LNT model, people became worried. When it also became apparent that the established scientists and regulators refused to accept the new mechanisms as existing, never mind impacting on risk, and are even now reluctant to accept that they damage the current paradigms of the mechanisms of radiation action on living organisms, the general public became mistrustful. This mistrust is why the UNCLOS hearing has come about.”

**D. IN FULFILLING ITS OBLIGATIONS UNDER UNCLOS PART XII  
MAY THE UNITED KINGDOM HAVE REGARD ONLY TO THE  
RADIATION DOSE TO SUSCEPTIBLE GROUPS?**

2.69. The fourth key question is whether it is correct, in considering what obligations attach to the discharges of radioactivity into the sea, to have regard only to the question of the effects of the discharges on the resultant radiation dose to susceptible groups. The question arises because so much of the United Kingdom’s case appears to be based on the premise that if the radiation dose is low, other aspects of the discharges, such as the addition to the current inventory of plutonium in the Irish Sea, can be disregarded. Ireland does not accept that position, which misunderstands the nature of the obligations that the United Kingdom has accepted under UNCLOS. As its title indicates, UNCLOS Part XII has as its object the “protection and preservation of the marine environment,” not “protection and preservation of human health,” although clearly human health will be well served by the careful compliance by States with their obligations with respect to the marine environment.

2.70. In its Memorial, Ireland set out in detail those obligations. They include, but are not limited to, the obligations to minimise radioactive pollution from the MOX Plant and THORP “to the fullest possible extent,” to require the use of “best available techniques” and “best environmental practices,” and to achieve “progressive and substantial reductions of discharges, emissions and losses of radioactive substances” and ensure that such discharges are “reduced by the year 2020 to levels where additional concentrations in the marine environment above historic levels ... are close to zero.” These points are reiterated in this Reply. The United Kingdom has completely failed to address these arguments, choosing instead to focus its attentions entirely upon the question of the effects of the discharges on the resultant doses to susceptible groups of human beings.

2.71. In Chapter 8 of this Reply, Ireland addresses the failure of the United Kingdom to address its substantive obligations under UNCLOS in relation to pollution prevention. For present purposes it is sufficient to note that it is common ground that the equivalent of no less than 200 kilograms of plutonium have been deposited on the floor of the Irish Sea.<sup>59</sup> (Some United Kingdom sources put it higher.)<sup>60</sup> The operation of the MOX Plant and THORP will add to that inventory. The United Kingdom maintains that the consequent

---

<sup>59</sup> See para 2.42 above; and Memorial, para 1.27.

<sup>60</sup> See Memorial, para 1.19, fn. 22.

additional dose from SMP emissions is negligible.<sup>61</sup> There are three defects in that argument.

### (1) THE MOX/THORP LINK

2.72. First, the MOX Plant emissions cannot be considered in isolation, but must be considered along with the associated emissions from THORP. This was explained above.<sup>62</sup>

### (2) THE EFFECT ON OTHER BIOTA

2.73. Second, the predicated low radiation dose to human beings is not the only relevant factor to be taken into account. Regard must also be had to the effects on other biota, to the effects on water quality and amenity value, and to the uncertainties concerning the effects of low-dose radiation.

2.74. The relevance of the effects on other biota is recognised in one paragraph of the United Kingdom Counter Memorial in which the *MARINA II* study is quoted as concluding that

“...throughout the assessment period 1986-2001, the estimated dose values were all below the levels of deterministic effects of radiation, so it is unlikely that any radiation effects will appear in marine organisms.”<sup>63</sup>

2.75. Reading the full *MARINA II* study puts that statement into a rather different context. The study notes that

“Until the recently (*sic*), the international position concerning the radiation protection of biota was based on the ICRP statement that ‘...if man is adequately protected then other living things are also likely to be sufficiently protected.’ ... However, *Homo sapiens* represents only one biological species, whereas the biosphere consists of millions of species, differing considerably from man by their size, lifespan, habitat, habits and radiosensitivity. The living conditions for non-human organisms in the natural ecosystems are not comparable with the conditions of human life, and the radiation doses to non-human organisms may be orders of magnitude different from the exposure of humans.

.....

..... No internationally agreed criteria, or guidance, exist for assessing the impact of environmental radiation on flora and fauna.”<sup>64</sup>

---

<sup>61</sup> E.g., Counter Memorial, paras 5.46, 5.58, 7.8; Annex 1: Summary of the main issues raised by interested organisations and individuals and the Secretaries of State’s views on those issues, Counter Memorial, Annex 28, paras 6-7.

<sup>62</sup> Paras 2.7-2.40 above.

<sup>63</sup> Counter Memorial, para 7.18. It will be noted that the statement is confined to deterministic effects, and excludes stochastic effects.

<sup>64</sup> *MARINA II: Update of the MARINA Project on the radiological exposure of the European Community from radioactivity in North European marine waters*, (2002), Counter Memorial, Annex 19, Annex F: *Assessment of the Impact of Radioactive Substances on Marine Biota of North European Waters*, p. 1. See also the same approach now reflected Parties to the 1972 Convention.



2.76. Moreover, the approach of the MARINA study, and of other studies, focuses on the protection of populations of entire aquatic *species*, asking whether the radiation dose is likely significantly to affect the level of mortality.<sup>65</sup> They do not focus on the question of the impact of radiation on *individuals*; and they tend to assume an even distribution of radionuclides and not to examine the effects of atypical concentrations,<sup>66</sup> such as the localised concentrations of plutonium in the Irish Sea.<sup>67</sup>

2.77. Ireland's position is simple. It does not assert that there are proven and serious detrimental effects on the biota of the Irish Sea. It does, however, consider that the deliberate augmentation by the United Kingdom of a very sizable existing inventory of plutonium and other radionuclides in the Irish Sea must proceed with extreme caution, given the extreme toxicity of some of the radionuclides, the practical irreversibility of the dumping of the wastes in the Irish Sea, and the extremely long half-life – over 24,000 years; approaching ten times the length of recorded history– of the main contaminant, plutonium.

2.78. In these circumstances it is not enough to assert that doses to human beings are within internationally-agreed safety levels, or simply to assert that there is no evidence of a significant impact on non-human species.<sup>68</sup> Attention must be paid to the effects on non-human biota. In the absence of greater scientific certainty and the formulation of internationally agreed criteria and guidance concerning the impact of environmental radiation on flora and fauna, the greatest restraint is called for from those who wish to use the seas as a dumping ground for their industrial wastes. This is precisely the approach reflected in the 1998 Sintra Declaration and the meetings of the Parties to the 1972 London Convention since 1999. If there were ever a case for the application of the precautionary principle, this must surely be it.

2.79. The United Kingdom also appears to dismiss the concerns of the Irish population as irrational and deserving of no accommodation. There can be no doubt about the strength of feeling in Ireland concerning the radioactive discharges from Sellafield, and in particular the prolongation and intensification of those discharges as a result of the operation of the MOX Plant. These concerns are not based upon irrational fears: they are based upon knowledge that the Irish Sea has over recent years been used to deposit large quantities of radioactive industrial wastes from Sellafield, that there is a very significant amount of plutonium already in the sea, and that the United Kingdom proposes to continue discharging radioactive wastes from THORP and the MOX Plant to that sea to 2024 and perhaps even beyond. The impairment of the quality of the water is plain, and that knowledge also necessarily entails an impairment of the amenity value of the Irish Sea.

---

<sup>65</sup> *MARINA II: Update of the MARINA Project on the radiological exposure of the European Community from radioactivity in North European marine waters*, (2002), Counter Memorial, Annex 19, Annex F: *Assessment of the Impact of Radioactive Substances on Marine Biota of North European Waters*, pp. 3-4; Westlakes Report, *Summary of Radionuclide Concentrations in Non-human Biota in the Vicinity of BNFL Sellafield and an Assessment of the Resulting Doses*, (undated), pp. 2-4.

<sup>66</sup> Westlakes Report, *Summary of Radionuclide Concentrations in Non-human Biota in the Vicinity of BNFL Sellafield and an Assessment of the Resulting Doses*, (undated), p. 2.

<sup>67</sup> Report by Dr G J Hunt, Counter Memorial, Annex 4, p.14.

<sup>68</sup> See, e.g., the bald assertion by the United Kingdom witness Mr Clarke: Counter Memorial, Annex 2, para 197, referring back to para 59, which refers in turn to the *Proposed decision for the future regulation of disposals of radioactive waste from British Nuclear Fuels plc Sellafield*, Counter Memorial, Annex 17 (apparently at p. 17, which does not support the proposition advanced by Mr Clarke.)

2.80. Ireland submits that the concerns and the interests of the Irish population are further factors that demand specific and distinct attention in the processes by which the United Kingdom reaches decisions on projects such as the MOX Plant.

### (3) THE EFFECTS OF LOW-DOSE RADIATION

2.81. The third factor is the uncertainty relating to low-dose radiation. Here the experts adduced by Ireland and the United Kingdom differ in their estimation of the likely risks arising from low-dose radiation. Ireland does not expect the Tribunal to attempt to resolve the scientific controversy. It does, however, contend that in the present state of scientific uncertainty, which is acknowledged by the United Kingdom's expert witness,<sup>69</sup> and given the relatively short period for which data are available, no State may dismiss the possibility of harm to human beings or other biota arising from low-dose radiation. No State may, in other words, give low-dose radiation a zero risk rating. That question has been addressed in the responses of Dr Mothersill and Professor Liber, noted above and appended to this Reply.<sup>70</sup>

### CONCLUSION

2.82. Ireland submits that the four key questions have clear answers:

- **It was foreseen and intended that there would be a link between the MOX Plant and THORP. The MOX Plant would be supplied primarily by THORP, whose ability to obtain further reprocessing contracts would be increased, thus extending its operating life**
- **The discharges of radioactive nuclides into the Irish Sea that arise as the foreseeable consequence of the operation of the MOX Plant constitute pollution within the meaning of UNCLOS**
- **The Tribunal has no need to resolve scientific questions in order to decide this case.**
- **The United Kingdom is obliged to take into account factors other than radiation dose to human groups when assessing the consequences of discharges arising from the operation of the MOX Plant.**

---

<sup>69</sup> See Dr R Julian Preston, *Assessment of Health Risks at Low Radiation Doses*, Counter Memorial, Annex 8, paras 6-7.

<sup>70</sup> See the Reports of Dr Mothersill (Appendix 18) and Prof Liber (Appendix 16) in volume 2 of the Reply.

## CHAPTER 3

### THE MOX PLANT AUTHORISATION: PROCESS AND STANDARDS

3.1. The process by which the United Kingdom authorised the MOX Plant, and the standards it applied, lie at the heart of this case. Ireland considers that in its authorisation of the MOX Plant the United Kingdom failed to have regard to the requirements of the 1982 UNCLOS and applicable international rules and standards adopted in accordance with UNCLOS (including rules and standards set forth in the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration).

3.2. The United Kingdom appears to accept that the process of authorising the MOX Plant occupies a central part of this case. It devotes considerable attention to the subject,<sup>1</sup> as do several of the witnesses upon which it relies, in particular Mr Parker and Mr Clarke.<sup>2</sup> The United Kingdom states:

“The ongoing operations at Sellafield, including the operation of the MOX Plant and THORP, are subject to a highly developed domestic regulatory regime [...]”<sup>3</sup>

But the state of development of the United Kingdom’s regulatory regime is not the issue. The issue is whether that regulatory regime delivered upon the United Kingdom’s international commitments in relation to its obligations under the 1982 UNCLOS.

3.3. This Chapter explains why, in Ireland’s view, the United Kingdom’s regulatory regime has not so delivered. It sets the scene for the more detailed and specific consideration addressed in subsequent chapters of the violations of the 1982 Convention by reference to the obligations to assess the environmental consequences of the MOX Plant (Chapter 6), to cooperate (Chapter 7) and to prevent and minimise pollution (Chapter 8). This Chapter addresses the following matters:

First, it demonstrates that the authorisation of the MOX Plant ignored the environmental consequences arising from the foreseeable extension of the operation of THORP (paras 3.5- 3.13 below);

Second, it demonstrates the manner in which the United Kingdom failed to have regard to its commitments under UNCLOS and applicable international rules and standards (para 3.14 *et seq* below);

Third, it shows that the MOX Plant was authorised on the basis of a discharge authorisation granted in 1994, and how the subsequent variations in 1999 and

---

<sup>1</sup> See in particular Counter Memorial, paras 2.14 *et seq*.

<sup>2</sup> See below at paras 3.30 and 3.32.

<sup>3</sup> Counter Memorial, para 2.51.

the proposed variations in 2001 and 2002, far from being designed to prevent or minimise pollution, avoid restrictions on future operations at the MOX Plant and THORP (para 3.57 *et seq*).

3.4. In short, Ireland’s position is that by failing to have regard to its obligations under UNCLOS to protect and preserve the marine environment, the United Kingdom has misdirected itself as to the applicable legal rules and standards when it authorised the operation of the MOX Plant. Specifically the United Kingdom:

- has failed to address the issue of concentrations of radionuclides in the Irish Sea;
- has failed to give effect to the requirement to deliver “substantial and progressive reductions” of discharges of radionuclides (and actually envisages increased discharges from reprocessing at Sellafield until 2026);
- has focused on delivering reductions in “discharge limits” rather than “discharges”;
- has adopted changes in discharge limits that are cosmetic, because historically there has been an excessively generous “headroom” between “discharge limits” and actual discharges, with the result that operations of the MOX Plant and THORP are unconstrained by new authorisation limits;
- has directed and then permitted its authorities to apply the standard of “Best Practicable Means” rather than the required standards of minimising discharges “to the fullest extent possible” and applying “Best Available Techniques” and “Best Environmental Practices”;
- has directed its authorities to apply the inappropriate standard of “cost-effectiveness”; and
- has failed entirely to consider the implications for its UNCLOS obligations of the extended use of THORP and other activities related to the authorisation of the MOX Plant.

In summary, the United Kingdom has ignored all the requirements which arose with the entry into force, on 24 August 1997, of UNCLOS. Instead of looking forward and applying new rules and standards, the United Kingdom has looked to the past and has applied its own old rules. This is notwithstanding the fact that Ireland drew to the attention of the United Kingdom the consequences of these new rules for the authorisation of the MOX Plant as early as 23 October 1998.<sup>4</sup>

## **A. THE AUTHORISATION OF THORP**

3.5. As described in the previous Chapter, Ireland’s position is that the authorisation of the MOX Plant should have considered all of its consequential effects, in particular those relating to THORP. This is all the more so since THORP itself has never been the subject of an environmental assessment. Indeed, the United Kingdom appears still to be unable to

---

<sup>4</sup> Reply, vol 3(1), Annex 134, Letter of Minister Joe Jacob to Minister Michael Meacher. See also vol 3(1), Annex 135.

assist the Tribunal in specifying precisely what discharges of radionuclides THORP causes to be discharged into the Irish Sea.<sup>5</sup>

3.6. The United Kingdom challenges Ireland’s assertion that THORP has never been subject to an environmental impact assessment.<sup>6</sup> It says that THORP was the subject of a planning inquiry, obtained a favourable Article 37 Opinion from the European Commission, and was the subject of litigation before the English courts (Potts J. concluding that a formal environmental impact assessment was inappropriate since Directive 85/337/EEC did not apply to it, and that information provided met the substantive requirements of the Directive).<sup>7</sup>

3.7. The planning inquiry took place in 1977, and a report was prepared in 1978. Neither addressed any of the environmental matters which are now the subject of domestic, EC and international laws, in particular UNCLOS. It did not assess the impacts of THORP on the marine environment of the Irish Sea.

3.8. The April 1992 Article 37 Opinion to which the United Kingdom refers, similarly did not address the impacts of the operation of THORP on the Irish Sea or most of the matters which are to be addressed under UNCLOS. It was concerned only with impacts upon human health, and concluded that any radioactive contamination of the environment would not, in normal operation or in the case of an accident of the type and magnitude considered in the general data provided by the United Kingdom, be significant from the point of view of health.<sup>8</sup> The Opinion did not address in any way the issues before this Tribunal, for example whether planned discharges could be further reduced, or the impact of discharges on concentrations of radionuclides in the Irish Sea. The Article 37 Opinion was not – and did not purport to be – an assessment of the impacts on the environment of THORP.

3.9. There is another point: Ireland has never seen the Article 37 “General Data” provided by the United Kingdom to EURATOM. It is not in the public domain. Ireland does not know whether the data provided addressed only the reprocessing of baseload contracts, or additionally existing post-baseload contracts, or additionally the future reprocessing contracts which BNFL hopes to secure off the back of the MOX Plant. There is no evidence before the Tribunal to show that the environmental consequences of the operation of THORP up to 2024 (as now envisaged)<sup>9</sup> have ever been considered.

3.10. The Tribunal does not have to express any view on whether Potts J decided correctly on the applicability of Directive 85/337/EEC to THORP.<sup>10</sup> The Tribunal will note, however, that the European Commission has recently commenced proceedings before the European Court of Justice against the United Kingdom on the grounds that the grant of outline planning permission does not permit subsequent decisions on a project to be taken without the benefit of a further environmental impact assessment.<sup>11</sup>

---

<sup>5</sup> Reply, vol 3(1), Annex 151, (Attachment 3), p 81.

<sup>6</sup> Memorial, para 1.48.

<sup>7</sup> Counter Memorial, paras 2.5-2.10.

<sup>8</sup> See Memorial, vol 3(3), Annex 122 for the Article 37 Opinion on THORP.

<sup>9</sup> This possibility is set out in the United Kingdom’s Sintra Strategy, 2000-2020: Counter Memorial, Annex 14. The Appendices to this document are at Reply, vol 3(1), Annex 167. See further discussion from paras 3.25, below.

<sup>10</sup> Counter Memorial, paras 2.10.

<sup>11</sup> See Reply, vol 3(2), Annex 183. See also para 6.15.

3.11. Ireland's point is correct: THORP itself has never been the subject of an environmental impact assessment. That remains the case. In the process of the MOX authorisation it was expressly decided that THORP should not be part of the environmental impact assessment process (under Directive 85/337)<sup>12</sup> and it was not subsequently addressed in the environmental assessment which the United Kingdom purported to carry out in the period 1997-2001.<sup>13</sup>

3.12. A final point concerns the United Kingdom's argument that it is premature for Ireland to raise THORP at this stage, and that "[t]he time for identifying and assessing the effects of additional discharges into the Irish Sea arising from additional reprocessing operations at THORP could only be when the decision-making process in relation to such additional operations is in train."<sup>14</sup> Ireland considers that argument to be wrong and contrary to the United Kingdom's own practice. It is wrong because the United Kingdom's duties under UNCLOS have required it – throughout the period from ratification of UNCLOS by the United Kingdom, through the MOX authorisation and up to the present – to take account both of the impact of the MOX Plant itself and all of the foreseeable and intended consequences of the operation of the MOX Plant.<sup>15</sup>

3.13. The approach is also contrary to the United Kingdom's own practice. Ignoring foreseeable future consequences of an activity was expressly rejected as an approach by the United Kingdom Secretary of State in the planning inquiry related to the NIREX project on the development of a rock characterisation facility: in considering the environmental impact of that facility it was necessary also to consider the environmental effects of a possible future repository for the storage of nuclear waste the construction of which depended upon the experience of the rock characterisation facility. Ireland made this point in the Memorial,<sup>16</sup> the United Kingdom has not responded. The United Kingdom apparently has no answer to its earlier view that "the [Rock Characterisation Facility] should not be considered without reference to the effects of the [Deep Waste Repository]",<sup>17</sup> a clear indication of the need to take foreseeable consequences of planned activities into account.

## **B. THE MOX AUTHORISATION, UNCLOS AND APPLICABLE RULES AND STANDARDS**

3.14. The 1982 UNCLOS came into force for the United Kingdom on 24 August 1997. In these proceedings, the most relevant applicable international rules and standards adopted in accordance with UNCLOS are the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration. OSPAR came into force on 25 March 1998, and the Sintra Ministerial Declaration was adopted on 23 July 1998. UNCLOS and the rules and standards set out in these two instruments established binding obligations for the United Kingdom before the Environment Agency adopted its draft Decision on the MOX Plant in

---

<sup>12</sup> See paras 6.24 *et seq.*

<sup>13</sup> *Infra*, paras 3.45-3.56 and paras 8.11-8.13 and 8.49-8.53.

<sup>14</sup> Counter Memorial, para 5.10.

<sup>15</sup> Paras 2.13 *et seq.*

<sup>16</sup> Memorial, paras 7.72-7.73. See the passing reference in the Counter Memorial, para 6.69, but failing to mention that the project's planning application was rejected.

<sup>17</sup> Memorial, Vol 3(3), Annex 118, para 4.8.

October 1998, and over three years before the United Kingdom's Secretaries of State adopted their Decision in October 2001. Yet the United Kingdom has never referred during these years to these instruments and has not applied the clear new obligations they impose.

3.15. The requirements of UNCLOS and the applicable international rules and standards adopted thereunder provide the legal basis for Ireland's case. In the period between 1998 and 2001, Ireland communicated to the United Kingdom its concerns about the apparent failure to have regard to the requirements of UNCLOS, OSPAR and the 1998 Sintra Ministerial Declaration.<sup>18</sup> The material put before the Tribunal confirms the United Kingdom's failure to respond to Ireland's concerns. It also confirms that the United Kingdom has been selective in its approach to the application of its UNCLOS, OSPAR and Sintra commitments, ignoring in its directions to the Environment Agency material aspects of these commitments. For example, the Environment Agency was not directed to require BNFL to apply measures designed to minimize radioactive discharges "to the fullest possible extent", or to consider the impact on concentrations of radionuclides in the Irish Sea, or to apply "Best Available Techniques" or "Best Environmental Practices".<sup>19</sup> The United Kingdom does, on the other hand, permit the Agency and BNFL to have regard to costs to an extent which is wholly incompatible with UNCLOS and these related instruments.<sup>20</sup>

3.16. This constitutes a significant failure in regulatory approach.

3.17. The violations of UNCLOS regarding pollution of the marine environment are addressed in detail in Chapter 8. By way of background Ireland here focuses on the commitments which the United Kingdom accepted in July 1998, in accordance with UNCLOS, in the Sintra Ministerial Declaration. In relevant part, the United Kingdom undertook:

"to prevent pollution of the maritime area from ionising radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances. [...]"

The United Kingdom additionally undertook to ensure that:

"discharges, emissions and losses of radioactive substances are reduced by the year 2020 to levels where the additional concentrations in the marine environment above historic levels, resulting from such discharges, emissions and losses, are close to zero."<sup>21</sup>

3.18. In its Counter Memorial the United Kingdom says that for the obligation in respect of concentrations "this is not the same as saying that discharges are close to zero, or that the radioactivity in them is close to zero."<sup>22</sup> In Ireland's view concentrations of "close to zero" can only be achieved in the timeframe if there are "substantial" and "progressive" reductions in discharges, which implies that the discharges and the radioactivity in them

---

<sup>18</sup> Memorial, e.g. paras 4.45 *et seq*; See also Memorial, vol 3(1), Annexes 16, 20, 27, 34 and 36 and Reply, vol 3(1), Annexes 134, 135 and 137.

<sup>19</sup> See paras 8.27-8.33.

<sup>20</sup> See paras 8.41-8.47.

<sup>21</sup> See Memorial, paras 9.49 *et seq*.

<sup>22</sup> Counter Memorial, para 2.50.

will need to be close to zero by 2020. Ireland considers that the Tribunal's task is for present purposes limited to addressing the following questions:

In the context of the authorisation of the MOX Plant:

- has the United Kingdom undertaken “progressive and substantial” reductions of discharges of radioactive substances? and
- has the United Kingdom acted consistently with its obligation to attain concentrations of artificial radionuclides in the environment of the Irish Sea at a level which is “close to zero” by 2020?

3.19. A striking feature of the United Kingdom's Counter Memorial is the economy with which it treats its Sintra commitment. In its entire Counter Memorial the United Kingdom devotes just three paragraphs – 2.50, 2.61 and 7.49 – to substantive aspects of the Sintra commitment.<sup>23</sup> The United Kingdom confirms that in July 1998 it accepted the commitments contained in the Sintra Ministerial Declaration.<sup>24</sup> It then states:

“In October 1998, the United Kingdom Government reiterated to the Environment Agency that there should be progressive reductions in discharges and discharge limits, and that it expected the Environment Agency to seek such reduction where practicable.”<sup>25</sup>

But there is no evidence before the Tribunal that the United Kingdom made any such reiteration in October 1998. The language used by the United Kingdom in its Counter Memorial appears to reflect the contents of a letter of October 1997 (not 1998), which predates the Sintra commitment (see below at para 3.32). The direction does not purport to give effect to Sintra. The United Kingdom adds in its Counter Memorial:

“It was also made clear that any increases in discharges should only be permitted in exceptional circumstances, and a strong case would have to be made by the operator.”<sup>26</sup>

This provision for increased discharges is flatly inconsistent with UNCLOS and rules and standards adopted in accordance with UNCLOS, which nowhere envisage increases, even on exceptional grounds.

3.20. Two points may be made in respect of the United Kingdom's statement in paragraph 2.61 of the Counter Memorial. First, it is an unsubstantiated assertion, with no evidence provided in support. Second, the direction given to the Environment Agency<sup>27</sup> is inconsistent with Sintra in important respects:

- the Sintra commitment requires “progressive and substantial reductions”, whereas the United Kingdom seeks only “progressive reductions”;
- the Sintra commitment focuses on “discharges”, whereas the United Kingdom focuses on reductions in “discharge limits”;

---

<sup>23</sup> Passing reference is also made in the Counter Memorial, paras 7.9, 7.48, 7.85, 7.90 and 7.109(v), but these are simply to refer to Ireland's claim and do not address substance.

<sup>24</sup> Counter Memorial, para 2.61.

<sup>25</sup> *Ibid.*

<sup>26</sup> Counter Memorial, para 2.61 at footnote 57.

<sup>27</sup> Reply, vol 3(2), Annex 169.



- the Sintra commitment is absolute, whereas the United Kingdom calls on the Environment Agency to seek reductions “where practicable”.

3.21. On its face the United Kingdom’s direction to the Environment Agency is inconsistent with its Sintra commitment. This appears to have provided the basis for subsequent decisions by the Environment Agency and the approach taken in these proceedings: the Counter Memorial abounds with references to “discharge limits” and “best practicable means”. But it makes no reference to the United Kingdom’s authorisation of the MOX Plant having been undertaken in the context of a recognised commitment to “progressive and substantial reduction” of discharges, or to the use of “Best Available Techniques”.

3.22. The third and final paragraph of the Counter Memorial which addresses the Sintra commitment is paragraph 7.49. The United Kingdom states that it–

“is fully committed to meeting the objectives agreed upon in the Sintra Statement”.

3.23. The United Kingdom challenges Ireland’s assertion that Sintra imposes “clear and immediate constraints”. Ireland sees no lack of clarity or immediacy in a requirement to reduce discharges by means which are “progressive and substantial”.

3.24. The Arbitral Tribunal will form its own view as to the extent of the United Kingdom’s commitment to meet its Sintra objectives. In Ireland’s view the contents of the Counter Memorial speak for themselves, in particular the complete absence of evidence demonstrating that the Sintra commitment and other UNCLOS obligations were applied in the context of the MOX authorisation. It is not readily apparent to Ireland how the authorisation of an entirely new source of radionuclide discharges into the Irish Sea – from the MOX Plant – and the foreseeable extension in time of discharges from another source – THORP – can be compatible with the Sintra commitments.

3.25. The United Kingdom’s defensiveness on this point is evident in the fact that its Strategy for Radioactive Discharges 2001-2020, which was published in July 2002, merits just five paragraphs in the whole of the Counter Memorial. The Strategy appears – in truncated form – in Annex 14 of the Counter Memorial. The Strategy was adopted after the MOX Plant was authorised. Nevertheless, it is relevant because it demonstrates that the United Kingdom’s approach to future discharges from MOX and THORP is inconsistent with the Sintra commitment. The Killick Report concludes that “[t]he UK Strategy indicates notable departures from the SINTRA Obligations”.<sup>28</sup> The Report states:

“Firstly, the UK Strategy concentrates on doses to humans as the criteria of success. The SINTRA Obligation of achieving concentrations in the environment close to zero is not mentioned as part of the UK Strategy.”<sup>29</sup>

“Secondly, the requirement of the SINTRA Obligations for sustained and progressive reductions is not addressed.”<sup>30</sup>

“Thirdly, SINTRA requires Best Available Techniques and Best Environmental Practice. The UK Strategy instead relies on Best Practicable Means and Best Practicable Environmental Option. These both place cost in the forefront with

---

<sup>28</sup> Reply, Report of Richard Killick, vol 2, Appendix 15, para 2.40.

<sup>29</sup> *Ibid*, para 2.41.

<sup>30</sup> *Ibid*, para 2.42.

repeated emphasis throughout the Strategy on costs, an aspect absent from the SINTRA Obligations.”<sup>31</sup>

“Fourthly, discharges from decommissioning or dealing with historic wastes are excluded. This includes the reservation that short-term increases in the discharges of some radionuclides may be an unavoidable consequence of dismantling and remediation activities. The words “unavoidable consequences” have no basis in the SINTRA Obligations.”<sup>32</sup>

3.26. The copy of the United Kingdom Strategy at Annex 14 of the Counter Memorial is incomplete. Between page 70 and the back cover (the last two pages included by the United Kingdom) should be the Appendices, which the United Kingdom did not include in its Counter Memorial. These are included in this Reply as Annex 167.

3.27. Figure 7 of the omitted material (see **Plate 1**) shows Projected Liquid Discharges from Reprocessing Activity. It is directly relevant to this case. It has been prepared on the basis that B205 (Magnox) reprocessing will cease to operate in 2012. Figure 7 assumes that the annual throughput of THORP will increase to 1000 Te U per year and that the plant will operate until 2024 (although it presently has no contracts to take it to that date).

3.28. Figure 7 also shows that alpha discharges from reprocessing (including THORP) will increase in the periods 2001-2005 and 2006-2010, as compared with 1996-2000, and that such discharges will continue to be higher than the 1996-2000 discharges until the period 2026-2030. It is not apparent to Ireland how this can be said to reflect a “[full commitment] to meeting the objectives agreed upon in the Sintra Statement”. Or how this can be said to amount to “progressive and substantial reductions” of discharges. Or how this is consistent with the direction given by the United Kingdom to the Environment Agency that “any increases in discharges should only be permitted in exceptional circumstances, and a strong case would have to be made by the operator”.<sup>33</sup>

3.29. The experts presented by the United Kingdom do not provide answers to these questions.

3.30. Mr Clarke, Head of Environment, Health, Safety and Quality at BNFL mentions that he is “aware” of the Sintra commitment.<sup>34</sup> But he appears not to have read it. He fails to note that the United Kingdom Strategy’s reliance upon the ALARA principle and Best Practicable Means (BPM) find no mention in the Sintra commitment, and the standards there invoked (Best Available Techniques or Best Environmental Practices) are not applied in the United Kingdom Strategy. Nor does he mention any effort by the Environment Agency to refer to the impact of discharges upon concentrations, focusing (as the United Kingdom does) on effects on wildlife.<sup>35</sup>

3.31. Dr. Hunt of the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) states that “[f]uture discharges, including from THORP, will comply with the requirements of the OSPAR Strategy set out in the Sintra Agreement”.<sup>36</sup> He does not

---

<sup>31</sup> *Ibid*, para 2.43.

<sup>32</sup> *Ibid*, para 2.44.

<sup>33</sup> See also Counter Memorial, Statement of Mr Parker, Annex 7, para 3.13.3.

<sup>34</sup> Counter Memorial, Annex 2, para 20.

<sup>35</sup> *Ibid*, para 30.

<sup>36</sup> Counter Memorial, Annex 4, para 16.

provide any further explanation or indicate his reasoning for that conclusion. His statement focuses on discharges, not concentrations. He makes no mention of BEP or BAT.

3.32. Mr Parker of the Environment Agency is notably reticent about the Sintra commitment and the United Kingdom Strategy of 2002. Referring to the “Text of Letter from Minister for the Environment to Chairman of the Environment Agency, October 1998” (Reference 7 of his Statement), he states that

“In October 1998, the UK Government indicated that there should be progressive reductions in discharges and discharge limits, and expected the Agency to seek such reductions where practicable.”<sup>37</sup>

3.33. The letter referred to was not tendered in evidence. Ireland had to request a copy. Mr Parker seems to have become confused about the date and the author of the letter. In the United Kingdom’s letter, enclosing the letter referred to by Mr. Parker, the United Kingdom states that “Reference 7 of Ian Parker is dated October 1997, not 1998”. Moreover, the letter in question was written not by “the Minister”, but by the Head of the Radioactive Substances Division at DETR and the Head of the Radiological Safety Division at MAFF. It states in material part:

“However, the Ministers note that when the current Sellafield authorisations were granted in 1993, the then Secretary of State for the Environment and Minister of Agriculture, Fisheries and Food attached particular importance to the requirement that there should be progressive reductions in discharges and discharge limits at this site. Current Ministers strongly share this view and expect the Environment Agency to seek such reductions where practicable.

If you foresee significant difficulties in giving effect to this approach, you will no doubt provide us with an early response. The Ministers are clear that any proposed increase in radioactive discharge limits for this site should only be permitted in exceptional circumstances, for which a strong case would have to be made. If, after considering all available information, they consider it necessary to do so, Ministers will use their powers of direction.”<sup>38</sup>

3.34. A number of points may be made about this letter which, it will be recalled, was referred to by the United Kingdom in order to demonstrate compliance with the Sintra commitment. The letter pre-dates Sintra and is entirely unrelated to compliance with the commitment there undertaken. The letter does not rule out increases in actual discharges (within existing discharge limits), a point Mr Parker omits to mention. And the letter makes clear that the Ministers would, in certain circumstances, be willing to increase discharge limits, another point Mr Parker omits to mention.

3.35. In his statement, Mr Parker refers to another letter, of November 1999. This too was only provided by the United Kingdom following a request from Ireland.<sup>39</sup> The letter is from the Minister for the Environment to the Head of the Environment Agency. It post-dates the Sintra commitment. Mr Parker refers to that part of the letter which states that:

“Any headroom between actual discharges and discharge limits should be kept to the absolute minimum. Limits should be set that are no more than strictly

---

<sup>37</sup> Counter Memorial, Annex 7, para 3.13.3.

<sup>38</sup> Reply, vol 3(1), Annex 151, p 80, Attachment 2.

<sup>39</sup> Reply, vol 3(1), Annex 151, p 75, Attachment 1; Ireland’s request dated 17 January 2003 is in the Reply, vol 3(1), Annex 149.

necessary for the normal operation of the plant, whilst at the same time achieving progressive reductions in those limits over time in accordance with established Government policy.”

3.36. In respect of this part of the letter Ireland notes that:

- (1) in practice the headroom between actual discharges and discharge limits is, in fact, very significant (see the Killick Report and para 3.62, below); and
- (2) the progressive reductions in discharge limits referred to have not, in fact, been achieved in relation to the Sellafield site (see the Killick Report, and para 3.62 below); and
- (3) reference is not made to the “progressive and substantial reductions” required by Sintra, but only to “progressive reductions”.<sup>40</sup>

Additionally, the letter makes no reference to any requirement to use the “Best Available Techniques” or the “best environmental practises” to which the United Kingdom committed itself. And it directs the Environment Agency to examine “cost-effectiveness”, an issue which is not included in the Sintra Statement (which refers to “legitimate uses of the sea”, “technical feasibility” and “radiological impacts to man and the environment”).

3.37. In his statement Mr Parker goes on to state that:

“The plan contains strategy targets for Sellafield to [...] reduce discharges of total beta and total alpha from reprocessing”.<sup>41</sup>

But those parts of the United Kingdom Strategy which the United Kingdom chose not to put before the Tribunal show that discharges of total alpha from reprocessing will increase until 2026 – six years after the Sintra commitment calls for additional concentrations to be “close to zero”.

3.38. The only reference by Dr Woodhead, of CEFAS, in respect of the Sintra commitment is in his conclusion. He says:

“The UK has committed to making progressive and substantial reductions in emissions to the marine environment from all nuclear installations in the UK, as required by the OSPAR Sintra statement”.<sup>42</sup>

This statement does no more than assert what the United Kingdom has committed to do. It expresses no view as to whether that stated commitment will actually achieve the obligations of the Sintra commitment.<sup>43</sup> Dr Woodhead says nothing about concentrations, or Best Available Techniques or Best Environmental Practices.

3.39. The UNCLOS commitment to reduce discharges “to the fullest possible extent” must mean, at the very least, that discharges should comply with the Sintra commitment. It is quite apparent that it has not been applied by the United Kingdom to the authorisation of the MOX Plant.

---

<sup>40</sup> Although reference is made to “substantial reductions” in relation to Technetium-99.

<sup>41</sup> Counter Memorial, Annex 7, para 3.15.7.

<sup>42</sup> Counter Memorial, Annex 11, para 8.1.5 (p 30).

<sup>43</sup> See in this regard the response of Dr Brit Salbu, Reply, vol 2, Appendix 20, p 201.

### C. THE AUTHORISATION OF THE MOX PLANT: OTHER ASPECTS

3.40. The Parties agree that the process of authorisation of the MOX Plant proceeded through several stages. They disagree on the extent to which this process meets the United Kingdom's requirements pursuant to its obligations under UNCLOS. Ireland addresses in detail its arguments on environmental assessment, cooperation and pollution in subsequent Chapters. Prior to that detailed assessment it may be useful to offer some introductory responses to the United Kingdom's comments on each stage of the process of authorisation. The various stages include:

- the grant of outline planning permission (23 February 1994);
- the European Commission's Article 37 Opinion (February 1997);
- the Environment Agency's draft Decision (October 1998);
- the Secretary of States' Decision (3 October 2001); and
- the Health and Safety Executive's Decision (19 December 2001).

3.41. The activity authorised by the Decision of October 2001 is for the production of up to 120 tonnes of MOX fuel per annum for a period of 20 years (or more).<sup>44</sup> As Dr Barnaby's Revised Report explains, that quantity requires approximately 140 tonnes of plutonium oxide feedstock to be made available. The baseload and post-baseload THORP contracts provide just 52 tonnes, implying the need for additional THORP contracts to produce up to 100 additional tonnes of plutonium oxide (and the reprocessing of about 12,000 more tonnes of yet to be contracted foreign spent fuel).<sup>45</sup>

#### THE GRANT OF OUTLINE PLANNING PERMISSION (23 FEBRUARY 1994)

3.42. The United Kingdom has provided further information on the grant of outline planning permission, at Annex 21 of its Counter Memorial. These documents are helpful because they confirm the close connection between THORP and the MOX Plant.<sup>46</sup> The report prepared by the Council's Director of Development and Services states that "[t]here is clearly an economic and physical relationship".<sup>47</sup> He goes on:

"I would, however, advise Members that they are not required to consider the environmental effects of the operation of THORP itself except insofar as these effects can be said to be the effect of MOX. In practice THORP will operate with the same environmental effects with or without MOX."<sup>48</sup>

3.43. This statement relies on an assurance given by BNFL, to the effect that:

---

<sup>44</sup> See the 1993 Environmental Statement, Memorial, vol 3(3), Annex 103, p 9; Environment Agency Draft Decision of 1998, Memorial, vol 3(2), Annex 95, p 399, para A4.108; and 55 Questions and Answers, Memorial, vol 3(1), Annex 7, p 67.

<sup>45</sup> The Revised Report by Dr Barnaby, Reply, vol 2, Appendix 13, Section 2.5.

<sup>46</sup> See paras 2.7 *et seq*; also the MacKerron Report, Reply, Appendix 17.

<sup>47</sup> Counter Memorial, Annex 21, para 3.7.

<sup>48</sup> *Ibid*.

“there will be no change to any of THORP’s operations. Discharges arising from the operation of THORP will be unaffected.”<sup>49</sup>

3.44. In Ireland’s view the Director of Development and Services and the local authority proceeded erroneously. The planning application sought authorisation for production of 120 tonnes of MOX fuel per annum for 20 years or more, a total of no less than 2400 tonnes of MOX fuel. As noted above (para 3.41), the production of that quantity would require up to 12,000 tonnes of additional spent nuclear fuel to be reprocessed at THORP, beyond baseload and post-baseload contracts. When outline planning permission was granted it was already apparent that future reprocessing contracts were only likely to be secured if the MOX Plant was authorised and available to use the plutonium oxide to be produced by THORP. In other words, the grant of planning permission was premised upon the possibility of an additional 12,000 tonnes of foreign spent nuclear fuel being reprocessed through THORP, with all that implied for additional radioactive discharges from THORP. In the circumstances Ireland considers that the decision to proceed on the basis that the authorisation of the MOX Plant would lead to no change in the environmental effects of THORP, and hence to exclude THORP altogether, is irrational. This is confirmed by the United Kingdom’s Sintra Strategy, which foresees operation of THORP to extend to 2024.

#### THE EUROPEAN COMMISSION’S ARTICLE 37 OPINION (FEBRUARY 1997)

3.45. The United Kingdom makes several references to the European Commission’s Article 37 Opinion.<sup>50</sup> Ireland does not take issue with the Opinion, to the extent that it deals only with impacts on human health arising from the discharges of the MOX Plant itself. What Ireland objects to is the use of the Opinion to support the view that the authorisation of the MOX Plant is consistent with the United Kingdom’s obligations under UNCLOS.

3.46. The Opinion does not support that view. It addresses only impacts on human health. And it relies on the same limited information contained in the 1993 Environmental Statement. In particular, it excludes all consideration of the additional discharges which may arise from THORP and other related activities (e.g. EARP). The Article 37 Opinion is not – and does not purport to be – an environmental assessment. It is a health assessment which is limited to the impact of discharges from the MOX Plant, nothing more and nothing less.

#### THE ENVIRONMENT AGENCY’S DRAFT DECISION (OCTOBER 1998)

3.47. The United Kingdom claims that the Environment Agency’s proposed Decision of October 1998 contained “detailed estimates of radiation exposure to members of the public arising from the MOX Plant”, which showed that “the radiation doses from the MOX Plant

---

<sup>49</sup> *Ibid*, BNFL responses, 17 January 1994, p 4.

<sup>50</sup> See Counter Memorial, *inter alia* at paras 2.20-2.22; 5.53, 5.54 as well as several passing references. Interestingly, the Counter Memorial contains more references to this Opinion than to the Sintra objectives that the United Kingdom states that it is “fully committed to meeting”.

would be of negligible radiological significance”.<sup>51</sup> Later it states that the proposed Decision constitutes “a detailed assessment of the effects of the MOX Plant”.<sup>52</sup> Whilst the first comment may not be wrong, the second is.

3.48. The draft Decision relies on the same information as contained in the 1993 Environmental Statement, as supplemented by additional information provided by BNFL. The draft Decision excludes all consideration of THORP and related discharges. The draft Decision focuses on collective doses on humans, rather than on environmental issues more generally.<sup>53</sup> In relation to environmental issues (such as the effects on wildlife) the draft Decision devotes just two paragraphs. It states that discharges from MOX alone “would have a negligible effect on wildlife”. The Agency draft Decision does not, however, exclude the possibility of harm. In carefully worded language it states:

“The Agency notes the advice contained in *1990 Recommendations of the International Commission on Radiological Protection*, ICRP 60, para 16, that standards appropriate for the protection of human beings 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 imbalance between species. The Agency is undertaking research on the effects of radiation on non-human species.”<sup>54</sup>

3.49. The draft Decision was published after UNCLOS and the applicable international rules and standards reflected in OSPAR and the Sintra commitment came into effect. But it makes no reference to UNCLOS or those rules and standards. It does not address the protection of the marine environment or the impact of the authorisation on concentrations of radionuclides in the Irish Sea. It does not address the consequences for the authorisation of the MOX Plant on compliance with the United Kingdom’s commitment to “progressive and substantial reductions” of discharges. It makes no mention of the need to minimize discharges to the “fullest possible extent” or to make use of “Best Available Techniques” or “best environmental practices”.

3.50. The United Kingdom’s authorisations look backwards, to the road already travelled, to the discharge authorisation granted in 1994, when it should be looking forward, to the commitments which set the standard for the present and future.<sup>55</sup>

#### THE SECRETARY OF STATES’ DECISION (3 OCTOBER 2001)

3.51. Over the next three years one would have expected the United Kingdom to look to the new rules and standards to which it had committed itself. It did not do so.

3.52. The United Kingdom’s Decision authorising the manufacture of MOX fuel as justified was adopted on 3 October 2001. As described in the Memorial, the Decision devotes just three pages to environmental issues. The Decision states that “the radiological detriments associated with the manufacturing of MOX fuel from plutonium separated in

---

<sup>51</sup> Counter Memorial, para 2.25.

<sup>52</sup> Counter Memorial, para 5.53.

<sup>53</sup> Memorial, vol 3(2), Annex 95, e.g., pp 376-81; 384-5.

<sup>54</sup> *Ibid*, p 406.

<sup>55</sup> *Ibid*, p 367, para 5.

THORP and belonging to foreign customers would be very small and that any effects on wildlife would be negligible.”<sup>56</sup> In reaching this view the Secretaries of State did not carry out their own environmental assessment. They simply endorsed the draft view reached by the Environment Agency three years earlier.

3.53. In this way the 2001 Decision makes no reference to the international developments which have occurred since 1998. Notwithstanding Ireland’s efforts to direct the United Kingdom’s attention to UNCLOS and the most relevant applicable rules and standards adopted in accordance with UNCLOS – OSPAR and Sintra – the 2001 Decision makes no reference to these instruments. It ignores the protection of the marine environment, the impact of the authorisation on concentrations of radionuclides in the Irish Sea, and the consequences for the authorisation of the MOX Plant on compliance with the United Kingdom’s commitment to “progressive and substantial reductions” of discharges. It makes no mention of the need to minimise discharges to the “fullest possible extent” or to apply “Best Available Techniques” or “best environmental practises”. It states that the aerial and liquid discharges and solid wastes arising from the operation of the MOX Plant “can be managed within the constraints of the existing [1999] Sellafield discharge authorisations” (on which see below).<sup>57</sup> It concludes that the manufacture of MOX fuel can be carried out “within discharge limits which will effectively protect ... the environment generally”,<sup>58</sup> rather than discharge limits which will meet the United Kingdom’s international obligations under UNCLOS.

3.54. The United Kingdom Counter Memorial is silent on all of these points.

#### THE HEALTH AND SAFETY EXECUTIVE’S DECISION (19 DECEMBER 2001)

3.55. The Counter Memorial refers to the Decision taken by the Health and Safety Commission to authorise plutonium commissioning of the MOX Plant.<sup>59</sup> The United Kingdom has not included a copy of the text of the Decision of 19 December 2001 in its Counter Memorial.

3.56. Ireland requested a copy of the text on 17 January 2003.<sup>60</sup> A copy was provided on 14 February 2003.<sup>61</sup> The text refers to other documents, including information provided by BNFL. This additional documentation was requested by Ireland on 17 February 2003.<sup>62</sup> By the time this Reply was submitted to the printer – 11 days later – no copy had been provided by the United Kingdom. In the absence of complete information Ireland is not in a position to know what precisely has been authorised (in terms of volumes which may be produced and over what time frame). It is therefore not able to comment on this aspect of the authorisation.

---

<sup>56</sup> Memorial, vol 3(2), Annex 92, p 235 (para 56).

<sup>57</sup> *Ibid*, p 237 (para 60).

<sup>58</sup> *Ibid*, para 61.

<sup>59</sup> Counter Memorial, paras 1.29 and 2.31.

<sup>60</sup> Reply, vol 3(1), Annex 149, Ireland’s letter dated 17 January 2003. See also Ireland’s letter of 4 February 2003, Annex 152.

<sup>61</sup> Reply, vol 3(1), Annex 155.

<sup>62</sup> Reply, vol 3(1), Annex 157.



## **D. DISCHARGE AUTHORISATIONS FOR THE SELLAFIELD SITE, INCLUDING MOX AND THORP**

3.57. The Tribunal will have noted that the United Kingdom authorities rely on existing discharge authorisations (granted in 1994 and 1999) for the purpose of assessing the environmental impacts of the MOX Plant. These authorisations pre-date efforts by the United Kingdom to implement its Sintra commitments. On the material available to the Tribunal, including that put forward by the United Kingdom, there is no evidence which shows that the United Kingdom gave any consideration of any kind at any time to the implications of the MOX Plant for its obligations under UNCLOS and international rules and standards adopted in accordance with UNCLOS.

3.58. In particular, the United Kingdom does not try to meet the argument that it failed, in the context of the authorisation of the MOX Plant, to consider the implications for its commitment to undertake “progressive and substantial reductions” of discharges of radioactive substances and to attain concentrations of artificial radionuclides in the environment of the Irish Sea at a level which are “close to zero” by 2020.

3.59. Instead the United Kingdom takes refuge in its discharge authorisations for the entire Sellafield site. It is therefore necessary to address whether those discharge authorisations are intended to – and can – deliver the United Kingdom’s obligations under UNCLOS and rules and standards adopted in accordance with UNCLOS, in particular the 1992 OSPAR Convention and the 1998 Sintra commitment.

3.60. Chapter 3 of the Killick Report reviews the authorisations as they have evolved. He has compared the discharge limit authorisations granted for the Sellafield site as a whole (encompassing *inter alia* the MOX Plant and THORP). These are:

- The 1994 Authorisation (17 January 1994)
- The 1999 Authorisation (19 November 1999)
- The 2001 draft Authorisation (30 July 2001)
- The 2002 draft Authorisation (16 August 2002)

3.61. By reference to the 1998 Sintra commitment the Report reaches the following conclusions:

- “1. The authorised limits appear to be aimed at permitting full operation of the plant, rather than as a means to reduce discharges.
2. The target is reduced doses to humans, not the achievement of zero additional concentrations in the environment.
3. The sequence of the figures does not support the concept of sustained and progressive reductions. Some reduction in authorised levels is apparent, but these bear little relationship to actual discharges.
4. Best Available Techniques and Best Environmental Option receive no mention. The intent to use Best Practicable Means as a tool is weakened by unrealistically long time scales that favour maintenance of the status quo.”<sup>63</sup>

---

<sup>63</sup> See the Killick Report, Reply, vol 2, Appendix 15, para 3.24.

3.62. The Killick Report also compares actual discharges with the authorisation limits, indicating the “headroom” between the two. Table 2 of the Report (at para 3.25) shows actual discharge levels as compared with the latest draft Authorisation (2002). The size of the “headroom” indicates that increased operations (and discharges) will easily be accommodated within the proposed authorisations. It also shows that there are no limits on likely operations or incentives to reduce discharges:

<b>Radionuclide</b>	<b>2002 Discharge Authorisation (TBq)</b>	<b>1997-2000 Lowest Discharge (TBq)</b>	<b>1997-2000 Highest Discharge (TBq)</b>	<b>2001 Actual Discharge (TBq)</b>	<b>2001 Headroom %</b>
Alpha	1.0	0.12	0.18	0.196	410
Beta	220	77	140	123	79
Tritium (H-3)	20,000	2300	2600	2,560	680
Carbon-14	21	3.7	5.8	9.47	120
Cobalt-60	3.6	0.89	2.4	1.23	190
Strontium-90	48	18	37	26.1	84
Zirconium-95/ Niobium-95	3.8	0.18	0.65	0.272	1300
Technetium-99	90	44	84	79.4	13
Ruthenium-106	63	2.7	9.8	3.89	1500
Iodine-129	2.0	0.47	0.55	0.629	220
Caesium-134	1.6	0.23	0.34	0.483	230
Caesium-137	34	6.9	9.1	9.57	250
Cerium-144	4.0	0.49	0.76	0.789	410
Plutonium Alpha	0.7	0.11	0.15	0.155	350
Plutonium-241	25	2.9	3.5	4.58	450
Americium-241	0.3	0.03	0.05	0.038	690
Uranium (kg)	2000	540	760	387	420

Even after actual throughput is scaled up to notional full throughput the Killick Report concludes:

“These headrooms are still large (except for Co-60) and do not provide a real constraint upon operations. The intent of the Environmental Agency, however, appears to be clear from many parts of the Decision document, namely not to interfere with production. It is difficult to escape the conclusion that the

authorised levels on limits have been set so as to allow full production to proceed.”<sup>64</sup>

The Killick Report further concludes:

“The priority in setting discharge limits appears to be to preserve the ability to operate at full plant output rather than drive down discharge levels. Excessive headroom remains. Of 9 reductions in liquid discharge limits proposed by the EA in July 2001, 5 were raised, 3 remained the same and 1 was further reduced.”<sup>65</sup>

As regards the Environment Agency’s claims as to the practical effects of the 2002 draft Authorisation, the Killick Report states:

“The summary in the [draft Authorisation] Decision Document of 16<sup>th</sup> August 2002 contains many misleading statements. It prominently claims that the dose levels and environmental effects will be potentially reduced by the new limits – whereas in fact the changes are likely to have no effect on actual discharge levels and, consequently, no effect on dose or environmental impact.”<sup>66</sup>

3.63. Ireland considers that it is abundantly clear that the proposed discharge authorisations do not reflect the United Kingdom’s commitments under UNCLOS, including the rules and standards adopted in accordance with UNCLOS.

## CONCLUSIONS

3.64. It is apparent from the above discussion that the authorisation of the MOX Plant took no account of the United Kingdom’s obligations under UNCLOS and applicable international rules and standards adopted in accordance with UNCLOS. It applied rules and standards that were materially different from those it was required to apply by UNCLOS. The United Kingdom has provided no evidence to support a different conclusion.

---

<sup>64</sup> *Ibid*, para 3.29.

<sup>65</sup> *Ibid*, para 3.52.

<sup>66</sup> *Ibid*, para 3.53.

**This page intentionally left blank**

## CHAPTER 4

### JURISDICTION

4.1 The Parties are in agreement that the Arbitral Tribunal has jurisdiction over disputes concerning the interpretation and application of UNCLOS under Articles 286, 287(5) and 288(1). The dispute is limited to questions concerning the interpretation and application *inter alia* of Articles 123, 192, 193, 194, 197, 206, 207, 211, 212, 213, 217, and 222 of UNCLOS.

4.2 Ireland has not invited the Arbitral Tribunal to exercise jurisdiction under any other international agreement, pursuant to Article 288(2) of UNCLOS.

4.3 Issues associated with applicable law are distinct from the question of whether the Arbitral Tribunal has jurisdiction. Applicable law is addressed in Chapter 5.

4.4 The United Kingdom makes passing reference to Article 282 of UNCLOS.<sup>1</sup> That provision is of no relevance to this dispute, which concerns only the interpretation and application of UNCLOS. Disputes arising from UNCLOS are not within the jurisdiction of dispute resolution mechanisms contained in other treaties. The ITLOS addressed the point in paragraph 51 of its Order on Provisional Measures of 3 December 2001. Judge Wolfrum explained the reasoning more fully in his Separate Opinion:

“The United Kingdom challenges the jurisdiction of the arbitral tribunal to be established under Annex VII of the Convention by invoking article 282 of the Convention. The United Kingdom argues that parts of the case could have been brought or, in fact, have already been brought before different procedures for the settlement of disputes. Since such procedures as the one provided for in the OSPAR Convention or the Court of Justice of the European Communities would entail binding decisions they would take precedence over the dispute settlement system as provided for in Part XV, Section 2, of the Convention. This does neither sufficiently take into consideration the wording of article 282 of the Convention, nor the context in which it has to be read nor the objective pursued by Part XV of the Convention. The dispute settlement system under the OSPAR Convention is designed to settle disputes concerning the interpretation and application of that Convention and not concerning the Convention on the Law of the Sea. Article 220 of the EC Treaty empowers the Court of Justice of the European Communities to ‘...ensure that in the interpretation and application of this Treaty the law is observed...’. This provision has to be read together with article 292 of the EC Treaty according to which ‘Member States undertake not to

---

<sup>1</sup> Counter Memorial, para 4.14.

submit a dispute concerning the interpretation and application of this Treaty to methods of settlement other than those provided therefore.’ This does not suggest that the Court of Justice of the European Communities will decide on disputes concerning the interpretation and application of the Convention.

It is well known in international law and practice that more than one treaty may bear upon a particular dispute. The development of a plurality of international norms covering the same topic or right is a reality. There is frequently a parallelism of treaties, both in their substantive content and in their provisions for settlement of disputes arising thereunder. However, a dispute under one agreement, such as the OSPAR Convention does not become a dispute under the Convention on the Law of the Sea by the mere fact that both instruments cover the issue. If the OSPAR Convention, the Euratom Treaty or the EC Treaty were to set out rights and obligations similar or even identical to those of the Convention on the Law of the Sea, these still arise from rules having a separate existence from the ones of the Convention on the Law of the Sea.”<sup>2</sup>

---

<sup>2</sup> Separate Opinion of Judge Wolfrum, 3 December 2001 at [http://www.itlos.org/start2\\_en.html](http://www.itlos.org/start2_en.html). See also Separate Opinion of Judge Treves, stating that (footnotes omitted):

“2. In rejecting the contention that article 282 was applicable in order to exclude *prima facie* the jurisdiction of the Annex VII Arbitral Tribunal, the Tribunal ruled out that the general, regional or bilateral agreements mentioned in that article could be agreements providing for submission to binding adjudication, at the request of a party, of a dispute concerning the interpretation or application of the provisions of these agreements even when such provisions set out rights and obligations identical or similar to those set out in the Convention. I concur with the reasons given, which draw from the literal formulation of article 282, and from the consideration that even identical provisions in different treaties have a "separate existence" and may be interpreted differently (paragraphs 50-51). This interpretation would seem to correspond to the preparatory work for article 282.

3. Consequently, an agreement providing for settlement of disputes at the request of one party by a court or tribunal whose decision is binding is not one the “agreements” mentioned in article 282 whenever the disputes envisaged in it are those concerning the interpretation or application of the substantive provisions of the agreement and not of the Convention, even in case they set out obligations overlapping with those set out in the Convention. The agreements to which article 282 refers are the general, regional or bilateral ones concerning disputes in whose definition may be encompassed disputes concerning the interpretation or application of the Convention, be they agreements for the settlement of disputes specifically mentioned as relating to the interpretation or application the Convention, agreements for the settlement of disputes in general (including acceptance, by both parties, without relevant reservations, of the optional clause of article 36, paragraph 2, of Statute of the International Court of Justice), and agreements for the settlement of categories of disputes defined so that they may include those concerning the interpretation of (*sic*) application of the Convention (such as, for instance, disputes concerning maritime navigation).”

## CHAPTER 5

### APPLICABLE LAW

#### INTRODUCTION

5.1. Ireland’s claim is to uphold its rights under UNCLOS, Articles 123, 192, 193, 194, 197, 206, 207, 211, 212, 213, 217, and 222.<sup>1</sup> The United Kingdom’s rejection of Ireland’s claims with respect to these Articles gives rise to a dispute concerning the interpretation and application of these provisions of UNCLOS.

5.2. Ireland and the United Kingdom disagree as to the law to be applied by the Tribunal in its interpretation and application of UNCLOS. It is an elementary proposition that the question of applicable law is an entirely distinct question from that of jurisdiction. The question of applicable law is addressed by UNCLOS Article 293(1), entitled “Applicable Law”. It provides that a court or tribunal having jurisdiction shall apply UNCLOS and “other rules of international law not incompatible” with UNCLOS. In specifying the applicable law, Article 293(1) is premised upon the existence of a “court or tribunal having jurisdiction under this section”, that is UNCLOS, Part XV, Section 2. Jurisdiction is dealt with in Article 288, entitled “Jurisdiction”.

5.3. The United Kingdom appears to accept the distinction between jurisdiction and applicable law, referring on occasion to “the entirely separate question of applicable law.”<sup>2</sup> The differences between the Parties concern the relationship between UNCLOS and other rules of international law and the effect of Article 293(1).

5.4. In its Memorial, Ireland identified two ways in which “other rules of international law” may be related to the provisions of UNCLOS:

“Firstly, in applying “other rules of international law” the content of certain rules in UNCLOS establishing in general terms obligations will be informed and developed by the existence of rules of international law arising outside UNCLOS.[...]”<sup>3</sup>

Secondly, rules of international law arising outside UNCLOS are to be applied by the Annex VII Tribunal in another way. In respect of certain obligations which they have accepted by becoming parties to UNCLOS States are expressly directed – sometimes individually, sometimes jointly – to implement or to take into

---

<sup>1</sup> Memorial, para 5.2.

<sup>2</sup> Counter Memorial, para 4.25.

<sup>3</sup> Memorial, para 6.3.

account international rules, standards or practices arising outside UNCLOS in order to fulfil their obligations under the 1982 Convention.”<sup>4</sup>

In the context of protection of the marine environment, the UNCLOS obligation is to comply with other, non-UNCLOS, rules. This is similar to the position in which a *renvoi* arises in private international law.

### **A. THE INTERPRETATION OF UNCLOS RULES IN THE LIGHT OF “OTHER RULES OF INTERNATIONAL LAW**

5.5. For the avoidance of doubt, Ireland does not argue for the wholesale incorporation of other Conventions and rules of customary international law into UNCLOS through the instrumentality of Article 293(1), as the United Kingdom claims. Rather, Ireland’s position is that Article 293(1) reaffirms the priority to be given to UNCLOS among the sources of law to be applied by courts and tribunals having jurisdiction under the Convention, and confirms that the Annex VII Tribunal is entitled to use such other rules of international law to inform<sup>5</sup> and interpret States’ obligations under UNCLOS.<sup>6</sup> In its Memorial, Ireland put it thus: “This means that the general UNCLOS provisions are to be applied and interpreted in the light of the wider body of international law, and that the Tribunal is to apply other international rules, standards and practices.”<sup>7</sup> Article 293(1) facilitates the integrating function of UNCLOS by ensuring that it is interpreted consistently with other relevant rules of international law. Such other rules remain independent of UNCLOS so that the Annex VII Tribunal could not apply or have regard to them absent some relevant UNCLOS obligation. But where there is such an UNCLOS obligation, the Annex VII Tribunal can – and in certain cases must – use such other rules of international law as a bench-mark or basis for the assessment of compliance with the UNCLOS obligation.<sup>8</sup>

5.6. The United Kingdom accepts that the Tribunal may apply “other rules of international law” in the course of its interpretation of UNCLOS, in accordance with the 1969 Vienna Convention on the Law of Treaties, Articles 31 and 32.<sup>9</sup> It rejects what it asserts is Ireland’s use of Article 293(1) to incorporate “other rules of international law” into UNCLOS<sup>10</sup> and thereby to extend the Tribunal’s jurisdiction.

---

<sup>4</sup> Memorial, para 6.5.

<sup>5</sup> This language reflects that of the Inter-American Commission of Human Rights that asserted the competence both to apply directly international humanitarian law, notably common article 3 of the four Geneva Conventions, and to “to inform its interpretations of relevant provisions of the American Convention by reference to these rules.” *Juan Carlos Abella v. Argentina*, Case 11.137, Report N° 55/97, Inter-Am. C.H.R., OEA/Ser.L/V/II.95 Doc. 7 rev. at 271 (1997) para 157.

<sup>6</sup> Memorial, para 6.3.

<sup>7</sup> Memorial, para 6.36.

<sup>8</sup> For a similar analysis in the context of the WTO see Joost Pauwelyn, “The Role of Public International Law in the WTO. How Far Can We Go?” 95 AJIL (2001) 535, especially at 555, 560. “... the fact that the substantive jurisdiction of WTO panels is limited to claims under WTO covered agreements does not mean that the applicable law available to a WTO panel is necessarily limited to WTO covered agreements.”

<sup>9</sup> Counter Memorial, para 4.31; 7.45.

<sup>10</sup> Counter Memorial, para 1.7.



5.7. The United Kingdom misapprehends Ireland's arguments with respect to the law to be applied by the Tribunal under UNCLOS, Article 293(1). The United Kingdom states that Ireland contends that "UNCLOS incorporates and requires the application of all other international law not inconsistent with the Convention", thereby seeking to extend the jurisdiction of the Tribunal through the prism of applicable law.<sup>11</sup> In this way the United Kingdom seeks to preclude any consideration by the Annex VII Tribunal of, for example, the obligations imposed upon the United Kingdom by the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration.<sup>12</sup> The United Kingdom's argument is, however, inconsistent with the plain and unambiguous language of UNCLOS – in particular Articles 293(1), 213 and 222 – and the jurisprudence of international courts.

5.8. In accordance with the Vienna Convention on the Law of Treaties,<sup>13</sup> Article 31(1), the words of a treaty must be given their "ordinary meaning" in their context and in the light of the object and purpose of the treaty. The ordinary meaning of the wording of Article 293(1) – and the other provisions upon which Ireland relies, including UNCLOS Articles 213, 222 and 297(1)(c) – is clear. It requires the Tribunal not to consider or to take account of, but to *apply* "other rules of international law", that is treaties and customary international law compatible with UNCLOS. This wording contains no limitations. The United Kingdom's attempt to give the provision some other meaning – i.e. that it applies only where such rules arise incidentally in the determination of the dispute and applies particularly to secondary rules of international law<sup>14</sup> – could be achieved only by inserting additional words into the Convention, which the drafters omitted. The learned authors of the 9<sup>th</sup> edition of Oppenheim assert that the interpretation of a treaty text is not a matter of reading into the text words that it does not expressly or by necessary implication contain.<sup>15</sup>

5.9. The United Kingdom's argument fails to take account of the plain words of UNCLOS and the hierarchy of sources of applicable law that it establishes.<sup>16</sup> The expression "other rules of international law," as used in UNCLOS, Article 293(1) is not defined in the Convention; but throughout the provisions of UNCLOS Part XII relating to the protection and preservation of the marine environment, the existence of rules of international, regional and national law not incompatible with the Convention is recognised, and the development of further rules is required. Thus UNCLOS, Article 197 requires States to cooperate "in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features." Other examples are Articles 197, 207(4), 208(5), 209, and 235. Such international rules may be elaborated through treaties, including regional treaties, and customary international law.

---

<sup>11</sup> Counter Memorial, paras 1.7 and 4.6.

<sup>12</sup> Counter Memorial, paras 7.40-48.

<sup>13</sup> Although Ireland is not a party to the Vienna Convention on the Law of Treaties, 1969, it regards Article 31(1) as declaratory of customary international law.

<sup>14</sup> Counter Memorial, para 4.31.

<sup>15</sup> Oppenheim's International Law (Sir Robert Jennings and Sir Arthur Watts (eds.), 9<sup>th</sup> ed. 1992, part 2, 1271, referring to a number of decisions of the ICJ.

<sup>16</sup> "...there was, from the beginning, an agreement on the priority of the Law of the Sea Convention among the sources to be applied by courts and tribunals having jurisdiction ..."; Virginia Commentary, vol V, p 73.

5.10. One prominent and experienced U.S. delegate to UNCLOS III has referred to this process and the structure of the Convention relating to marine pollution in terms that go to the heart of this issue:

“One of the achievements of the LOS Convention is that virtually all marine sources of marine pollution are subject to a duty by the state with jurisdiction over the relevant activity – be it the flag state or the coastal state – to enforce minimum international safety and pollution standards. Many of these standards emerge in treaties and other instruments adopted by the International Maritime Organization or negotiated under its auspices. The duty to comply with these standards is subject to compulsory jurisdiction under Article 286 of the Convention.”<sup>17</sup>

He has also noted that:

“Under Article 297(1)(c), even the coastal state’s duty, for example with respect to dumping, is subject to compulsory jurisdiction for violation of “specified international rules and standards for the protection and preservation of the marine environment.”<sup>18</sup>

5.11. The mechanism chosen by UNCLOS to ensure implementation of these rules and standards is compulsory jurisdiction under Part XV, Section 2, coupled with the application of such further rules of international law by the relevant tribunals under Article 293(1). This is equally the case in relation to the specified international rules in issue in these proceedings, in particular the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration.

5.12. Indeed, the United Kingdom itself was a strong proponent of an approach to UNCLOS, Part XII (as it became) assuming an integrating and incorporating function. Sir Roger Jackling expressly recognized this in introducing the United Kingdom’s view as to the manner in which the marine environment protection rules of UNCLOS should function. According to him, the United Kingdom considered the function of UNCLOS as providing–

“an efficient and effective framework into which those [that is existing] conventions and others could be incorporated...”.<sup>19</sup>

In this regard it is notable that he referred expressly to the requirements of the 1974 Paris Convention for the Prevention of Marine Pollution from Land-Based Sources, one of the two predecessor conventions to the 1992 OSPAR Convention.

5.13. The ordinary wording of UNCLOS, Article 297(1)(c) confirms this interpretation. Although UNCLOS, Part XV, Section 3, of which Article 297 is the first article, is headed “Limitations and Exceptions” to Section 2, Article 297(1) first reaffirms the dispute resolution procedures:

“1. Disputes concerning the interpretation or application of this Convention with regard to the exercise by a coastal State of its sovereign rights or jurisdiction provided for in this Convention shall be subject to the procedures provided for in section 2 in the following cases: [..]

---

<sup>17</sup> B. Oxman, “Complementary Agreements and Compulsory Jurisdiction”, 95 AJIL 277 at 299 (2001) (emphasis added).

<sup>18</sup> *Ibid*, at note 102.

<sup>19</sup> Sir Roger Jackling, Third UN Conference on the Law of the Sea, Official Records, vol II, 374, para 30 (15<sup>th</sup> Meeting, 3rd Committee).

(c) when it is alleged that a coastal State has acted in contravention of specified international rules and standards for the protection and preservation of the marine environment which are applicable to the coastal State and which have been established by this Convention or through a competent international organization or diplomatic conference in accordance with this Convention.”

5.14. Article 297(1) affirms the jurisdiction of the relevant tribunal in cases concerning the interpretation or application of UNCLOS in claims relating to the marine environment which involve contravention of certain international rules and standards established through a competent international organization or diplomatic conference.<sup>20</sup> Obviously the competent tribunal must consider, and apply, those international rules and standards. This is precisely the situation in this claim, for example, in relation to the obligations set out in the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration. The affirmation of jurisdiction in UNCLOS, Article 297(1) assumes that the law to be applied in determining whether the coastal State is in compliance encompasses “specified international rules and standards”. It would be unreasonable and contrary to the object and purpose of UNCLOS (as well as the plain meaning of the words of Article 293(1)) to preclude a Tribunal with jurisdiction from taking account of these further rules of international law in interpreting and applying the Convention.

5.15. The need to take account of subsequent international law in interpreting and applying a convention, where provided for under that convention, is affirmed in international jurisprudence.<sup>21</sup> In the *Namibia* opinion, for example, the ICJ asserted that “an international instrument has to be interpreted and applied within the framework of the entire legal system prevailing at the time of the interpretation.” The Court emphasised that it “must take into consideration the changes which have occurred in the supervening half-century” and that subsequent legal developments must affect its interpretation of the legal obligation.<sup>22</sup> It is now over two decades since the UNCLOS was elaborated. There is no reason of principle, policy, or law why account cannot be taken of relevant legal developments compatible with the Convention that were expressly provided for within its text and have indeed taken place within that time.

5.16. The United Kingdom draws upon the jurisprudence of the ICJ to support its analysis of Article 293(1), referring to the two Orders on provisional measures in the *Genocide Convention* cases, where the ICJ made it clear that where a State founds jurisdiction on the terms of a multilateral convention the Court’s jurisdiction is limited to matters within the terms of that convention.<sup>23</sup> But this misses the point: the Genocide Convention has no equivalent provisions to Articles 213, 222, 293(1) and 297(1)(c) of

---

<sup>20</sup> In light of the inclusion of global and regional organizations in UNCLOS, Article 207 the expression “competent international organization” can be read as including competent regional organizations; Tullio Treves, “Regional Approaches to the Protection of the Marine Environment”, in John Norton Moore and Myron Nordquist, (eds), *The Stockholm Declaration and Law of the Marine Environment* (2003, forthcoming).

<sup>21</sup> In addition to the jurisprudence of the ICJ discussed above, in *Las Palmeras* the Inter-American Court of Human Rights held that it has competence “to determine whether any norm of domestic or international law applied by a State, in times of peace or armed conflict, is compatible or not with the American Convention.” Thus the Court could interpret the norm in question and analyse it in the light of the Convention. The Court was constrained from applying other conventions (in this case common article 3 of the 1949 Geneva Conventions) because, unlike UNCLOS, the American Convention on Human Rights has no provision authorizing it to do so. Series C, no. 67, Preliminary Objections, 4 February, 2000.

<sup>22</sup> *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) Notwithstanding Security Council Resolution 276 (1970)* 1971 ICJ Rep. 16 (Adv. Op. 21 June) para 53.

<sup>23</sup> Counter Memorial, para 4.27.

UNCLOS. And the United Kingdom's objection confuses jurisdiction and applicable law. Article IX of the Genocide Convention provides for jurisdiction; but there is no provision on applicable law directing the International Court to go beyond the terms of the Genocide Convention and to apply other rules of international law: there is no provision comparable to UNCLOS, Article 293(1) and the other provisions of UNCLOS cited above. There was, therefore, no basis in the Genocide Convention upon which jurisdiction *could* be claimed for the application of other rules of international law. There is plainly such a basis in UNCLOS, Article 293(1). The words of *ad hoc* Judge Lauterpacht, cited by the United Kingdom, confirm Ireland's approach. "[W]hatever form the consent may take, the range of matters that the Court can then deal with is limited to the matters covered by that consent."<sup>24</sup> The difficulty for the United Kingdom is that the UNCLOS Parties have consented to Article 293(1) and expressly directed the Annex VII Tribunal to apply "other rules of international law not incompatible" with the Convention. In Articles 213 and 222 the UNCLOS Parties have also consented to an assessment by this Tribunal of compliance with the obligation to implement the relevant rules and standards.

5.17. The conclusion of the PCIJ in the *Mavrommatis Case*, also cited by the United Kingdom, that "in every case [the dispute] must relate to the interpretation or application of the provisions of the Mandate"<sup>25</sup> is not incompatible with Ireland's approach. In the *Mavrommatis* case, the PCIJ held that Article 11 of the Mandate Agreement referred to "any international obligations accepted by the Mandatory", which included the Lausanne Protocol, the interpretation of which was at issue.<sup>26</sup> Thus, by the terms of the Mandate Agreement itself, the Court had jurisdiction to apply the Protocol of Lausanne. Similarly, by the terms of UNCLOS, Article 293(1) itself this Tribunal has jurisdiction to apply other rules of international law. In the words of Vice President Wolfrum: "its [ITLOS'] competences are, as a result of the progressive development of international law through the Convention, much broader."<sup>27</sup> The conclusion applied equally to the competences of this Annex VII Tribunal.

5.18. The *Mavrommatis* case shows that it is not exceptional for Parties to direct a court or tribunal with jurisdiction to apply a broader range of laws than the treaty upon which jurisdiction is founded. Other treaties, such as the African Charter of Human and Peoples' Rights, 1981<sup>28</sup> and the American Convention on Human Rights, 1969<sup>29</sup> also refer to external legal obligations and it is appropriate that courts and tribunals with jurisdiction should apply those obligations.

5.19. In other cases the ICJ has not required Parties to restrict their claims to the treaty upon which jurisdiction is based. For example, in the *LaGrand* case the United States argued that claims of diplomatic protection under general international law were excluded from the Court's jurisdiction based upon the Optional Protocol to the 1963 Vienna Convention on Consular Relations, because diplomatic protection is a matter of customary international law and not one concerning "the interpretation or application of the Vienna Convention." The ICJ rejected this argument, holding that the fact that diplomatic

---

<sup>24</sup> Counter Memorial, para 4.28.

<sup>25</sup> Counter Memorial, para 4.29.

<sup>26</sup> *Mavrommatis Palestine Concession* PCIJ ser. A, no. 2, 11 (Judgment of 13 August).

<sup>27</sup> International Tribunal for the Law of the Sea, *The M/V Saiga (No. 2) Case* (Saint Vincent and the Grenadines v. Guinea), judgment 1 July 1999.

<sup>28</sup> African Charter of Human and Peoples' Rights, 1981, Articles 60, 61 and 18 (3).

<sup>29</sup> American Convention on Human Rights, 1969, Article 64 (1) (in the context of a consultative jurisdiction).

protection is a matter of customary international law does not prevent a State from taking up the case on behalf of one of its nationals and instituting judicial proceedings on the basis of a general jurisdictional clause within a treaty.<sup>30</sup>

5.20. In the *Saiga (No 2)* the ITLOS had to consider claims made by Guinea that its acts in arresting the *Saiga* were valid under “other rules of international law” made applicable by UNCLOS, Article 58(3). The Tribunal accepted the applicability of such other rules of general international law but found the particular rules claimed by Guinea to be incompatible with UNCLOS and thus excluded by its terms.<sup>31</sup> Similarly, relying upon Article 293(1) the Tribunal drew upon general international law relating to the use of force to determine the lawfulness of the arrest of the *Saiga*.<sup>32</sup> It is submitted that this should be the scope of enquiry in this case: that is, consideration of the compatibility of such other rules with UNCLOS, not their wholesale exclusion.

5.21. It is by no means uncommon for one treaty to establish its obligations by reference to the substantive obligations arising under another. For example, Article 8 of the Rome Statute of the International Criminal Court defines 'war crimes' by reference to the Geneva Conventions of 1949; and there is currently before the IMO a proposal to revise the 1988 Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention), with one proposed amendment defining unlawful acts by reference to offences under a wide range of other conventions. An example of particular relevance and interest is Article 3 (via Annex I, paragraph k) of the WTO Agreement on Subsidies and Countervailing Measures, which defines subsidies by oblique reference to the OECD Agreement on Guidelines for Officially Supported Export Credits. WTO dispute settlement panels, whose jurisdiction extends only to WTO agreements, have affirmed their right to refer to and interpret the OECD Agreement, and asserted that the interpretation must be in accordance with the basic obligations of the WTO Agreement from which they derive their jurisdiction.<sup>33</sup> The WTO Appellate Body has ruled that ‘the General Agreement is not to be read in clinical isolation from public international law’,<sup>34</sup> and has given practical effect to various international conventions – including UNCLOS – in interpreting and applying WTO law.<sup>35</sup>

---

<sup>30</sup> *LaGrand*, (Germany v. United States of America), Judgment of 27 June 2001, paras 40, 42.

<sup>31</sup> International Tribunal for the Law of the Sea, *The M/V Saiga (No. 2) Case* (Saint Vincent and the Grenadines v. Guinea), Judgment 1 July 1999, para 131.

<sup>32</sup> *Ibid*, paras 155, 159.

<sup>33</sup> See, e.g., the Reports in the Canada-Brazil dispute, WT/DS46/R, and WT/DS46/AB/R, and the Brazil-Canada dispute, WT/DS70/R, WT/DS70/AB/R. WT/DS70/RW, and *cf* the EC-Bananas III dispute, DS27.”

<sup>34</sup> *United States – Standards for Reformulated and Conventional Gasoline*, Report of the Appellate Body, 29 April 1996, WT/DS2/AB/R (*Reformulated Gasoline*, Appellate Body Report); 35 ILM 603, 621 (1996); see J. Cameron and K.R. Gray, “Principles of international law in the WTO dispute settlement body”, 50 *ICLQ* 248 (2001).

<sup>35</sup> See in particular *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, 12 October 1998, at 38 ILM 121, 155-6 (1998) (paras 130 *et seq.*).

## B. UNCLOS AND THE *RENVOI* TO APPLICABLE INTERNATIONAL RULES AND STANDARDS

5.22. In addition to UNCLOS Article 293(1), other Articles of the Convention explicitly direct States Parties to take measures necessary to implement applicable international rules and standards which initially arise externally to UNCLOS in order to fulfil their obligations under UNCLOS.<sup>36</sup> In the context of pollution from land-based sources, the express words of UNCLOS, Article 213 requires the United Kingdom to “take other measures necessary to implement applicable international rules and standards”. In this way Article 213 “closes gaps in ratification or implementation of global pollution control”.<sup>37</sup> Similarly, UNCLOS, Article 222 requires States to “take other measures necessary to implement applicable international rules and standards” with respect to pollution from or through the atmosphere. The phrase “applicable international rules and standards” is undefined in UNCLOS, but it is understood to include “well ratified treaties or widespread acceptance in the practice of States.”<sup>38</sup>

5.23. The language in UNCLOS, Part XII, Section 6 on enforcement (notably that of Articles 213 and 222) is that of obligation and not policy.<sup>39</sup> It is also the language of result, and it is particular to the protection of the marine environment. Similar words are not included elsewhere in the Convention, for example in relation to high seas fisheries. The deliberate inclusion of references to “applicable international rules and standards” in some parts of the Convention but not others makes it clear that where such references are included they are intended to be given effect. In his separate opinion in *Saiga (No. 2)*, Vice President Wolfrum put it this way:

“The Convention is to be considered as a framework agreement; it provides for further rules to be enacted by States, in particular coastal States, international organizations or international conferences. Those rules, to the extent they are in accordance with the Convention, supplement the latter and hence they are covered by the jurisdiction of the Tribunal.”<sup>40</sup>

5.24. In such a case, the determination by an Annex VII Tribunal of whether or not there has been compliance by a State Party, with its obligations under UNCLOS must entail consideration of those other international rules and practices.<sup>41</sup> Articles worded in the form of UNCLOS, Articles 213 and 222 operate a form of *renvoi*, for the obligations of States Parties under them cannot be determined without reference back to those other rules. The obligation to “take other measures necessary to implement applicable international rules and standards” plainly requires consideration as to the content of those applicable rules and standards.

---

<sup>36</sup> Memorial, paras 6.5-6.6.

<sup>37</sup> B. Oxman, “Complementary Agreements and Compulsory Jurisdiction” 95 AJIL 277 at 287 (2001).

<sup>38</sup> Virginia Commentary, vol IV, p 216.

<sup>39</sup> *Ibid*, p 214.

<sup>40</sup> *Supra*, n 31

<sup>41</sup> In the words of one commentator, “Compulsory Dispute Resolution may clarify the international standards to which Part XII refers, thereby broadening responsibilities and inducing wider compliance.... Commitment to the CLOS encourages commitment to developing international and regional LBMP law.” David Ring, “Sustainability Dynamics: Land-Based Marine Pollution and Priorities in the Island States of the Commonwealth Caribbean”, 22 Columbia Journal Environmental Law (1997) 65.

5.25. The duty to implement UNCLOS Part XII contained in Section 6 would be meaningless if compliance could not be assessed by taking account of such “applicable international rules and standards”. The Virginia Commentary describes Section 6 as the “essential complement” to UNCLOS, Article 194 (the overview provision with respect to prevention, control and reduction of marine pollution), in terms of giving effect to that Article.<sup>42</sup> Indeed an interpretation that excluded such “applicable international rules and standards” would render Part XII of the 1982 Convention ineffective. The Convention could not be the dynamic instrument it is if the precise content of the obligation were elucidated in its text, fixed and incapable of development without formally negotiated amendment.

5.26. The United Kingdom has offered two reasons why the Tribunal should disregard “other rules of international law” in its interpretation of States Parties’ rights and duties under the provisions of UNCLOS in issue.

5.27. The United Kingdom first argues that reference to other rules of international law – in particular to specific regional conventions of limited application such as the OSPAR Convention – would make such rules applicable to States Parties to UNCLOS that are not parties to the regional convention. According to the United Kingdom, this would effectively bind those States Parties to a convention contrary to the *pacta tertiis* rule. The United Kingdom further argues that “[t]here is nothing in UNCLOS which purports to incorporate OSPAR rules into UNCLOS or give them special status. Nor is there anything in the OSPAR Convention which suggests that its terms are actionable within the framework of UNCLOS dispute settlement.”<sup>43</sup>

5.28. The United Kingdom stresses that UNCLOS is a treaty of general application which “lays down a general framework of rights and obligations opposable to the 141 States Parties to the Convention drawn from every region of the world.”<sup>44</sup> Accordingly, it argues that Ireland cannot use OSPAR, a regional convention, “as an aid to interpretation” of UNCLOS.

5.29. Insofar as the application of other treaties and rules is concerned, this argument ignores the language of Articles 213 and 222 of UNCLOS and the United Kingdom offers no alternative interpretation. In Ireland’s view, Articles 213 and 222 make it clear that the obligation “to take measures to implement” only extends to “applicable international rules”. “Applicable international rules” in Article 213 is to be understood as denoting international rules (conventional and customary international law) binding on the Parties concerned,<sup>45</sup> that is parties to the particular case before the tribunal in question. The reference to “other rules of international law” in Article 293(1) must be similarly qualified.

5.30. It does not follow that using a convention of limited application to interpret the obligations of a treaty of general application has legal consequences for all Parties to the latter treaty. The obligations, upon which Ireland relies, in particular the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration, are only “applicable” to those States which have accepted their commitments. The United Kingdom is a Party to the OSPAR Convention and has accepted the commitments of the 1998 Sintra Ministerial

---

<sup>42</sup> Virginia Commentary, vol IV, p 215.

<sup>43</sup> Counter Memorial, paras 7.46, 7.47.

<sup>44</sup> Counter Memorial, para 7.46.

<sup>45</sup> Virginia Commentary, vol IV, 220.

Declaration.<sup>46</sup> These instruments are undeniably “applicable” to the United Kingdom. They are not applicable, for example, to Austria, Canada, Ghana or the United States. There could be no question of utilising the OSPAR Convention as applicable law if the United Kingdom and Ireland (or other OSPAR Member States) were not Parties. Nor would there be any question of applying other rules of international law incompatible with the Convention.

5.31. Moreover, it is accepted that States can modify or amend their obligations under a treaty of general application by entering into another treaty of limited application, consistent with the object and purpose of the general treaty, but only with respect to those States Parties to the subsequent treaty.<sup>47</sup> The objective for concluding the treaty of limited application may not be to amend the general treaty but rather to develop their obligations with greater precision and sophistication, or to accept more stringent or higher standards for the Parties to it. They can do this, but again only with respect to themselves: such more detailed obligations have no applicability to other States. Similarly, States may develop through practice regional customary international law that impacts upon their treaty obligations. Regional customary international law does not change the obligations of other States Parties to the treaty. In the *Asylum Case*, the ICJ did not dispute Columbia’s claim that a rule of regional customary law could be applicable to some Latin-American States but found that there was no basis for the particular rule claimed by Columbia. It stressed that in any event the claimed rule of regional customary law could not be binding upon Peru who had not become a Party to the Montevideo Conventions.<sup>48</sup>

5.32. UNCLOS Article 311 envisages that States Parties to UNCLOS will have differing obligations. Accordingly, a group of States may amplify their obligations under UNCLOS through the conclusion of a regional agreement such as OSPAR. This has no impact upon the obligations under UNCLOS of States non-Parties to OSPAR. However vis-à-vis the United Kingdom and Ireland, the Tribunal cannot determine compliance with UNCLOS Articles 213 and 222 without referring to other applicable international rules, including OSPAR. The Tribunal must therefore apply such other rules of international law to interpret the United Kingdom’s obligations under UNCLOS, provided these other rules are not incompatible with UNCLOS.

5.33. Moreover, the decision in this case will have no binding force except as between the Parties to the dispute in respect to this particular dispute (UNCLOS, Article 296 (2)). The United Kingdom’s concern that the award with respect to application and interpretation of UNCLOS will have important implications for other States, in particular “for States not yet Parties to the Convention”<sup>49</sup> is thus unfounded.

5.34. The United Kingdom’s second argument is that a court or tribunal referred to in Article 287 “will not have jurisdiction where the parties to the dispute have agreed that it shall be submitted to some other settlement procedure.”<sup>50</sup> This, it asserts, is the case with claims made under the European Community and Euratom Treaties<sup>51</sup> and a number of

---

<sup>46</sup> Counter Memorial, paras 7.46, 7.49.

<sup>47</sup> Vienna Convention on the Law of Treaties, 1969, Article 40(4).

<sup>48</sup> *Asylum Case* (Columbia v. Peru), 1950 ICJ Reports, 266 at 276-7.

<sup>49</sup> Counter Memorial, para 1.3.

<sup>50</sup> Counter Memorial, para 4.12.

<sup>51</sup> Counter Memorial, para 4.22.



other multilateral treaties including the OSPAR Convention.<sup>52</sup> The United Kingdom, in effect, argues that Ireland wants it both ways: to assert that the dispute before the Tribunal relates to the application or interpretation of UNCLOS and no other agreement for the purposes of the dispute resolution procedures, but to require the consideration of a range of other treaties and rules of general international law not incompatible with the Convention for the determination of the United Kingdom's obligations under UNCLOS.<sup>53</sup>

5.35. The United Kingdom has misunderstood both the scheme of the 1982 Convention and the extent of Ireland's request. As explained above, the drafters of Part XII of UNCLOS plainly envisaged that the extent of a party's compliance with UNCLOS's requirements on, for example, pollution from land-based sources and pollution of the atmosphere, would be subject to compulsory jurisdiction and to a *renvoi* to applicable international rules and standards arising externally to UNCLOS. As the major Convention for the regulation of all aspects of the law of the sea, UNCLOS has greater breadth in both substantive principles and procedures than other conventions which apply only to specific issues or to limited geographic regions. Ireland does not rely in any way on Article 288(2) of UNCLOS.

5.36. It is the task of an Annex VII Tribunal to determine on objective grounds the extent of a State's compliance with its obligations under UNCLOS. That determination necessarily requires it to assess whether or not a State has, for example, taken the measures necessary to implement applicable international rules and standards to which UNCLOS makes a *renvoi*. By becoming a party to UNCLOS, the United Kingdom has given its consent to the Annex VII Tribunal to make that determination.

5.37. The Tribunal will note that despite the United Kingdom's rejection of Ireland's approach and of the applicability and relevance of other rules of international law, the United Kingdom throughout its Counter Memorial resorts frequently to other treaties and rules of international law to support its own arguments.<sup>54</sup>

---

<sup>52</sup> Counter Memorial, para 4.23.

<sup>53</sup> Counter Memorial, para 4.5-4.6.

<sup>54</sup> E.g. Counter Memorial, Chapter 2, Part 2, and paras 6.5, 6.6, 6.47.

**This page intentionally left blank**

## CHAPTER 6

### ENVIRONMENTAL ASSESSMENT

#### INTRODUCTION

6.1. The United Kingdom addresses Article 206 of UNCLOS and the “assessment of potential effects of planned activities” in Chapter 5 of its Counter Memorial. Plainly the United Kingdom is defensive and uneasy about the quality of the environmental assessment to which the authorisation of the MOX Plant was subject. It makes a number of procedural and jurisdictional points, it does not seek to defend the assessment on its substantive merits. Indeed, the United Kingdom’s approach is more notable for its silences than for what it actually says. This applies to the facts, and to the law: the United Kingdom’s minimalist approach to Article 206 renders it devoid of practical consequence.

6.2. The United Kingdom has not responded to a significant number of the arguments put by Ireland. For example, it does not challenge Ireland’s point that the approach taken to the environmental assessment of the MOX Plant is manifestly inadequate as compared with the assessment of NIREX’s Rock Characterisation Facility (which was rejected by the United Kingdom’s Planning Inspector and then the Secretary of State).<sup>1</sup> Nor does the United Kingdom seek to explain that inadequacy of its environmental assessment of the MOX Plant as compared with the altogether more substantive environmental review which its counterparts in the United States have required for the proposed Savannah MOX Plant.<sup>2</sup>

6.3. The United Kingdom also declines to defend the quality of the 1993 Environmental Statement by reference to any independent expertise or evidence. Ireland’s own independent expertise – as provided in the report prepared by Mr William Sheate of Imperial College – is said to be irrelevant.<sup>3</sup> But none of his substantive conclusions on the inadequacy of the 1993 Statement – most notably the need to assess the foreseeable and intended impacts of THORP arising from the MOX authorisation – are challenged.

6.4. The most notable omission relates to the assessment of the environmental consequences of the MOX Plant by reference to the United Kingdom’s substantive obligations under UNCLOS: at no point in the Counter Memorial does the United Kingdom assert or even suggest that any regard was had to the requirements of the 1982 UNCLOS or the requirements of the 1998 OSPAR Ministerial Declaration, amongst its other international commitments undertaken in accordance with UNCLOS.<sup>4</sup> There is no witness statement from any person involved in the decision-making process to demonstrate

---

<sup>1</sup> Memorial, paras 7.70-7.74.

<sup>2</sup> Memorial, paras 7.75-7.80.

<sup>3</sup> Counter Memorial, paras 5.45, 5.53 and 5.57.

<sup>4</sup> See Chapter 3, paras 3. 14 *et seq.*

that the United Kingdom had regard to these requirements. Mr Parker of the Environment Agency is silent on the point. And no one from DEFRA or the DTI or any other department of Government is put forward. The evidence before the Arbitral Tribunal suggests that the environmental assessment had no regard to the matters upon which UNCLOS should have directed the United Kingdom's attentions.

6.5. What does the United Kingdom actually say? As to the facts it says the following:

- It confirms that the environmental assessment was a process that began in 1993 and continued in separate exercises performed in 1996 and 1998 and culminated with the United Kingdom's Decision of 3 October 2001;<sup>5</sup>
- It confirms that the environmental assessment of the authorisation focused only on the discharges from the MOX Plant and expressly excluded all consideration of any additional activities which might arise at THORP or otherwise in consequence of the operation of the MOX Plant;
- It focuses almost exclusively on doses and effects on human health, disregarding effects on the marine environment and flora and fauna; and
- It confirms that at no point in the environmental assessment process was consideration given to the United Kingdom's obligations under UNCLOS and under the 1998 Sintra Ministerial Declaration.<sup>6</sup>

6.6. On the law, the United Kingdom's approach renders Article 206 irrelevant. It considers that environmental assessment in Article 206 is little more than part of a "scheme" to ensure that "other interested parties are kept informed of likely pollution to the marine environment".<sup>7</sup> It rejects the view that the purpose of prior environmental assessment can contribute to the decision-making process and be part of a preventive approach to pollution of the marine environment. It also appears to reject the view that

"Without prior assessment there can be no meaningful notification and consultation in most cases of environmental risk. The duty, in other words, is not merely to notify what is known but to know what needs to be notified."<sup>8</sup>

Against this background the United Kingdom argues that:

- Article 206 was not engaged because there were no "planned activities" at the date of the entry into force of UNCLOS;
- Article 206 is not engaged because the United Kingdom had no reasonable grounds for believing that the MOX Plant may cause substantial pollution of or significant and harmful changes to the marine environment.

6.7. This Chapter is arranged as follows:

- **Section A** addresses the arguments of the United Kingdom to the effect that Article 206 is not applicable, because the MOX Plant was not a

---

<sup>5</sup> Counter Memorial, paras 5.1 and 5.53. See also Counter Memorial, Annex 21, p 5.

<sup>6</sup> The United Kingdom does not challenge Ireland's conclusion to that effect at para 7.60 of its Memorial.

<sup>7</sup> Counter Memorial, para 5.18.

<sup>8</sup> P. Birnie & A. Boyle, *International Law and the Environment* (2<sup>nd</sup> ed., 2002), at 133.

“planned activity” when UNCLOS came into force in August 1997 or because the United Kingdom had no reasonable grounds for believing that the MOX Plant may cause substantial pollution of or significant and harmful changes to the marine environment;

- **Section B** addresses the United Kingdom’s substantial obligations under Article 206, in particular by reference to (a) the purpose of environmental assessment; (b) the manner in which the assessment is to be conducted; and (c) the meaning of the words “as far as practicable”.
- **Section C** addresses the United Kingdom’s failure to comply with its obligations under Article 206, by reference to (a) Supplementary material provided by BNFL; (b) the Article 37 Submission; (c) the Environment Agency’s Proposed 1998 Decision; (d) the Justification Decision of 3 October 2001; and (e) the HSE’s Consent Decision of 19 December 2001.

## A. ARTICLE 206 IS APPLICABLE TO THE AUTHORISATION OF THE OPERATION OF THE MOX PLANT

6.8. The United Kingdom first argues that Article 206 is not applicable to the authorisation of industrial scale discharges of radioactive waste from MOX.

### THE MOX PLANT WAS A “PLANNED ACTIVITY” IN AUGUST 1997 WHEN UNCLOS CAME INTO FORCE

6.9. The first of the UK’s legal arguments is that the MOX Plant was not a ‘planned activity’ as at 24 August 1997, when UNCLOS came into force as between Ireland and the United Kingdom.<sup>9</sup> This is because – it is said – outline planning permission had been granted in February 1994.

6.10. A number of points may be made in response. The first concerns the meaning of the words “planned activities”. The United Kingdom seeks to rely on those words in relation to a purpose for which Ireland considers they were not intended. In Ireland’s view, the plain meaning of the words is simply to include within the scope of Article 206 activities which are intentional or premeditated (including those subject to planning and regulatory control), and to exclude those which are not (e.g. those occurring unintentionally). This is confirmed by the French text, which translates “planned activities” as “activités envisagées”.<sup>10</sup> Self-evidently, a State Party to UNCLOS cannot be expected to carry out environmental assessments for activities which are unplanned, such as accidents of nature (although that does not mean that the assessment of “planned activities” should

---

<sup>9</sup> Counter Memorial, para 5.7.

<sup>10</sup> The French text provides: “*Lorsque des Etats ont de sérieuses raisons de penser que des activités envisagées relevant de leur juridiction ou de leur contrôle risquent d’entraîner une pollution importante ou des modifications considérables et nuisibles du milieu marin, ils évaluent, dans la mesure du possible, les effets potentiels de ces activités sur ce milieu et rendent compte des résultats de ces évaluations de la manière prévue à l’article 205.*”

not include assessments of the consequences of events which are reasonably foreseeable but which are not planned by the developer, such as terrorist attacks.

6.11. Assuming – *quod non* – that the United Kingdom is correct in its reading of Article 206, its argument is unfounded. It claims that Article 206 is to be construed as not applying to any activity occurring after the planning stage which occurred prior to the entry into force of UNCLOS. In support of that view the United Kingdom cites the Virginia Commentary (which is not on point) and a 1998 Judgment of the European Court of Justice (also not on point).

6.12. It is important to be precise about the “planned activity” with which Ireland is concerned and which has given rise to the dispute. The dispute between Ireland and the United Kingdom does not concern the construction of the MOX Plant, but rather its operation. The question for the Tribunal is this: as at August 1997 was the operation of the MOX Plant a “planned activity”? Obviously the answer to that question is yes. At that date the operation of the plant had not been authorised; the United Kingdom itself points out that the operation of the MOX Plant was not authorised until after the Decision of 3 October 2001, with Consent granted by the Health and Safety Executive. As the United Kingdom puts it:

“Finally, on 19 December 2001, the Decision was taken by the United Kingdom’s Health and Safety Executive (“HSE”) to authorise plutonium commissioning of the MOX Plant in accordance with the Nuclear Installations Act 1965.”<sup>11</sup>

6.13. According to the United Kingdom, the authorisation of plutonium commissioning of the plant constituted the authorisation of its operation. That occurred 4 years and 4 months after UNCLOS came into force. The United Kingdom also confirms that uranium commissioning of the MOX Plant was authorised on 11 June 1999, twenty two months after UNCLOS came into force.<sup>12</sup> When the United Kingdom Secretaries of State took their decision to authorise the MOX Plant as ‘justified’ – on 3 October 2001 – UNCLOS was in force.<sup>13</sup> Ireland had written to the United Kingdom to draw its attention to its obligation under UNCLOS more than two years earlier.<sup>14</sup>

6.14. What had been authorised by the United Kingdom prior to the entry into force of UNCLOS? By that date Copeland Borough Council had granted outline planning permission for the construction of the plant, but made it clear that its operations required further authorisations to be obtained.<sup>15</sup> Copeland Borough Council had expressed no view on the authorisation of the discharges.

6.15. The United Kingdom’s attempt to rely on the case law of the European Court of Justice is misguided.<sup>16</sup> First, Ireland’s case before the Annex VII Tribunal is that Article 206 of UNCLOS has been violated: it is not Ireland’s case (in this forum) that the United Kingdom has violated Directive 85/337/EEC. Second, in the case referred to by the United Kingdom (Case 81/96, *Burgemeester en Wethouders*) the ECJ decided that an

---

<sup>11</sup> Counter Memorial, para 2.31.

<sup>12</sup> Counter Memorial, para 2.31 at note 28.

<sup>13</sup> The Decision of 3 October 2001 expressly addresses the issue of the environmental consequences of the operation.

<sup>14</sup> Memorial, paras 7.50-7.57. Also Ireland’s letter of 23 December 1999: Memorial, vol 3(1), Annex 20.

<sup>15</sup> Counter Memorial, para 5.48.

<sup>16</sup> Counter Memorial, para 5.8.

environmental impact assessment procedure (pursuant to Directive 85/337/EEC) had to be carried out for a project initiated prior to the date for the transposition of the Directive where “a fresh procedure” had been formally initiated after the date for the transposition.<sup>17</sup> The United Kingdom has been selective in its choice of quotation, and in fact the ECJ is yet to decide a case on the point which the United Kingdom seeks to raise (whether a project which has been granted outline planning permission prior to the transposition of Directive 85/337/EEC – or amending Directive 97/11/EC – is subject to the requirements of those instruments in respect of authorisations occurring after that date). Indeed, the United Kingdom’s approach appears not to be shared by the Commission of the European Communities. By letter of 14 January 2003, the Commission notified the United Kingdom that it was commencing ECJ proceedings in respect of a failure to require that an environmental impact assessment (under Directive 85/337/EEC) be carried out in respect of those parts of a multi-stage development consent procedure which occurred after the date for transposition of the Directive.<sup>18</sup> In the meantime the question concerning Directive 85/337/EEC remains undecided by the ECJ.

6.16. Ireland’s pragmatic approach (which is apparently shared by the European Commission) is consistent with that taken by the 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. The 1997 Joint Convention distinguishes between the environmental assessment prior to construction and prior to operation, recognising that different authorisation procedures may arise. Article 8 of the Joint Convention (entitled Assessment of Safety of Facilities) makes it clear that the environmental assessment process is mandatory:

“Each Contracting Party shall take the appropriate steps to ensure that:

- (i) before construction of a spent fuel management facility, a systematic safety assessment and an environmental assessment appropriate to the hazard presented by the facility and covering its operating lifetime shall be carried out;
- (ii) before the operation of a spent fuel management facility, updated and detailed versions of the safety assessment and of the environmental assessment shall be prepared when deemed necessary to complement the assessments referred to in paragraph (i).”<sup>19</sup>

6.17. The United Kingdom’s argument may be approached in another way, by asking the following question: had the process of environmental assessment been completed by the time the 1982 UNCLOS had entered into force? The United Kingdom accepts that it had not. Indeed, it claims that the 1993 Environmental Statement was but one stage in a multi-

---

<sup>17</sup> 1998 ECR I-3923, para 27.

<sup>18</sup> Reply, vol 3(2), Annex 183.

<sup>19</sup> 36 ILM 1431 (1997); and Reply, vol 3(1), Annex 162. The Convention came into force for Ireland and the United Kingdom on 18 June 2001. See also the requirements (in respect of safety) of the 1994 Convention on Nuclear Safety, 33 I.L.M. 1514 (1994), in force for Ireland and the United Kingdom on 24 October 1996, which provides in its Article 14 that

“Each Contracting Party shall take the appropriate steps to ensure that:

- (i) comprehensive and systematic safety assessments are carried out before the construction and commissioning of a nuclear installation and throughout its life. Such assessments shall be well documented, subsequently updated in the light of operating experience and significant new safety information, and reviewed under the authority of the regulatory body;
- (ii) verification by analysis, surveillance, testing and inspection is carried out to ensure that the physical state and the operation of a nuclear installation continue to be in accordance with its design, applicable national safety requirements, and operational limits and conditions.” Reply, vol 3(1), Annex 163

stage process, and that the environmental assessment continued after Copeland Borough Council granted “outline planning permission” on 23 February 1994, in particular in the course of the Article 37 EURATOM submission (1996) and the Environment Agency’s Proposed Decision of October 1998. The United Kingdom complains that “Ireland leaves out of the account all the other assessments of the potential effects of the MOX Plant”.<sup>20</sup> By its own account the process of environmental assessment was still underway as at August 1997. It was not completed until 3 October 2001 when the United Kingdom’s Secretaries of State decided, as part of that decision, that they

“consider that the radiological detriments which would arise in association with the manufacture of MOX fuel from plutonium separated in THORP and belonging to foreign customers would be very small and that any effects on wildlife would be negligible. They also consider that the aerial and liquid discharges and the solid wastes arising from the operation of this practise at the SMP can be managed within the constraints of the existing Sellafield discharge authorisations.”<sup>21</sup>

6.18. What, then, had been decided by the decision of Copeland Borough Council on 23 February 1994? Although the United Kingdom has provided some additional material in relation to the planning application it has not provided a copy of the final “outline planning permission”. On the basis of the recommended decision,<sup>22</sup> however, it is apparent that the permission granted by Copeland Borough Council included certain reserved matters and an express proviso to the effect that the MOX Plant “could not be brought into use without notification to the Council that all required licences under the Radioactive Substances Act and the Nuclear Installations Act had been received”.<sup>23</sup> Those licences were only granted after the Secretaries of States’ Decision of 3 October 2001. It is incontestable, therefore, that after 23 February 1994 the operation of the MOX Plant was a “planned activity” still subject to the approval of the relevant United Kingdom authorities. It was a “planned activity” on 24 August 1997 when UNCLOS came into force. It was a “planned activity” during each of the five rounds of public consultation to which the United Kingdom attaches such importance, in 1998, 1999 and in the summer of 2001. The operation of the MOX Plant was a “planned activity” right up to 3 October 2001 and 19 December 2001.

6.19. Under this head, the United Kingdom also argues that the application of Article 206 to any future discharges from THORP is “premature”, on the grounds that “[t]here has been no decision or action by the United Kingdom on which to base a claim”.<sup>24</sup> The argument is premised on the view that the MOX Plant and THORP are entirely separate activities and that the authorisation of the operation of the MOX Plant has no consequences for the operation of, and discharges from, THORP. It assumes that additional activity at THORP was not yet “planned”, hence the requirements of Article 206 are not engaged. Ireland is too late for MOX and too early for THORP.

6.20. This argument is without merit, and is addressed in Chapters 2 and 8.<sup>25</sup> The Environment Agency approached the application for the authorisation of the operation of

---

<sup>20</sup> Counter Memorial, para 5.33.

<sup>21</sup> Memorial, Vol 3(2), Annex 92, p. 237.

<sup>22</sup> Counter Memorial, Annex 21.

<sup>23</sup> Counter Memorial, para 5.48.

<sup>24</sup> Counter Memorial, para 5.10.

<sup>25</sup> Paras 2.7 *et seq* and paras 8.11-8.13.



the MOX Plant on the basis that it was to produce 120 tonnes of MOX fuel for 20 years.<sup>26</sup> That production would require about 140 tonnes of plutonium oxide to be available for feedstock, all of it to come from THORP and from foreign owned fuel. It follows that the operation was premised on the production of an additional 100 tonnes of plutonium oxide, requiring additional reprocessing of 12,000 tonnes of foreign spent nuclear fuel beyond baseload and existing post-baseload contracts.<sup>27</sup> Ireland submits that the additional reprocessing activity needed to supply the MOX Plant should have been the subject of an environmental assessment as part of the MOX Plant authorisation. That follows from the principles applied under relevant international assessment rules,<sup>28</sup> the United Kingdom's own practice in relation to the NIREX project,<sup>29</sup> the approach taken by the United States' regulators in relation to the proposed US MOX Plant,<sup>30</sup> and the expert opinion of Mr Sheate.<sup>31</sup> The United Kingdom has not challenged any of these points.

THERE ARE REASONABLE GROUNDS FOR BELIEVING THAT THE MOX PLANT MAY  
CAUSE SUBSTANTIAL POLLUTION OF, OR SIGNIFICANT AND HARMFUL CHANGES TO,  
THE MARINE ENVIRONMENT

6.21. The United Kingdom's second argument on the non-application of Article 206 is that "the United Kingdom had and has no reasonable grounds for believing that the MOX Plant may cause substantial pollution of or significant and harmful changes to the marine environment".<sup>32</sup>

6.22. This is an especially poor argument. All nuclear activities are inherently hazardous, and industrial-scale activities are even more so.

6.23. As Ireland indicated in its Memorial (at paragraph 7.11), a project of this type, scale and consequence is considered by all relevant international instruments to be inherently of the type to require regulatory approval and be subject to an environmental assessment. The discharges from the MOX Plant are not below *de minimis* thresholds.<sup>33</sup> Ireland refers to Directive 85/337/EEC and the 1991 Espoo Convention in order to show that States (including the United Kingdom and Ireland) plainly treat these kinds of projects as being mandatorily subject to environmental assessment requirements, and not because it seeks to "incorporate" their provisions into the 1982 UNCLOS.

6.24. The authorisation of the operation of the MOX Plant will lead to the production of nuclear fuel and is intended to result in further reprocessing activity at THORP. Both activities – nuclear fuel production and the processing of irradiated nuclear fuel or high-

---

<sup>26</sup> See The 1993 Environmental Statement, Memorial, vol 3(3), Annex 103 and Proposed Decision on the Justification for the Plutonium Commissioning and Full Operation of the Mixed Oxide Fuel Plant, October 1998, Memorial, vol 3(2), Annex 95, at A4.108.

<sup>27</sup> See the MacKerron Report, Reply, vol 2, Appendix 17, section 5 and the Barnaby Report, Reply, Appendix 13, para 2.5.

<sup>28</sup> Memorial, paras 7.24-7.26.

<sup>29</sup> Memorial, paras 7.70-7.74.

<sup>30</sup> Memorial, paras 7.75-7.80.

<sup>31</sup> Memorial, paras 7.62-7.66 and Memorial, vol 2, Appendix 6 (Report of William Sheate).

<sup>32</sup> Counter Memorial, para 5.12.

<sup>33</sup> See paras 2.51.

level radioactive waste – are listed in Appendix 1 of the 1991 Espoo Convention and Annex I of Directive 85/337/EEC (as amended) as being inherently of the kind to require an environmental impact assessment.<sup>34</sup> The 1997 amendments to Directive 85/337/EEC made the production of nuclear fuel (such as MOX) and processing of irradiated nuclear fuel or high-level radioactive waste an activity for which environmental assessment was mandatory.<sup>35</sup> Environmental assessment is also mandatory under the 1997 Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.<sup>36</sup> Both activities are also identified in the 1998 Aarhus Convention on Access to Information, Public Participation and Decision Making and Access to Justice in Environmental Matters as being of the kind to which the provisions of that Convention are to apply, on account of their inherent dangers and risks.<sup>37</sup>

6.25. The United Kingdom’s suggestion that BNFL “voluntarily” prepared an Environmental Statement is misleading.<sup>38</sup> A more accurate picture can be obtained by a careful reading of the material tendered by the United Kingdom. The Report of the Copeland Borough Council on the Outline Planning Application from BNFL (Counter Memorial, Annex 21) shows that BNFL only prepared an Environmental Statement after the United Kingdom Secretary of State had directed the Council not to determine the application, in order to allow the Secretary of State to consider *inter alia* “whether the application should be accompanied by an Environmental Statement”.<sup>39</sup> The suggestion that the United Kingdom had, in 1994, taken the view that no Environmental Statement was required is highly misleading. A careful reading of the materials suggests that the opposite was in fact the case.

6.26. Against this background, the United Kingdom cannot claim that there are no reasonable grounds for believing that the “planned activity” of the operation of the MOX Plant could not cause substantial pollution of or significant and harmful changes to the marine environment.

6.27. If the MOX Plant is not covered by Article 206 of UNCLOS it is difficult to see which projects would be. Article 206 would be rendered meaningless in the unlikely event that the Tribunal was to uphold the United Kingdom’s argument. If the United Kingdom is correct – and industrial scale discharges of radioactive materials into the Irish Sea (even from the MOX Plant alone) are not subject to Article 206 – then it is difficult to see what “planned activities” would be caught by Article 206.

## **B. THE SUBSTANTIVE OBLIGATIONS UNDER ARTICLE 206**

6.28. In its Memorial Ireland summarised the obligations imposed upon the United Kingdom by Article 206 as follows:

---

<sup>34</sup> Memorial, paras 7.20-7.23.

<sup>35</sup> Directive 85/337/EEC as amended by Directive 97/11/EC, Annex I, to be brought into force by 14 March 1999.

<sup>36</sup> See para 6.16. above.

<sup>37</sup> 38 ILM 517 (1999), Art 6(1) and Annex I.

<sup>38</sup> Counter Memorial, para 2.17.

<sup>39</sup> Counter Memorial, Annex 21, p. 1, para 1.3.

“to identify all possible environmental consequences for the Irish Sea arising from the authorisation of the MOX Plant, including indirect environmental consequences which would not occur but for the authorization of the MOX Plant, and to assess those consequences by reference to its environmental obligations at the date of the authorisation (October 2001).”<sup>40</sup>

6.29. What this means in practice is that the process of assessment comprises first an identification of “the potential effects of such activities on the marine environment” (as UNCLOS Article 206 puts it), and second an assessment of those potential effects. “Potential effects” must mean at least all intended and reasonably foreseeable effects.<sup>41</sup> In respect of the MOX Plant the identification stage encompasses “potential effects” arising from:

- the MOX Plant itself;
- the intensification of the use of and extension of the life of THORP which arises as a result of the operation of the MOX Plant;
- the storage and disposal of additional wastes produced as a result of the operation of the MOX Plant and additional activities at THORP; and
- the risks posed by international transports, related to the MOX Plant, of nuclear materials to and from the Sellafield site.<sup>42</sup>

In the second stage – which the United Kingdom now accepts only began in 1993 and ran through to the Environment Agency’s proposed decision of 1998 – the decision-maker must “assess the potential effects”. In Ireland’s view that process of assessment (which is dependent upon a proper identification) is required to enable the achievement of the generally accepted purpose of environmental assessment, namely (1) to minimise environmental risks and contribute to the objective of reducing pollution, and (2) to ensure that neighbouring States are duly informed of any activities entailing risk in order that their views might be made known and their interests taken into account.<sup>43</sup>

6.30. The United Kingdom disagrees with Ireland’s approach. It says (a) that an environmental assessment is “no more than a tool to inform decision-makers and other parties at an early stage of the potential impacts of a project” and suggests that its purpose is not to “minimize environmental risk”;<sup>44</sup> (b) that there is “no suggestion [in Article 206] that the assessment has to be done in a particular way” and no requirement to update an environmental assessment;<sup>45</sup> and (c) that the assessment is to be carried out only “as far as practicable”.<sup>46</sup> The United Kingdom also suggests – but does not actually state – that little, if any assistance may be obtained by reference to principles of general international law or particular international instruments to which Ireland refers (the 1978 UNEP Draft Principles, Directive 85/337/EEC and the 1991 Espoo Convention, to which should also be added the 1994 Nuclear Safety Convention and the 1997 Joint Convention). Ireland addresses each of these arguments in turn.

---

<sup>40</sup> Memorial, para 7.5.

<sup>41</sup> See paras 2.13 *et seq.*

<sup>42</sup> Memorial, para 7.1. See also paras 7.4 and 7.81.

<sup>43</sup> Memorial, para 7.10.

<sup>44</sup> Counter Memorial, para 5.26.

<sup>45</sup> Counter Memorial, para 5.15.

<sup>46</sup> *Ibid.*

## THE PURPOSE OF ENVIRONMENTAL ASSESSMENT

6.31. The United Kingdom seeks to minimize the significance of environmental assessment by limiting its role to an information-gathering function. It is not, says the United Kingdom, “a means of ensuring that the adverse environmental impacts of projects are necessarily mitigated or eliminated, or that projects with adverse environmental impacts do not go ahead”.<sup>47</sup> The United Kingdom even goes so far as to claim that if that were the object of an environmental assessment “much development would cease altogether”.<sup>48</sup>

6.32. Scare-mongering is not a substitute for careful legal analysis. The United Kingdom’s restrictive approach is not supported by UNCLOS or by the Virginia Commentary, or by the numerous international instruments applicable to the parties, or by leading commentaries.

6.33. Article 206 forms part of Part XII of UNCLOS, entitled “Protection and Preservation of the Marine Environment”. Self-evidently the object and purpose of Article 206 is to assist in the achievement of the Convention’s commitment to the protection and preservation of the marine environment. Little purpose would be served by an interpretation or application of Article 206 which limited its function to the information-gathering model proposed by the United Kingdom. The information is to be obtained for a purpose. That purpose is to assist the State (and its decision-makers) in fulfilling its obligations to protect and preserve the marine environment. In other words, environmental assessment is one of the principal techniques available to States “to ensure that activities under their jurisdiction and control are so conducted as not to cause damage by pollution to other States and their environment” (as required by Article 194(2)) and – of particular relevance here – to assist them in minimising “to the fullest possible extent” the release of toxic, harmful or noxious substances (Article 194(3)(a)) and to “implement applicable international rules and standards ... to prevent, reduce and control pollution of the marine environment from land-based sources” (Article 207).

6.34. There is nothing controversial or new in the proposition that the purpose of environmental assessment is to ensure that potentially harmful activities “may be effectively controlled”. The Virginia Commentary states this in express terms, a point which the United Kingdom omits to mention in selectively citing the Commentary.<sup>49</sup>

6.35. The United Kingdom understandably declines to refer to the views of leading commentators on the purpose of environmental assessment, since its limited approach is at variance with established views. According to one respected commentary

“The object of prior assessment is to enable ‘appropriate measures’ to be taken to prevent or mitigate pollution before it occurs.”<sup>50</sup>

The commentary goes on to state that the view that “such assessments” are required as a matter of customary law for impacts on the marine environment “is reinforced by the 1982 LOSC and regional agreements”, and to that end quotes the whole of Article 206.<sup>51</sup>

---

<sup>47</sup> Counter Memorial, para 5.26.

<sup>48</sup> *Ibid.*

<sup>49</sup> Counter Memorial, para 5.18 and fn 13; the United Kingdom refers only to the “information-sharing” function of Articles 204 and 205 in relation to Article 206.

<sup>50</sup> P. Birnie & A. Boyle, *International Law and the Environment* (2nd ed., 2002), at 415.

6.36. In a similar vein, the preamble to the 1991 Espoo Convention describes environmental impact assessment as

“a necessary tool to improve the quality of information presented to decision-makers so that environmentally sound decisions can be made paying careful attention to minimizing significant adverse impacts, particularly in a transboundary context.”

Similar expressions as to the object of environmental assessment may be found in the 1978 UNEP Draft Principles<sup>52</sup> and Directive 85/337/EEC.<sup>53</sup> The approach is also reflected in the report of Mr William Sheate, which the United Kingdom describes as irrelevant but not as erroneous.<sup>54</sup>

#### THE MANNER IN WHICH THE ASSESSMENT IS TO BE CONDUCTED

6.37. The object of an environmental assessment – to enable measures to be taken to prevent or mitigate pollution before it occurs – shapes the manner in which the assessment is to be conducted. Article 206 does not specify in express terms how the assessment is to be carried out, or in what form. It is quite wrong, however, to claim as the United Kingdom does that there is “no suggestion [in Article 206] that the assessment has to be done in a particular way”.<sup>55</sup> To the contrary, the assessment required by Article 206 means that it is “to be done” in such a way as to ensure that the object and purposes of that provision may be achieved. The manner in which the assessment is carried out is also informed by the requirements of general international law and specific obligations arising pursuant to applicable and relevant international instruments.

6.38. It is for this purpose that Ireland has made reference to a select number of international instruments which specify in greater detail the modalities by which an environmental assessment could be carried out. As stated in its Memorial, these instruments “are relevant because they give an indication of what measures are ‘practicable’ within the meaning of Article 206”.<sup>56</sup> Ireland did not claim in its Memorial – and does not claim now – that these and other instruments are somehow “incorporated” into Article 206. Nor does Ireland claim that Article 206 specifies with absolute precision the content or form of the environmental assessment process it requires. States are entitled to exercise a degree of discretion in assessing the “potential effects” of activities within their jurisdiction or control, provided the assessment assists in achieving the object of putting the state in a position to take “appropriate measures to prevent or mitigate pollution before it occurs” and to allow “environmentally sound decisions” to be taken.

6.39. In its Memorial, Ireland specified what this meant in practice, by reference to similar requirements of the 1978 UNEP Principles, the 1985 EEC Directive and the 1991 Espoo Convention. Ireland is equally willing to have regard to the applicable international legal instruments to which the United Kingdom refers in its Counter Memorial, such as

---

<sup>51</sup> *Ibid*, 415-6.

<sup>52</sup> Memorial, vol 3(2), Annex 81.

<sup>53</sup> O.J. No. L 175, 5.7.1985, p 40.

<sup>54</sup> Counter Memorial, inter alia paras 5.33 & 5.45.

<sup>55</sup> Counter Memorial, para 5.15.

<sup>56</sup> Memorial, para 7.16.

Article 37 of EURATOM (but only for the purposes of impacts upon human health, and not environmental impacts, which that provision does not purport to address) and assessment pursuant to the process of justification under Directive 96/29/EURATOM. At paragraph 7.25 of its Memorial Ireland identified what the minimum requirements to be addressed in an Environmental Report (or in the process of an environmental assessment) are to be. They are:

- A description of the proposed activity;<sup>57</sup>
- A description of the potentially affected environment;<sup>58</sup>
- A description of practical and reasonable alternatives, including the “no action” alternative;<sup>59</sup>
- An assessment of the likely or potential environmental impacts of the proposed activity and alternatives, including the direct, indirect, cumulative, short-term and long-term effects;<sup>60</sup>
- An identification and description of measures available to prevent, mitigate or minimise or offset adverse environmental impacts of the proposed activity and alternatives, and an assessment of those measures;<sup>61</sup>
- An indication of gaps in knowledge and uncertainties which may be encountered in compiling the required information;<sup>62</sup>
- An indication of predictive methods and underlying assumptions as well as the relevant environmental data used;<sup>63</sup>
- An outline for the monitoring and management of programmes and any plans for post-project analysis;<sup>64</sup>
- An indication of whether the environment of any other State is likely to be affected by the proposed activity or alternatives;<sup>65</sup> and
- A non-technical summary of the information provided.<sup>66</sup>

---

<sup>57</sup> 1987 UNEP Principles, Principle 4(a); 1985 EC EIA Directive, Annex III, para 1; 1991 Espoo Convention, Appendix II, para (a).

<sup>58</sup> 1987 UNEP Principles, Principle 4(b); 1985 EC EIA Directive, Annex III, para 3; 1991 Espoo Convention, Appendix II, para (c).

<sup>59</sup> 1987 UNEP Principles, Principle 4(c); 1985 EC EIA Directive, Annex III, para 2; 1991 Espoo Convention, Appendix II, para (b).

<sup>60</sup> 1987 UNEP Principles, Principle 4(d); 1985 EC EIA Directive, Annex III, para 4; 1991 Espoo Convention, Appendix II, para (d).

<sup>61</sup> 1987 UNEP Principles, Principle 4(e); 1985 EC EIA Directive, Annex III, para 5; 1991 Espoo Convention, Appendix II, para (e).

<sup>62</sup> 1987 UNEP Principles, Principle 4(f); 1985 EC EIA Directive, Annex III, para 7; 1991 Espoo Convention, Appendix II, para (g).

<sup>63</sup> 1991 Espoo Convention, Appendix II, para (f).

<sup>64</sup> 1991 Espoo Convention, Appendix II, para (h).

<sup>65</sup> 1987 UNEP Principles, Principle 4(g); 1985 EC EIA Directive, Article 7; the requirement is implicit in the requirements of the 1991 Espoo Convention, which is limited to projects with potential transboundary consequences.

<sup>66</sup> 1987 UNEP Principles, Principle 4(h); 1985 EC EIA Directive, Annex III, para 6; 1991 Espoo Convention, Appendix II, para (i).

6.40. The United Kingdom does not deny that these are the common elements of the relevant international instruments (indeed, it proceeds to refer to them in the course of its argument as to its compliance with Article 206: see e.g. Counter Memorial paragraphs 5.35 *et seq.*). Nor does the United Kingdom invite the Tribunal to disregard these instruments. It makes two points, relating to Ireland's selective use of the instruments. First, it claims that Ireland has left out "anything in the instruments that suggests that the requirements are anything other than absolute",<sup>67</sup> referring to Principle 5 of the UNEP Principles (providing that "the environmental effects in an EIA should be assessed with a degree of detail commensurate with their likely environmental effects", a provision which reflects common sense and to which Ireland has no objection). Second, it claims that the instruments only require identification of alternatives and the required outline for monitoring programmes on an "as appropriate" basis.<sup>68</sup> Again, Ireland is content to have regard to this requirement, which ties in well with its view that the United Kingdom was required as a matter of law to consider alternative abatement technologies. The United Kingdom can hardly argue that that which is required by law will not be "appropriate".

6.41. As regards rules of general international law, the United Kingdom takes exception to Ireland's reliance upon paragraph 140 of the ICJ's Judgment in the case concerning the *Gabčíkovo-Nagymaros* Project, in relation to the requirement to update an environmental assessment.<sup>69</sup> Once again, the United Kingdom attributes to Ireland views that it has not expressed and arguments that it has not made. Ireland relied upon the ICJ's Judgment to establish two points: first, that the requirement to carry out environmental assessment is a continuing obligation with requirements to update (This requirement is expressly provided for in the 1994 Nuclear Safety Convention in respect of safety, and the 1997 Joint Convention in respect of safety and environmental assessment: see para 6.16); and second, that the environmental standards to be applied are those in force at the time of the relevant decision (in this case the authorisation of the MOX Plant's operation in October and December 2001). Taken together these principles lead to the following modest conclusion: a State cannot properly rely (in an October 2001 Decision) upon an environmental report and assessment prepared or carried out in 1993 (i.e. more than eight years earlier) and which has not been updated to take into account material developments between those two dates, including the assumption of new international obligations of the State (in this case *inter alia* the new UNCLOS commitments, including those arising by reference to the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration).

6.42. There does not appear to be a great gap between Ireland's approach and that of the United Kingdom. Ireland welcomes the acceptance by the United Kingdom that the ICJ's *Gabčíkovo* Judgment supports, as being of general application, the principle that

"new norms (if any) are to be taken into consideration and new standards (if any) are to be given proper weight when continuing with activities begun in the past."<sup>70</sup>

The United Kingdom appears to accept that the requirements of UNCLOS and applicable rules and standards adopted in accordance with UNCLOS – the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration – establish new norms and new standards. It

---

<sup>67</sup> Counter Memorial, para 5.30.

<sup>68</sup> Counter Memorial, para 5.31.

<sup>69</sup> Counter Memorial, para 5.23.

<sup>70</sup> Counter Memorial, para 5.22.

could hardly do otherwise. Yet it has provided no evidence that it actually took these new norms into consideration or gave proper weight to the new standards.

6.43. The *Gabčíkovo* principle applies equally, in Ireland's view, to activities which are "planned" and have not yet begun (as was the case for the MOX Plant between 1993 and late 2001). Ireland contends that the process of environmental assessment provides an appropriate point at which to take into consideration new norms and give proper weight to new standards.

6.44. As described further below, at no point in the assessment process did the United Kingdom appear to take into account those 1998 commitments in deciding whether the environmental consequences of the authorisation of the MOX Plant were compatible with the United Kingdom's international obligations. That is the heart of the case, set out in detail in Ireland's letter of December 1999.<sup>71</sup> Ireland is still awaiting a response from the United Kingdom.

6.45. Similarly, the Parties do not appear to be far apart on the relevance of Article 7 of the ILC's Articles on Prevention of Transboundary Harm. Ireland did not claim that there is "an obligation to carry out a specific and defined type of environmental impact assessment as a general rule of international law",<sup>72</sup> as the United Kingdom puts it. What Ireland actually said in its Memorial, at paragraphs 7.8 and 7.9, was that Article 7 confirmed that the "obligation to carry out an environmental impact assessment, as contained in Article 206, reflects a rule of general international law". That is a view which the United Kingdom has not challenged. Once again, the United Kingdom exaggerates Ireland's case and proceeds to dismantle an argument not made. The purpose appears to be to paint Ireland in the colours of excess, and to demonstrate the reasonableness of the United Kingdom. The approach is coupled with the selective use of documents, in this case the Commentary to Article 7 of the ILC's draft Articles, (which Ireland considers in no way departs from the general approach taken by Ireland). In particular, Ireland considers there to be no inconsistency between the Commentary's view that

"the specifics of what ought to be the content of assessment is left to the domestic laws of the State conducting such assessment"

and Ireland's view, as stated above, that the assessment required by Article 206 should be carried out in such a way as to ensure that the object and purposes of that provision may be achieved, having regard to the requirements of general international law and relevant international instruments. That said, Ireland notes the views of one commentary that "the ILC's caution is misplaced" and that

"the evidence strongly suggests that UNEP's definition of the minimum content of an EIA more closely and convincingly reflects national practice. An EIA which does not at least describe the activity, its possible impact, mitigation measures, and alternatives would not only be an exercise in futility but arguably fails to meet the standards of good faith which underpin international law on transboundary cooperation".<sup>73</sup>

Ireland does not understand the ILC, in its draft Article 7, to be expressing a different view.

---

<sup>71</sup> Memorial. Vol 3(1), Annex 20.

<sup>72</sup> Counter Memorial, para 5.25.

<sup>73</sup> P. Birnie & A. Boyle, *International Law and the Environment* (2<sup>nd</sup> ed., 2002), at p 135.



“AS FAR AS PRACTICABLE”

6.46. According to the United Kingdom the words “as far as practicable” mean that “what is required by way of assessment will depend on each individual case: what is practicable in relation to one set of circumstances may and likely will differ from what is practicable in another case”.<sup>74</sup>

6.47. The first part of the statement raises no issues. But if the second part of the statement is intended to suggest that “practicability” determines the substantive content of the assessment process, then Ireland does not agree. Ireland’s position, as described above, is that “practicability” cannot be relied upon to undermine the requirement that the assessment must put the United Kingdom (as the decision-maker) in a position to take “appropriate measures to prevent or mitigate pollution before it occurs” and to allow “environmentally sound decisions” to be taken. Ireland considers that it is not open to the United Kingdom to argue that what is required of an assessment by its domestic and international legal obligations is not “practicable” within the meaning of Article 206 (there is nothing “far-fetched” about this argument).<sup>75</sup>

SUMMARY AND CONCLUSIONS

6.48. The United Kingdom misunderstands the purpose of an environmental assessment, minimises the matters that an assessment is to address where properly carried out, and construes Article 206 to render it without practical effect.

**C. THE UNITED KINGDOM’S FAILURE  
TO COMPLY WITH ARTICLE 206**

6.49. The United Kingdom makes no attempt to address Ireland’s substantive concerns as to the adequacy of its environmental assessment of the “potential effects” of the operation of the MOX Plant. The determination of compliance is a mixed question of law and fact. As Ireland made clear in its Memorial, and as referred to above, the environmental assessment required to be carried out pursuant to Article 206 should have identified all the environmental consequences arising from the authorisation of the operation of the MOX Plant, instead of merely focusing on doses to humans. The Parties are now in agreement that the only environmental consequences which were assessed were those arising directly from the MOX Plant. There has been no assessment of the environmental consequences of *inter alia* the increased operation of THORP, of increased volumes of radioactive wastes stored at Sellafield, or of additional (i.e., MOX/THORP related) international transports through the Irish Sea.<sup>76</sup>

6.50. It is also notable that the United Kingdom has:

---

<sup>74</sup> Counter Memorial, para 5.15.

<sup>75</sup> Counter Memorial, Para 5.29 and footnote 31.

<sup>76</sup> Memorial, paras 7.4 and 7.81-7.85.

- failed to explain or justify or otherwise address the limited scope of the environmental assessment as compared with other environmental assessments prepared in the United Kingdom in the early 1990's;<sup>77</sup> or
- failed to explain or justify or otherwise address the difference of approach between the limited environmental assessment of the MOX Plant, on the one hand, and the substantially more extensive environmental assessment of the proposed United States MOX Fabrication Facility. The Tribunal will note that the US plant is designed to result in zero liquid discharges to the environment;<sup>78</sup> and
- failed to explain or justify or otherwise address the rejection by the United Kingdom Government (in 1997) of the 1996 NIREX Environmental Statement of a proposed Rock Characterisation Facility near Sellafield, on the grounds *inter alia* of the failure to consider the effects of a future (and hypothetical) Deep Waste Repository. The Tribunal will also note that the proposed Rock Characterisation Facility envisaged zero discharges of radionuclides into the Irish Sea.<sup>79</sup>

6.51. The Tribunal will note that the United Kingdom has not introduced any independent expert in support of the adequacy of the United Kingdom's assessment of the environmental consequences of the MOX Plant.

6.52. The Tribunal will also note that the United Kingdom has not challenged the conclusions reached by Mr Sheate as to the adequacy of the assessment as reflected in the 1993 Environmental Statement, for example, in relation to the failure to assess the impacts of THORP. He said:

“It is of particular concern that the relationship between MOX and THORP would appear to have never been subjected to an environmental assessment process”.<sup>80</sup>

6.53. Nor has the United Kingdom sought to address – on the merits – the omissions from the environmental assessment which are identified at paragraphs 7.4 and 7.81 of Ireland's Memorial. On the merits, the United Kingdom has only addressed the more limited omissions referred to at paragraph 7.51 of the Memorial, which were those issues originally raised in 1994. As to those omissions the United Kingdom now says<sup>81</sup> that they have been addressed in the supplementary material provided by BNFL (in 1994)<sup>82</sup>, in the Article 37 Submission<sup>83</sup> and in the Environment Agency's Proposed Decision of October 1998 (which was approved by the United Kingdom Secretaries of State only in October 2001).<sup>84</sup>

6.54. Ireland has once again reviewed these documents very carefully. They confirm Ireland's position that there has been no assessment of all the environmental consequences of the authorisation of the MOX Plant, including those that will or may arise from THORP,

---

<sup>77</sup> Memorial, paras 7.67-7.69.

<sup>78</sup> Memorial, paras 7.75-7.80.

<sup>79</sup> Memorial, paras 7.70-7.74.

<sup>80</sup> Memorial, vol 2, Appendix 6, p 216 (para 7.2).

<sup>81</sup> Counter Memorial, para 5.54.

<sup>82</sup> Counter Memorial, Annex 21.

<sup>83</sup> Memorial, vol 3(3), Annex 123.

<sup>84</sup> Memorial, vol 3(2), Annexes 95 and 92.

increased generation of waste and international maritime transports. They also confirm that no regard whatsoever was had to the United Kingdom's obligations under *inter alia* the 1982 UNCLOS, commitments under Agenda 21, or the 1998 Sintra Ministerial Declaration. Ireland deals with each stage of the assessment process in turn.

#### SUPPLEMENTARY MATERIAL PROVIDED BY BNFL

6.55. As to the supplementary material provided by BNFL (in 1994), these comprise a document entitled "Proposed Sellafield MOX Plant, Responses to Queries Raised by Copeland Borough Council", 17 January 1994 (Counter Memorial, Annex 21, 16pp) and "Proposed Sellafield MOX Plant, Further Information in Support of Application for Outline Planning Permission". A careful reading of these two documents indicates that although they make reference to impacts on human health, they do not address the matters raised by Ireland in its 1994 submission. As regards the environmental consequences of THORP, the two documents tend to confirm Ireland's view that THORP and the MOX Plant are part of a single, integrated project.<sup>85</sup> The documents state that:

- although "THORP and MOX could operate as independent, stand-alone facilities" there are "significant commercial, economic and environmental benefits to be had by physically integrating the two facilities" and that "the concept of an integrated reprocessing/recycling facility is likely to be attractive" to customers and regulators (Annex 21, Appendix A, BNFL's Response, 17 January 1994, p. 2);
- the integration of the MOX Plant and THORP allows certain areas of THORP to house MOX Plant equipment, allows THORP facilities to be used by the MOX Plant, and allows the MOX Plant to take certain services from Sellafield via THORP (Annex 21, Responses Document, p. 4);
- the MOX Plant "will receive, as a process feed, packaged plutonium oxide powder from THORP via a dedicated transfer corridor" (Annex 21, Responses Document, p. 4); and
- the proposal for the MOX Plant is physically linked to THORP but that "if for any reason, THORP does not become operational the current planning application would be withdrawn and any future plans reviewed" by BNFL (Supplementary Information, p. 2).

6.56. As regards the environmental consequences of the interrelationship between the MOX Plant and THORP on discharges from THORP, the documents state that:

"there will be no change to any of THORP's operations. Discharges arising from the operation of THORP will be unaffected." (Annex 21, Responses Document, p. 4)

This assertion was relied upon by Copeland Borough Council in the grant of planning permission (Annex 21, Report, p. 5, para. 3.7).

6.57. This recommendation, which appears to have been accepted by the Council and which now informs the United Kingdom's approach in these proceedings, is significant in a number of respects:

---

<sup>85</sup> See para 2.7 et seq.

- it confirms that the Council accepted that the MOX Plant and THORP are to be treated as an integrated project for environmental assessment purposes to the extent that no identifiable discharges would arise from THORP as a result of the authorisation of the MOX Plant; and
- it confirms that reliance was placed entirely on BNFL's assertion and that no independent assessment of the consequences for THORP discharges was made.

6.58. In fact, as described above, the application for authorisation must have been premised on additional reprocessing activities at THORP, in order to produce the requisite quantities of plutonium oxide.<sup>86</sup> Irrespective of how much MOX fuel would actually be produced, the authorisation by Copeland Borough Council was premised on a foreseeable and intended increase of THORP, and therefore an increase in discharges from THORP. This view is confirmed by the United Kingdom Sintra Strategy, which identifies an increased annual throughput at THORP and an extended operating life for THORP to 2024.<sup>87</sup> The Tribunal will also note the significant increase in reprocessing activity at Sellafield, including in the period after Magnox reprocessing ends in 2012. From then on the only reprocessing activity is at THORP.

#### ARTICLE 37 SUBMISSION

6.59. The Article 37 submission is relied upon by the United Kingdom to support its assertion that its environmental assessment addressed effects on the marine environment; the consequences of transport and other accidents; doses that might be received by members of the public in Ireland; took account of topography, geology, seismology and meteorology; and provided information on production processes, effluents and wastes, decommissioning, and environmental monitoring programmes.<sup>88</sup>

6.60. Three points may be made. First, the Article 37 process addresses impacts on human health, not impacts on the environment, and it predates the OSPAR commitment.<sup>89</sup> Second, Ireland saw this document for the first time in November 2001, after the operation of the MOX Plant had been authorised. It was never invited to comment on it. Third, the material does not add anything beyond the information which formed the basis of the 1993 Environmental Statement. It excludes the environmental consequences of THORP, radioactive wastes and international transports.

#### THE ENVIRONMENT AGENCY'S PROPOSED DECISION, 1998

6.61. The United Kingdom confirms that the Environment Agency's 1998 proposed Decision was part of its environmental assessment process.<sup>90</sup> The 1998 proposed Decision

---

<sup>86</sup> *Supra*, paras 6.20.

<sup>87</sup> Reply, vol 3(1), Annex 167, p 82, Figure 7 in the Appendices to the United Kingdom's Strategy for Radioactive Discharges 2001-2020. This figure is reproduced as **Plate 1** in this volume.

<sup>88</sup> Counter Memorial, para 5.54.

<sup>89</sup> See paras 3.8 and 3.40.

<sup>90</sup> Counter Memorial, paras 5.1 and 5.53.

post-dates the entry into force of the 1982 UNCLOS and the adoption of the 1998 Sintra Ministerial Declaration. Nevertheless, it makes no reference to the commitments imposed upon the United Kingdom by either instrument.

6.62. On environmental issues, the proposed 1998 Decision appears to be based upon the information contained in the 1993 Environmental Statement. It is premised upon the production of 120 tonnes of MOX fuel per annum.<sup>91</sup> It concludes that “the assessed radiation doses to members of the public as a consequence of discharges from the MOX Plant are negligible” (para. 22). The body of the proposed Decision is silent as to impacts upon the marine environment. It addresses only those discharges arising directly from the MOX Plant. It does not address environmental consequences of THORP, of radioactive wastes or of international transports. It does not address the marine environment, or the relationship with THORP. It concludes that “the commissioning and operation of the Sellafield MOX Plant is justified for the purpose of manufacturing mixed oxide fuel from plutonium separated in THORP and belonging to foreign customers” (para. 32). It will be noted that the proposed Decision is not limited to spent fuel belonging to foreign customers which is already at Sellafield: the proposed Decision extends to spent fuel belonging to foreign customers which is not yet at Sellafield and which may arise in the future.

#### JUSTIFICATION DECISION OF 3 OCTOBER 2001

6.63. The United Kingdom’s environmental assessment of the operation of the MOX Plant was completed in October 2001 with the Decision of the Secretaries of State (Ireland Memorial, Annex 92). Paragraphs 56 to 64 of that Decision addresses environmental issues, relying on the Environment Agency’s proposed 1998 Decision. The Decision is based on an assessment that “radioactive waste can be safely stored for many years” (para. 59) and that the operation of the MOX Plant can be managed within “existing Sellafield discharge authorisations” (para. 60).

6.64. The 2001 Decision also records that “the radiological detriments which would arise in association with the manufacture of MOX fuel from plutonium separated in THORP and belonging to foreign customers would be very small and that any effects on wildlife would be negligible” (para. 60). It will be noted that the Decision is not limited to fuel belonging to foreign customers which is already at Sellafield: the Decision plainly extends to fuel belonging to foreign customers which is not yet at Sellafield.

6.65. The 2001 Decision is silent as to impacts upon the marine environment. It addresses only those discharges arising directly from the MOX Plant. It does not address environmental consequences of THORP, radioactive wastes and international transports. Notwithstanding Ireland’s efforts since 1998 calling on the United Kingdom to address the environmental consequences by reference to the United Kingdom’s obligations in respect for the Law of the Sea, no reference is made in the Decision to the 1982 UNCLOS or the 1998 Sintra Ministerial Declaration.

---

<sup>91</sup> Memorial, vol 3(3), Annex 103, p 18.

## THE HSE'S CONSENT DECISION OF 19 DECEMBER 2001

6.66. A copy of the 2001 Consent Decision was not included in the Counter Memorial. Following a request from Ireland, a copy was provided on 14 February 2003.<sup>92</sup> It does not indicate that any further assessment of the environmental consequences of the MOX Plant was carried out.

### CONCLUSIONS

6.67. The United Kingdom has provided no substantive response to Ireland's Article 206 arguments. Instead it has adopted a formalistic approach to avoid the consequences of giving Article 206 any real meaning. The Tribunal need ask itself one question: from the environmental assessment that was carried out between 1994 and 2001 is it able to ascertain all the foreseeable environmental consequences that would flow from the intended operation of the MOX Plant over its life? Plainly the answer is no.

---

<sup>92</sup> See the exchange of letters on this issue, Reply, vol 3(1), Annexes 152 and 155. However, the underlying documentation to the licence was not provided. Ireland's request for this documentation is at Reply, vol 3(1), Annex 157.

## **CHAPTER 7**

### **THE OBLIGATION TO COOPERATE AND THE VIOLATIONS BY THE UNITED KINGDOM**

#### **INTRODUCTION**

7.1. The ITLOS stated “that the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law.”<sup>1</sup> Ireland has submitted that the United Kingdom has not fulfilled its duties of co-operation and co-ordination under UNCLOS. The United Kingdom rejects Ireland’s arguments. It asserts that UNCLOS Articles 123 and 197 do not contain a duty of co-operation as claimed by Ireland, and that in any event the United Kingdom has fulfilled whatever duty of consultation is imposed upon it by UNCLOS or by customary international law.

7.2. There is an important point to be explained and emphasised before Ireland deals with the United Kingdom’s submissions. During the fifteen months since the proceedings in this case were initiated by Ireland on 25 October 2001, there have been numerous contacts between British and Irish authorities in relation to various aspects of the situation brought about by the commissioning of the MOX Plant. Many of those contacts are noted in the Counter Memorial.

7.3. The Irish Government, and other Irish agencies involved in these contacts, are appreciative of the efforts that have been made by the United Kingdom to increase the level of openness in respect of some of the matters connected with the MOX Plant.

7.4. Recent discussions over the role of the Liabilities Management Authority, for example, have been fruitful and helpful.<sup>2</sup>

7.5. At its best, the level of consultation and co-operation that is now being achieved is precisely the kind of consultation and co-operation that Ireland asks the Tribunal to declare to be Ireland’s legal entitlement. Ireland has often sought such consultation and co-operation unsuccessfully in the past. But consultation and co-operation do not always operate at the optimum level.

7.6. Ireland gave one example at the ITLOS hearing in November 2001. During an exchange of correspondence relating to Ireland’s concerns over the MOX Plant that had

---

<sup>1</sup> Order of 3 December 2001, para 82 (Memorial, vol 3(1), Annex 3).

<sup>2</sup> On 4 February 2003, officials of the Department of Trade and Industry (DTI), United Kingdom, met with officials of the Nuclear Safety Division of the Department of Environment and Local Government, Department of Foreign Affairs and the Attorney General’s Office of Ireland to discuss developments in relation to the United Kingdom’s LMA proposals.

been in train for some years, Ireland wrote to the United Kingdom on 27 August 2001,<sup>3</sup> 16 October 2001,<sup>4</sup> and 23 October 2001<sup>5</sup> seeking assurances that the operation of the MOX Plant would not be authorised before the resolution of the dispute between Ireland and the United Kingdom. The United Kingdom Secretary of State responded to the Irish Minister of State on 24 October 2001, saying that “[i]t is in fact the case that the authorisation procedure for the MOX Plant has not yet been completed.”<sup>6</sup> 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 “[f]ollowing 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.”<sup>7</sup> 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.

7.7. This pattern continues. For example, Ireland was astonished to learn from the Official Journal of the European Communities dated 27 November 2002 that the United Kingdom had sought and obtained a Commission Opinion under Article 37 of the EURATOM Treaty relating to the re-opening of the MOX Demonstration Facility. Ireland was considerably surprised that, in the light of the ITLOS Order of 3 December 2001, the United Kingdom had not informed Ireland of this development.<sup>8</sup>

7.8. Given the fact that consultation and co-operation remains inadequate in certain areas, and in the light of the uncertainty resulting from those past difficulties, and given the possibility that the current situation may deteriorate once more when these proceedings are at an end, Ireland considers that this aspect of its request for relief continues to be of real practical importance.<sup>9</sup>

7.9. That point having been made, Ireland turns to the arguments set out in the United Kingdom’s Counter Memorial.

---

<sup>3</sup> Memorial, vol 3(1), Annex 30.

<sup>4</sup> Memorial, vol 3(1), Annex 34.

<sup>5</sup> Memorial, vol 3(1), Annex 36.

<sup>6</sup> Memorial, vol 3(1), Annex 37.

<sup>7</sup> Memorial, vol 3(3), Annex 120.

<sup>8</sup> See the letter of Mr O’Hagan to Mr Wood dated 17 January 2003, Reply, vol 3(1), Annex 150 and the MDF Decision, Reply, vol 3(2), Annex 182. The United Kingdom’s response is at Annex 158.

<sup>9</sup> Ireland also notes that in certain respects co-operation has diminished in the wake of the current proceedings. For example, the United Kingdom stated in autumn 2002 that it had decided on the advice of its lawyers not to offer further comments on a joint Ireland/Isle of Man paper concerning Sellafield waste, submitted to the British-Irish Council. See below, para 7.95. See vol 3(2), Annex 178.



## A. ARTICLE 123

7.10. The United Kingdom does not dispute that the Irish Sea is a semi-enclosed sea, to which Part IX of UNCLOS applies.

7.11. The United Kingdom's argument in relation to UNCLOS Article 123 appears to be (1) that the Article is purely hortatory and contains no mandatory obligations,<sup>10</sup> and (2) that Article 123 does not impose any legal duty to take account of the special characteristics of semi-enclosed seas.<sup>11</sup>

### THE OBLIGATIONS IN ARTICLE 123

7.12. The United Kingdom makes much of the fact that the obligations in Article 123 are expressed in “weak terms (‘should’ / ‘shall endeavour’),”<sup>12</sup> and that the Chairman of UNCLOS Committee II said that he had made the language of the Article “less mandatory.”<sup>13</sup>

7.13. “Weak” terms and “less mandatory” terms are not the same as non-mandatory terms. The obligations in Article 123 could have been stronger or more demanding. That is true of many, if not most, UNCLOS Articles. It does not mean that Article 123 as it stands imposes no obligations whatever.

7.14. The language of Article 123 is plain. It stipulates that States bordering semi-enclosed seas “shall endeavour” to co-ordinate and co-operate with each other in certain ways. As the Counter Memorial itself indicates,<sup>14</sup> the word “shall” signals a binding obligation. The question is, what precisely is the content of that obligation. Here, it is (so far as material) to “endeavour ... to co-ordinate the management, conservation, exploration and exploitation of the living resources of the sea, [and] the implementation of their rights and duties with respect to the protection and preservation of the marine environment.”

7.15. It is evident that a State that makes no attempt to co-ordinate, for example, fisheries management and the implementation of its rights and duties cannot be said to have fulfilled this duty. It will not have endeavoured to co-ordinate the implementation of its rights and duties. It is even more obvious that a State that actually resists invitations from another littoral State to co-ordinate fisheries management and the implementation of its rights and duties cannot be said to have fulfilled this duty.

7.16. There is plainly a binding duty in Article 123. There is plainly a standard of behaviour imposed by Article 123 upon States Parties. The question is, whether the United Kingdom's conduct met that standard. That question is addressed below.

7.17. That does not exhaust the effect of Article 123. The Memorial itself notes that the stipulation that littoral States “should co-operate with each other in the exercise of their rights and in the performance of their duties under this Convention” is expressed in

---

<sup>10</sup> Counter Memorial, paras 6.10-6.14.

<sup>11</sup> Counter Memorial, paras 6.15-6.21.

<sup>12</sup> Counter Memorial, para 6.11.

<sup>13</sup> Counter Memorial, paras 6.12.

<sup>14</sup> Counter Memorial, para 6.12.

hortatory, rather than mandatory, language.<sup>15</sup> There is no disagreement between Ireland and the United Kingdom on that point. The United Kingdom fails, however, to address the Irish argument that even treaty stipulations of the kind reflected in Article 123 have legal significance, and may also have an effect upon the meaning of other provisions that are undoubtedly mandatory.

7.18. It should not need to be said that stipulations in treaties must be presumed to have some significance. They may reaffirm other obligations, or assert in general terms obligations that are in certain respects spelled out in greater detail elsewhere in the treaty: but the idea that treaty provisions may have no significance whatever is absurd.

7.19. When Article 123 stipulates that littoral States “should co-operate with each other” it plainly signals that the legal relationship between the States is not the same as it would be if UNCLOS had said, “States are under no duty to co-operate with each other.” What, then, is the difference? What is the effect of this provision in Article 123?

7.20. Ireland argued that (1) the provision was part of the ‘context’ (as Article 31(1) of the Vienna Convention on the Law of Treaties puts it) within which other Articles of UNCLOS containing mandatory duties and rights must be interpreted;<sup>16</sup> (2) States Parties must approach the question of the performance even of hortatory provisions in good faith;<sup>17</sup> and (3) the obligation in UNCLOS Article 300 to fulfil “obligations assumed under this Convention” in good faith and not to abuse “rights, jurisdiction and freedoms recognized in this Convention” is not restricted to mandatory obligations.<sup>18</sup> Each point will be taken in turn.

7.21. It can scarcely be denied that each article of a treaty forms part of the overall context of the treaty in the light of which each article must be interpreted; and the United Kingdom seems not to question the proposition that Article 123 must be taken into account by States Parties as part of the ‘context’ of any other UNCLOS provision that falls for interpretation.<sup>19</sup> Rather, it raises a slightly different objection. The United Kingdom says that Article 123 does not require that States Parties take into account the special characteristics of semi-enclosed seas.

7.22. That argument is not credible. Article 123 is not buried in the depths of UNCLOS. It stands in its own Part of UNCLOS: Part IX, “Enclosed or Semi-Enclosed Seas.” The very fact that UNCLOS singles out, uniquely, seas having that particular geographical configuration quite clearly indicates that this category of seas has some characteristic that demands special attention. There is only one characteristic that unites these seas in a single category and distinguishes them from all other seas: that is the fact that they are enclosed or semi-enclosed. That is how the category is defined, in UNCLOS Article 122. The littoral States are made subject to particular duties of co-operation and co-ordination with each other. The suggestion that co-operation and co-ordination can properly proceed without paying regard to the particular characteristics of the seas in question beggars belief. What would be the point of singling out littoral States of enclosed and semi-enclosed seas for the imposition of particular duties of co-operation and co-ordination if they were not expected to take into account the particular characteristics of the seas that

---

<sup>15</sup> Memorial, para 8.21.

<sup>16</sup> Memorial, paras 8.25-8.29.

<sup>17</sup> Memorial, paras 8.30-8.33.

<sup>18</sup> Memorial, paras 8.34-8.38.

<sup>19</sup> Unless Counter Memorial, para 6.19 is meant to suggest this.

they share? How, indeed, can *any* States co-operate and co-ordinate their activities without taking into account the actual, particular characteristics of the seas in question?

#### GOOD FAITH

7.23. As far as the legal argument based upon good faith is concerned, the United Kingdom does not challenge Ireland's submissions.

7.24. Ireland did not simply argue that the duty of good faith in UNCLOS Article 300 converted the hortatory provision in Article 123 ("should co-operate with each other in the exercise of their rights and the performance of their duties under this Convention") into a mandatory duty. While it said that a blanket refusal to co-operate or co-ordinate would not be compatible with the implementation of UNCLOS in good faith,<sup>20</sup> Ireland also argued that even hortatory duties set out in international conventions may not simply be ignored or abandoned whenever a State Party wishes to do so. That was the point made by Professor Cheng: "If State A has knowingly led State B to believe that it will pursue a certain policy, and State B acts upon this belief, as soon as State A decides to change its policy -- although it is at perfect liberty to do so -- it is under a duty to inform State B of this proposed change. ... What the principle of good faith protects is the confidence that State B may reasonably place in State A."<sup>21</sup> Even if UNCLOS Article 123 were thought to impose no immediately binding legal obligation, it is undeniable that it amounts at least to a clear example of States subscribing formally to a policy of co-operation and co-ordination. That policy cannot be renounced or abandoned unilaterally by a State Party at will and without notice.

7.25. The United Kingdom appears to accept this point. It does not challenge Ireland's legal argument: rather, it relies on the argument that Ireland "fails either to assert or offer evidence in support of the contention that the United Kingdom has acted otherwise than fully in accordance with the obligations contemplated by Professor Cheng."<sup>22</sup> The Tribunal will judge whether Ireland's Memorial and this Reply sufficiently identify conduct in breach of these obligations relating to the duty of co-operation and co-ordination.

#### ABUSE OF RIGHT

7.26. The United Kingdom once again misunderstands and misrepresents Ireland's argument in relation to abuse of rights. Ireland has not argued that the United Kingdom has abused Ireland's rights. Taking the generally-understood meaning of the doctrine of abuse of rights, Ireland argued that the United Kingdom was obliged to fulfil its own obligations and exercise its own rights under UNCLOS in good faith and in a manner that would not constitute an abuse of right -- that is, an abuse of the United Kingdom's rights.<sup>23</sup>

---

<sup>20</sup> Memorial, para 8.30.

<sup>21</sup> Quoted in the Memorial, para 8.31.

<sup>22</sup> Counter Memorial, para 6.26.

<sup>23</sup> As UNCLOS Article 300 and the *La Bretagne* award say: Memorial, para 8.38; Counter Memorial, para 6.28.

7.27. The United Kingdom appears to suggest that the principle of abuse of rights contained in UNCLOS Article 300 can apply only to rights *stricto sensu*. That is not so. Article 300 stipulates that “States Parties ... shall exercise the rights, jurisdiction and freedoms recognized in this Convention in a manner which would not constitute an abuse of rights.” Article 300 thus distinguishes “obligations”, to which it applies the principle of good faith, from “rights, jurisdiction and freedoms”, to which it applies the principle of abuse of rights.

7.28. The United Kingdom also suggests that Ireland does not identify any such rights, jurisdictions or freedoms that are capable of ‘abuse’ by the United Kingdom.<sup>24</sup>

7.29. The United Kingdom accepts that the principle of abuse of rights applies to UNCLOS provisions that contain recognitions of the right of coastal States to exercise their sovereignty and jurisdiction, such as UNCLOS Articles 211(4) and 211(6). Ireland relies upon the network of UNCLOS Articles by which the right of the United Kingdom to operate the MOX Plant and its associated facilities and transports and to cause consequential discharges and risks of discharges of radionuclides into the Irish Sea are “recognized in this Convention,” as Article 300 puts it.<sup>25</sup>

7.30. That network includes Article 193, which recognises that “States have the sovereign right to exploit their natural resources subject to their environmental policies and in accordance with their duty to protect and preserve the marine environment.”

7.31. The right recognised in UNCLOS Article 193 is qualified by the provisions of UNCLOS Articles 192 and 194. That is why Ireland referred also to those Articles. Article 193 cannot be construed or applied in isolation from them.

7.32. UNCLOS, Article 197 refers to the duty to co-operate in relation to marine pollution. That duty –which is expressly invoked in the Preamble to the 1992 OSPAR Convention, for example– implies the existence of the jurisdiction of States Parties to apply “rules, standards and recommended practices and procedures” in relation to marine pollution. That jurisdiction is among the “rights, jurisdiction and freedoms recognized in this Convention” to which UNCLOS Article 300 applies the abuse of rights principle.

7.33. Similarly, UNCLOS Article 206 refers to “planned activities under [the] jurisdiction” of States Parties. That jurisdiction, too, is among the “rights, jurisdiction and freedoms recognized in this Convention” to which UNCLOS Article 300 applies the abuse of rights principle.

7.34. UNCLOS Article 207 obliges States to take certain steps in relation to pollution of the environment from land-based sources. It both recognises the jurisdiction of States over such pollution and the right or freedom of States to engage in activities that give rise to such pollution. That jurisdiction and that right or freedom also is among the “rights, jurisdiction and freedoms recognized in this Convention” to which UNCLOS Article 300 applies the abuse of rights principle. Similar observations apply to UNCLOS Article 213, which recognises the jurisdiction (and right and freedom) of States to enforce measures in relation to pollution from land-based sources.

---

<sup>24</sup> Counter Memorial, para 6.31-6.33.

<sup>25</sup> Those rights are “recognised” in Articles 193, 194, 197, 204, 206, 207 and 211, for example. Coastal State rights are, of course, recognised in a great many of the articles that make up the fabric of UNCLOS.

7.35. Similar observations also apply to UNCLOS Article 211, which (along with, *inter alia*, UNCLOS Articles 21, 22, 25(2) and 92(1)) recognises the jurisdiction of States over vessels in relation to marine pollution.

7.36. It is, in Ireland’s submission, clear that the abuse of rights principle in UNCLOS Article 300 is applicable in this case.

## B. ARTICLE 197

7.37. The United Kingdom argues that UNCLOS Article 197 “covers only the requirement for States Parties to co-operate for the purpose of ‘*formulating and elaborating international rules, standards and recommended practices and procedures.*’ It does not cover or refer to co-operation on [*sic*] the management of sources of transboundary risk,”<sup>26</sup> and that “[i]t was never the intention of the drafters, nor was it ever proposed, that Article 197 should deal with co-operation through environmental impact assessment, notification and consultation in respect to activities posing a risk of marine pollution.”<sup>27</sup>

7.38. Ireland observes, first, that Article 197 does not oblige States Parties “to co-operate for the purpose of ‘formulating and elaborating international rules, standards and recommended practices and procedures,’” as the United Kingdom puts it.<sup>28</sup> Article 197 obliges States Parties “to co-operate in formulating and elaborating international rules, standards and recommended practices and procedures” (emphasis added). The difference is significant. The Convention does not stipulate that States Parties must come together in order to formulate and elaborate international rules, etc. The Convention stipulates that whenever States Parties formulate and elaborate international rules, etc., they must co-operate “on a global basis and, as appropriate, on a regional basis ... taking into account characteristic regional features.” That is what Article 197 actually says.

7.39. Ireland also notes that Article 197 does not mandate the formulation only of “rules” and “standards.” The obligation extends to “recommended practices and procedures.” As will be explained,<sup>29</sup> the kind of arrangements that Ireland seeks in order to enable it to evaluate and respond to [changes in] the actual or planned discharges of radioactive waste into the Irish Sea, and to respond to changes in the level of risk of incidents arising from associated transports of nuclear materials, fall squarely within the notion of co-operatively formulated practices and procedures.

7.40. Second, the United Kingdom appears to suggest that the fact that Article 197 does not expressly stipulate that there must in every case be an “environmental impact assessment, notification and consultation in respect to activities posing a risk of marine pollution” means that such measures are not necessary in any case. That is flawed logic.

7.41. States Parties are obliged by Article 197 to co-operate “taking into account characteristic regional features.” As was explained above, UNCLOS Article 123 obliges

---

<sup>26</sup> Counter Memorial, para 6.36.

<sup>27</sup> Counter Memorial, para 6.38.

<sup>28</sup> Counter Memorial, para 6.36. Emphasis added.

<sup>29</sup> See below, para 7.111 et seq.

littoral States of enclosed or semi-enclosed seas to take the characteristics of the sea in question into account and to “co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment.”

7.42. The reference in Article 123 to “rights and duties with respect to the protection and preservation of the marine environment” indicates that States Parties are obliged not merely to mitigate or punish actual pollution but also to seek to avert and minimise the risk of marine pollution. This is obvious from a reading in good faith of Article 123, and other UNCLOS articles relating to marine pollution. That can only be done if the State makes itself aware of what the risk is: assessment is logically presupposed in the UNCLOS scheme.

7.43. The circumstances in which marine pollution or the risk of marine pollution arises must be considered “taking into account characteristic regional features.” If the pollution or risk of pollution necessitates environmental assessment, notification or consultation in order “to protect and preserve the marine environment” (which States Parties are obliged by UNCLOS Article 192 to do), then States Parties are obliged by Article 197 to co-operate in formulating and elaborating measures providing for environmental assessment, notification or consultation, as the case may be. Ireland notes that there is a significant body of international practice in the form of bilateral agreements requiring early advice of developments to be given to neighbouring States and providing for consultations and the sharing of information on nuclear facilities in border areas.<sup>30</sup>

7.44. Assessment, notification and consultation may, therefore, be required by the circumstances prevailing in the area in question. It depends upon the facts. Ireland submits that in the case of deliberate radioactive discharges on an industrial scale into the Irish Sea, assessment, notification and consultation are necessary. If the duty does not arise in these circumstances, it is difficult to see what circumstances might be regarded as so significant as to give rise to the duty.

7.45. If the marine pollution or the risk of marine pollution does not necessitate environmental assessment, notification or consultation in order “to protect and preserve the marine environment,” then States Parties may not be obliged by Article 197 to co-operate in formulating and elaborating measures providing for environmental assessment, notification or consultation. They will, however, still be under a duty imposed by UNCLOS Article 123, to “co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment.” In other words, they will be obliged to co-ordinate with other littoral States whatever measures, not including environmental assessment, notification or consultation, the situation demands. That co-ordination will, in itself, require exchanges of information and consultation. In short, the substantive measures that need to be taken will vary with the nature and extent of the risk of pollution; but the duty to co-operate and co-ordinate in respect of whatever measures do need to be taken remains constant. There is no right not to co-operate and co-ordinate simply because the necessary measures are modest in scope.

---

<sup>30</sup> See, e.g., Agreement between Portugal and Spain on Co-operation in Matters Affecting the Safety of Nuclear Installations in the Vicinity of the Border, 31 March 1980, Article 2; France-Belgium Agreement on Radiological Protection concerning the Installations of the Nuclear Power Station of the Ardennes, 7 March 1967, 588 UNTS 227; Guidelines for Nordic Co-operation concerning Nuclear Installations in the Border Areas, 15 November 1976; Denmark-Federal Republic of Germany, Agreement relating to Exchange of Information on Construction of Nuclear Installations Along the Border, 4 July 1977, 17 ILM 274 (1978).

7.46. Third, Ireland does not accept that the duties in UNCLOS Article 197 to co-operate in formulating and elaborating international rules,<sup>31</sup> standards and recommended practices and procedures can be fulfilled in good faith, as required by UNCLOS Article 300, by confining co-operative discussions to the wording of the texts of such measures, and refusing to consider the manner in which those measures will be implemented. Yet this is the startling proposition advanced by the United Kingdom, which seems to have a remarkably attenuated conception of what the duties of co-operation and co-ordination entail.<sup>32</sup>

7.47. It must, in principle, be possible for a pollution measure to be so inadequate that it fails to fulfil the duties upon UNCLOS States Parties to protect and preserve the marine environment (UNCLOS Article 192). The adequacy and appropriateness of any proposed pollution measure cannot be properly evaluated without regard to the manner in which it is to be implemented. For example, the adequacy of a law requiring discharges of pollutants to be kept within the limits of authorisations set by the coastal State can only be assessed if it is known how the authorised discharge levels are calculated and how they are, and are to be, monitored and enforced.

7.48. Ireland submits that the duties of UNCLOS States Parties to co-operate in formulating and elaborating pollution measures (Article 197), and to co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment (Article 123) extend beyond the discussion of the texts of measures and extend to the manner of the implementation of those measures. It submits that a State Party is entitled to engage in meaningful discussions of these matters with any other littoral State with which it shares an enclosed or semi-enclosed sea.

7.49. Fourth, Ireland does not accept the suggestion<sup>33</sup> that Ireland (and therefore the Tribunal) may not rely upon rules of customary international law concerning notification and consultation in regard to transboundary risk. Ireland submits that if it can be shown that customary international law imposes a duty of notification and consultation, the Tribunal may apply that law. This is explained in the Memorial<sup>34</sup> and in chapter 5 of this Reply, dealing with the applicable law. Ireland further submits that if it can be shown that customary international law imposes a duty of notification and consultation as part of a broader duty on States to co-operate or to co-ordinate their activities, the content of that duty is relevant to the interpretation of UNCLOS provisions that impose a duty to co-operate or to co-ordinate their activities. UNCLOS Articles 197 and 123, *inter alia*, impose such duties.

7.50. Ireland explains in more detail elsewhere in this Reply<sup>35</sup> why the particular characteristics of the actual and potential radioactive pollution of the Irish Sea require an environmental assessment to be carried out, and notification and consultation to take place in respect of the pollution measures to be adopted, and why Ireland is in consequence entitled to be consulted by the United Kingdom on those matters.

---

<sup>31</sup> Ireland understands “international rules” to be rules that either are applicable to persons or vessels or aircraft that do not have the nationality of the legislating State, or are applicable in areas other than the territory, including the territorial sea, of the legislating State.

<sup>32</sup> Counter Memorial, paras 6.36, 6.42.

<sup>33</sup> Counter Memorial, para 6.43.

<sup>34</sup> Memorial, paras 8.40-8.83.

<sup>35</sup> See Chapter 6.

7.51. The United Kingdom also asserts that “even under the rules contended for by Ireland, prior notification and consultation are required only where there is a risk of significant harm to another State.”<sup>36</sup> In support of its assertion it cites three international instruments in which the obligations of prior notification and consultation are attached to circumstances in which there is a risk of “significant” transboundary harm. It contends that any harm from radioactive discharges in this case is not significant.

7.52. As has been explained above,<sup>37</sup> Ireland considers that deliberate discharges on an industrial scale of radioactive waste into a shared sea is considered by the international community to be necessarily ‘significant,’ even if current dosages to critical groups remain within internationally accepted limits. The concentrations of radioactive waste in the Irish Sea are increasing, and they are in practical terms irreversible, given plutonium’s half-life of 24,400 years. Ireland simply does not accept that such deliberate and detrimental pollution of the environment may be treated as ‘insignificant’.

7.53. Nor does Ireland accept what may be an implication of the Counter Memorial: that the obligation to notify and consult is in some sense proportionate to the risk of injury (whether to the probability of the harmful events, the scope of the potential injurious consequences, or both). A duty to notify and consult either exists or it does not. If it does exist, the action necessary to address any risk of injury will of course differ according to the scale and nature of the risk. Minimal risks are likely to require minimal protective action; serious risks are likely to involve more extensive action. But it cannot be argued that notification and consultation duties are fixed on some sliding scale.

7.54. Furthermore, the suggestion in the Counter Memorial that the UNCLOS duties of notification and consultation, as part of the duties of co-ordination and co-operation, are confined to circumstances where there is a risk of significant harm to another State is incorrect. The authorities cited in the Counter Memorial<sup>38</sup> do not support the proposition. The Espoo Convention (Article 2.3) and the 1992 Rio Declaration on Environment and Development (Principles 17, 19) refer to “significant adverse transboundary *impact*” or “significant transboundary environmental *effect*” (not ‘harm’) on the environment. The ILC Articles do refer to the risk of “significant transboundary harm.” But the key point is that all three of them stipulate the circumstances in which the duties of assessment, notification and consultation that they impose apply. UNCLOS also imposes such duties, notably in Articles 123 and 197; but there is no evidence UNCLOS duties were intended only to require States to co-operate and co-ordinate solely in cases where there was a risk of significant environmental harm.

7.55. The Counter Memorial raises a more specific argument: that the duty of prior notification of the navigation through national maritime zones of ships carrying dangerous cargoes “has been strongly resisted in State practice.”<sup>39</sup> Ireland notes that the strong resistance is a measure of the strength with which demands for prior notification have been pressed; but Ireland’s central point is, once again, rather different to that represented by the United Kingdom.

---

<sup>36</sup> Counter Memorial, para 6.44.

<sup>37</sup> See *inter alia* paras 1.7 and 2.44.

<sup>38</sup> Counter Memorial, para 6.44.

<sup>39</sup> Counter Memorial, para 6.48.



7.56. The opposition has been to the idea that *rights* of navigation or innocent passage might be conditional upon prior notification.<sup>40</sup> Ireland does not argue that rights of navigation on the high seas or through the EEZ or of innocent passage through the territorial sea are conditional upon prior notification. Those rights are subject to the conditions set out in UNCLOS, no more and no less. That does not mean that the flag State or operator of a ship cannot be under some additional, ancillary duty imposed by some other, independent rule of law. Compliance with the UNCLOS conditions does not render the flag State or operator exempt from all other legal obligations.

7.57. If some other provision of UNCLOS, or of customary international law, or of another treaty, imposes a duty in certain circumstances to notify the coastal State of a proposed voyage, that duty persists. If no notification is given, there is a breach of the duty to notify. That does not mean that there is a breach of the conditions of the right of navigation or of innocent passage. There may be such a breach, for example, if the non-notification is of the passage of a ship in imminent danger of exploding, in which case its passage through the territorial sea would arguably be non-innocent because of its prejudice to the coastal State and the good order of the territorial sea. Ordinarily there will be no such breach of the conditions of navigation or passage. An “unnotified” ship is, therefore, entitled to proceed on its voyage. But, just as the failure to notify the passage cannot of itself deprive the ship of its right of passage, so too the existence of the rights of navigation and passage cannot deprive the coastal State of its rights to notification, where they exist.

7.58. In the present case, the duties of co-operation and co-ordination under UNCLOS, and in particular under Articles 123 and 197, entitle Ireland to prior notice of the passage of nuclear cargoes through Irish waters and through the Irish Sea. That is the result of the practical exigencies of the situation in the Irish Sea, having regard in particular to the requirements of effective emergency planning and preparedness.

7.59. The passage of a PNTL ship entails a number of different risks. There is the risk of a deliberate attack upon the ship. The ship may be a victim of adverse sea or weather conditions, or of material or mechanical failure, or of some other form of distress. As experience has shown, the arrival of a PNTL ship may lead to gatherings of significant numbers of protest vessels; and each such vessel is itself exposed to all of the risks already mentioned. The combined effect of these risks makes the voyage of a PNTL ship through or near Irish waters a hazardous episode.<sup>41</sup>

7.60. Ireland has international responsibility for Search and Rescue (SAR) operations in a very extensive area of the waters in the Irish Sea and around the Irish coast. Given the risks outlined above, the Irish authorities do not regard the voyage of a PNTL ship as a matter that can be entirely ignored, with no thought given to the possibility of modifying normal plans and procedures for safety at sea. For example, it may be thought necessary to have more vessels or aircraft than normal ready for SAR operations in the waters for which Ireland is responsible. In order to decide whether any modifications are necessary, and if so, which ones, Ireland needs to have advance notice of the voyage. The period of notification need not be very long: it needs only to be adequate for the reasonably expeditious making of whatever contingency plans Ireland may consider necessary. A

---

<sup>40</sup> See, e.g., J.A. Roach and R.W. Smith, *United States Responses to Excessive Maritime Claims*, 2<sup>nd</sup> ed., (Nijhoff, 1996), chs. 10, 14.

<sup>41</sup> See **Plate 2**: Passage of the MV Pacific Pintail and MV Pacific Teal through the Irish Pollution Response Zone (IPRZ) and Irish Search and Rescue Region (ISRR) on 15-16 September 2002. The ship’s route is approximate between the identified waypoints.

period of the order of 72 hours before the entry of the ship into Irish SAR waters would ordinarily be sufficient.

### **C. SUMMARY REGARDING UNCLOS ARTICLES 123 AND 197**

7.61. For the avoidance of doubt, Ireland reasserts the legal arguments made in Chapter 8 of its Memorial. In essence, those arguments are that the United Kingdom has a duty to co-ordinate the implementation of its rights and duties in relation to the Irish Sea with Ireland; that the United Kingdom has a duty to co-operate with Ireland in formulating and elaborating international rules, standards and recommended practices and procedures for the protection and preservation of the marine environment of the Irish Sea; and that the detailed content and meaning of the duties of co-operation and co-ordination is to be determined in the light of State practice, as reflected in international treaties explaining the content of those duties and also in the customary international law duties of co-operation and co-ordination that is applicable by the Tribunal in this case.<sup>42</sup>

### **D. THE SUBSTANCE OF IRELAND'S CLAIM**

7.62. The United Kingdom's response to the substance of Ireland's claims is a cause of regret to Ireland. As was noted above, Ireland is conscious of the efforts to improve co-operation that have been made by the United Kingdom, in respect of certain matters which are the subject of this claim, in several fora, since the institution of proceedings in this case. The characterization in the Counter Memorial of Ireland's own conduct appears calculated to imply that Ireland has been, at best, deficient in its own approach to co-operation with the United Kingdom. That characterisation seems to be something of a departure from the efforts on the part of the United Kingdom and Ireland to improve the atmosphere for co-operation.

7.63. The United Kingdom makes several very misleading assertions. Three particular aspects of the United Kingdom's argument must be addressed at the outset.

#### **(1) IRELAND'S "FAILURE TO RESPOND"**

7.64. First, Ireland must address the United Kingdom's assertion that "Following the Order of ITLOS dated 3 December 2001 the United Kingdom offered to review the efficacy of the various existing arrangements for co-ordination and monitoring. Ireland has yet to respond."<sup>43</sup> This is a gross misrepresentation of the facts, which seems to have no other purpose than to discredit Ireland. Because the allegation in effect impugns Ireland's seriousness and good faith in seeking improved co-operation from the United Kingdom, it is necessary to rebut the allegation in some detail.

---

<sup>42</sup> See Memorial, paras 8.40-8.92.

<sup>43</sup> Counter Memorial, para 6.4. The reference given in the Counter Memorial for that offer is incorrect. The reference (fn. 4 on page 137) is to paragraphs 6.75-6.76. It should be to paragraphs 6.83-6.84 of the Counter Memorial.

7.65. The United Kingdom's offer appeared in a letter dated 7 December 2001.<sup>44</sup> That letter was the reply to an Irish letter dated 5 December 2001,<sup>45</sup> in which Ireland had welcomed the ITLOS Order, which Ireland thought "provides an opportunity for us to enhance our cooperation." In that 5 December letter, Ireland invited the United Kingdom to a meeting in Dublin on 10 December 2001, which Ireland said "would provide an opportunity for an initial exchange of views on aspects of the consequences of the commissioning of the MOX Plant, in particular in relation to the exchange of further information, on monitoring of risks or effects, and on devising measures to prevent pollution of the marine environment." Ireland submitted with that letter a list of 55 questions, of which some were identified as non-priority matters that could be answered after the commissioning of the MOX Plant, which Ireland believed to be scheduled to occur on or around 20 December 2001.

7.66. The United Kingdom's reply of 7 December 2001 did indeed contain a passage in which the United Kingdom said "we suggest that it would be useful to review the efficacy of the various existing arrangements for co-ordinating and monitoring on the matters relevant to the provisional measure" that had been prescribed by the ITLOS.

7.67. The planned meeting took place on 11 December 2001 in Dublin. After United Kingdom representatives had identified a number of existing modalities for co-operation pursuant to the ITLOS Order, the United Kingdom Agent stated that the United Kingdom would like to improve the existing modalities.

7.68. Ireland, of course, shared that aim; and it is absurd to suggest otherwise. The 11 December 2001 meeting was itself an attempt to improve co-operation; and the 55 questions sent by Ireland indicated clearly the kind of information that Ireland believed should be shared and discussed with it by the United Kingdom.

7.69. Those 55 questions were discussed at that meeting, as was the desirability of the United Kingdom taking a proactive role in providing Ireland with information even if the information could be gleaned from material in the public domain. So, too, was Ireland's dissatisfaction with the suggestion that questions on security matters might be answered by the United Kingdom saying that the security issues had been carefully considered and that the United Kingdom was fully satisfied that adequate protective measures had been taken. Ireland's focus was on trying to obtain specific information, rather than discussing in general terms potential improvements in the modalities of co-operation, which seemed at times to be the approach with which the United Kingdom was more comfortable.

7.70. Ireland considers these exchanges, and similar exchanges in other fora, to be responses to the offer "to review the efficacy of the various existing arrangements." Indeed, it considers these exchanges to be clear suggestions in concrete terms as to how the existing arrangements might be improved. This was made clear in Ireland's Report to the ITLOS dated 17 December 2001,<sup>46</sup> in which it was said that Ireland expected that "the initial exchange will form part of a continuing dialogue between the British and Irish Governments over the development of the MOX Plant and its consequences for the Sellafield site."<sup>47</sup>

---

<sup>44</sup> Memorial, vol 3(1), p 219. Annex 45.

<sup>45</sup> Memorial, vol 3(1), p 209. Annex 44.

<sup>46</sup> Memorial, vol 3(1), Annex 5.

<sup>47</sup> *Ibid* at p 62.

7.71. The suggestion that Ireland “has yet to respond” to the offer in the British letter of 7 December 2001 is quite misleading. It might be argued that it has a partial, literal truth to the extent that Ireland sent no written reply explicitly responding to that particular general offer in terms that identified the reply specifically as a response to that offer. To suggest, as the Counter Memorial does, that there is an indifference or passivity on the part of Ireland to this issue can only indicate that at the meetings where Ireland believed that it was engaging, with some success, with the United Kingdom over the substance of improving co-operation, the United Kingdom perceived the meetings to have some quite different purpose and direction. It is a telling illustration of the difficulties encountered by Ireland in seeking co-operation and co-ordination of activities with the United Kingdom. The United Kingdom’s retrospective appraisal of the value of those meetings is a sad indication of the extent to which the two States can perceive communications between them in quite different lights.

7.72. Ireland’s response to suggestions elsewhere in the Counter Memorial that Ireland failed to respond to British initiatives are discussed elsewhere.<sup>48</sup>

## (2) THE PROFUSION OF MECHANISMS

7.73. The second general allegation made by the United Kingdom is that there are many standing arrangements between British and Irish authorities for the supply of information, consultation and co-operation,<sup>49</sup> and that co-operation and co-ordination between the two States is therefore working satisfactorily.

7.74. The existence of those arrangements Ireland, of course, does not dispute. But their existence no more proves the existence of satisfactory co-operation than the existence of many railway stations proves that a railway network is running efficiently. Ireland does not seek the establishment of new contact groups. It seeks the full co-operation to which it is entitled, through existing channels, or through such new channels as may be considered appropriate.

7.75. Again, Ireland makes the point that co-operation has improved in recent months; and Ireland welcomes this development. But it has not always been so; and the improvement has not reached all aspects of the issue, including certain aspects to which Ireland attaches particular importance, such as transports. The actual, practical operation of the existing arrangements has been significantly less satisfactory than the United Kingdom Counter Memorial suggests.

## (3). THE LACK OF SPECIFIC UNITED KINGDOM RESPONSES TO IRELAND’S COMPLAINTS

7.76. The third point is that the United Kingdom makes no attempt whatever to answer the specific complaints concerning non-co-operation made by Ireland.<sup>50</sup> For example, no comment is made on the chronic failure to respond to requests for information made by

---

<sup>48</sup> See para 7.64.

<sup>49</sup> Counter Memorial, para 6.54.

<sup>50</sup> Memorial, paras 8.98-8.274.

Ireland directly on a Minister-to-Minister basis.<sup>51</sup> The United Kingdom seeks to establish its co-operation by general statements about the various fora that exist: it responds to Ireland's specific complaints by silence. In both contexts the lack of engagement with the concrete particulars of Ireland's case is striking.

### **E. CONSULTATION OVER THE DEVELOPMENT OF THE SELLAFIELD SITE**

7.77. Chapter 6 of the Counter Memorial begins by asserting that the United Kingdom's authorities considered the views of the Irish Government not only in the initial planning enquiry but in five rounds of consultations extending over eight years, as well as through bilateral contacts in various fora.<sup>52</sup> (The Counter Memorial also states that Ireland participated on four of those five rounds: the United Kingdom appears to have overlooked Ireland's participation in the fifth.<sup>53</sup> It is difficult, in those circumstances, to see how the United Kingdom can have taken Ireland's views into account in that round.)

7.78. Ireland's Memorial explained in detail both the inadequacy of those planning enquiries and the efforts that Ireland made to discuss those inadequacies with the United Kingdom.<sup>54</sup> That account will not be repeated here; but one salient inadequacy, which epitomises the failings of the consultation procedures and which the United Kingdom does not deny, may be pointed out. It concerns the need to take into account the additional discharges that are likely to arise from THORP as a result of the commissioning of the MOX Plant, and it goes to the heart of this case.

7.79. The MOX Plant itself was the subject of certain environmental assessment procedures. The United Kingdom Counter Memorial outlines the various steps in those procedures, from BNFL's submission of the MOX planning application of 2 October 1992 up to the 19 December 2001 Decision by the United Kingdom's Health and Safety Executive to authorise plutonium commissioning of the MOX Plant.<sup>55</sup>

7.80. As has been explained above,<sup>56</sup> the MOX Plant has consequences for the duration and intensity of the operation of THORP, and for discharges from THORP. Those consequences are plainly foreseeable and intended, even if, as the United Kingdom stresses, they are not logically necessary consequences.<sup>57</sup>

7.81. As is explained in Chapter 6, an environmental assessment must take into account all of the consequences of the activity whose impact is being assessed. As was explained in Chapter 2, all intended and foreseeable consequences must be included. That proposition is self-evident; and it is supported by legal principle. The State undertaking the assessment has responsibilities of due diligence in relation to the prevention or mitigation of pollution arising from the assessed activity. That was explained in detail in the Commentaries to the

---

<sup>51</sup> See, e.g., para 7.6. Cf., Memorial, Chapter 8.

<sup>52</sup> Counter Memorial, paras 6.2 and 2.28.

<sup>53</sup> See Memorial, para 4.22; Reply, vol 3(1), Annex 142.

<sup>54</sup> Memorial, para 2.85 *et seq.*, 4.7 *et seq.*, 8.111 *et seq.*

<sup>55</sup> Counter Memorial, paras 2.16-2.31.

<sup>56</sup> See Chapters 2 and 6.

<sup>57</sup> Counter Memorial, paras 3.21-3.25.

International Law Commission's draft articles on the prevention of transboundary harm from hazardous activities.<sup>58</sup> It is also confirmed to be the prevailing international practice by Mr Sheate in his report, in evidence on a point that is not challenged by the United Kingdom.<sup>59</sup>

7.82. The documentary evidence shows clearly that it was envisaged from the outset that THORP would supply the MOX Plant, and that the MOX Plant would draw more business into THORP.<sup>60</sup> Even if the MOX environmental assessment process conducted between 1993 and 2001 had been adequate in every other respect, the complete failure to consider the likely consequences of the MOX Plant for pollution arising from THORP patently renders that assessment deficient.

7.83. The United Kingdom was aware of Ireland's concerns about the adequacy of the environmental assessment.<sup>61</sup> Ireland raised them repeatedly in Minister-to-Minister correspondence in the period 1994 to 2001, as well as in submissions made in the process of the justification of the MOX Plant. The substance of those concerns was not addressed by the United Kingdom in discussions with Ireland; and in the absence of any assessment of the impact of the MOX Plant on discharges from THORP based upon proper scientific evidence it is evident that there can have been no proper co-operation with Ireland over the adoption of measures to protect the Irish Sea, and no proper co-ordination of the implementation of British and Irish rights and duties in respect of the Irish Sea.

7.84. The United Kingdom may have complied with EU and other regulations in conducting the environmental impact assessment of the MOX Plant within the terms of reference set for it by those instruments. That is an issue that the Tribunal does not have to decide, and on which Ireland reserves its position. But it is irrelevant. It does not in any way answer the charge that those terms of reference were drawn incorrectly and excluded the crucial questions relating to the likely consequences of the MOX proposal for THORP. That single, salient feature of the 'consultations' between 1993 and 2001 over the MOX Plant is enough to demonstrate that the United Kingdom's statements that "[f]or many years the United Kingdom has been in the forefront of States engaged in [sc., UNCLOS Article 197] consultation ..... The record shows that the United Kingdom has long co-operated with Ireland, and with other regional States, on matters affecting the Sellafield site"<sup>62</sup> do not capture the true essence of dealings between Ireland and the United Kingdom over the MOX Plant.

7.85. The Counter Memorial proceeds to examine the mechanisms of co-operation already in place. As has been explained, the existence of a mechanism does not mean that the mechanism is working satisfactorily. Ireland acknowledges the recent improvements in co-operation with the United Kingdom in some of the existing mechanisms; and it wishes to emphasise that at a personal level there is much close and cordial contact between individuals and organizations on both sides of the Irish Sea that have some responsibility for the marine environment. This is, moreover, the base on which future developments of the co-operative relationship between the two States can and will be built. Nonetheless,

---

<sup>58</sup> Report of the International Law Commission on the work of its Fifty-third session, *Official Records of the General Assembly, Fifty-sixth session, Supplement No. 10 (A/56/10)*, chp.V.E.2).

<sup>59</sup> Memorial, vol 2, Appendix 6.

<sup>60</sup> See Chapter 2.

<sup>61</sup> Memorial, paras 7.35-7.74 . See Memorial, vol 3(1), Annexes 8, 20. See also Reply, vol3(1), Annex 131.

<sup>62</sup> Counter Memorial, paras 6.134-6.135.

there are specific respects in which Ireland considers that co-operation has not worked at all satisfactorily and that Ireland has not received notification and consultation of the kind to which it is entitled under UNCLOS.

7.86. The United Kingdom identifies eleven existing mechanisms for co-operation.<sup>63</sup>

(1). BILATERAL CONSULTATION BETWEEN IRELAND AND THE UNITED KINGDOM

7.87. The first mechanism is described as “Bilateral Consultation with Ireland,” and it is explained that “[c]onsultation takes the form of comments made directly by the Government of Ireland on proposals on which the Government of the United Kingdom or local authorities or agencies within the United Kingdom undertake public consultation.”<sup>64</sup>

7.88. Ireland welcomes the opportunity to respond to British public consultations. It maintains, however, that as a sovereign State which, like the United Kingdom, has rights and duties concerning co-operation and co-ordination under UNCLOS, Ireland is entitled to treatment that goes some way beyond that accorded by the United Kingdom’s central and local government to every individual citizen or resident (and perhaps also to any non-resident who troubles to write in response to public consultations).

7.89. The relationship in Government-to-Government co-operation is not the same as the relationship of a Government to its citizens and residents. There is, for example, sensitive information that can be shared confidentially with another Government that cannot appropriately be publicly disclosed. Plans for anti-terrorist operations are a good example. There is information that may properly be refused to, say, an interested student seeking help with a school project that cannot properly be withheld from a foreign State. The reluctance of the United Kingdom to recognise and act upon this distinction is a central element of Ireland’s complaint in this case.

7.90. Beyond noting Ireland’s eligibility to respond to public consultations in the United Kingdom, the Counter Memorial makes out no further case that ‘bilateral consultations’ have functioned in such a manner as to fulfil the United Kingdom’s duties of co-operation and co-ordination under UNCLOS.

(2). EMBASSY CONTACTS

7.91. The Counter Memorial notes that there are regular contacts through the respective embassies, [REDACTED]

[REDACTED]<sup>65</sup>

7.92. [REDACTED]

---

<sup>63</sup> Counter Memorial, paras 6.56-6.84.

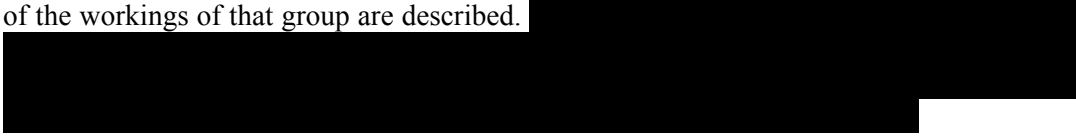
<sup>64</sup> Counter Memorial, para 6.56.

<sup>65</sup> Counter Memorial, para 6.59.



### (3). THE UK-IRELAND CONTACT GROUP

7.93. The third mechanism mentioned is the Contact Group. Ireland invites the Tribunal to read again the passage in the Memorial (paragraphs 8.132-8.139) in which some aspects of the workings of that group are described.



7.94.



### (4). THE BRITISH-IRISH COUNCIL

7.95. The British-Irish Council (BIC) is an integral part of the confidence-building process following the Good Friday Agreement and the peace process in Northern Ireland. The Council was formally established by the British-Irish Agreement of 8 March 1999. The policy and practice in the BIC is to emphasise and give priority to issues of mutual concern in which it is possible to achieve progress through co-operation and consensus. All participants are anxious to avoid conflict, and issues involving significant disagreement are avoided. The BIC is therefore not a forum appropriate for pursuing fundamental difficulties between the Parties, such as the question of the MOX Plant.

7.96. "Environment" was identified at the inaugural summit of the BIC in London on 17 December 1999 as one of five policy areas for priority sectoral work; and the BIC Environment Sectoral Group ('BIC(E)') had its first meeting in London on 2 October 2000. The Group identified radioactive waste from Sellafield as an area of common concern. Ireland and the Isle of Man prepared a draft paper, circulated to other BIC(E) members in November 2001. The second BIC(E) meeting, held on 25 February 2002, decided that comments on the paper should be sent to Ireland and the Isle of Man by the end of May 2002. Ireland and the Isle of Man duly revised the paper in the light of comments received, including comments from the United Kingdom. The United Kingdom representatives subsequently stated that on the advice of their lawyers they would not offer further comments, because of the Ireland-United Kingdom legal action over MOX. That



remains the position, although the United Kingdom has agreed to present papers of its own on vitrification of highly active liquid waste and long term storage of plutonium at Sellafield.

#### (5). BRITISH-IRISH INTER-PARLIAMENTARY BODY

7.97. While the Government of Ireland welcomes all fruitful contacts between British and Irish officials and citizens, it does not consider that all-party parliamentary groups are a vehicle for Government-to-Government co-operation.

7.98. Ireland notes, nonetheless, that the 2002 Report of the British-Irish Inter-Parliamentary Body takes a view of the SMP issue that is close to that taken by the Irish Government. Having referred to the reports on Sellafield prepared within the Body's Committee D in 1991, 1992, and 1996, the 2002 Report states: "The concern over the environmental aspect of the Sellafield site has in no way diminished, not only in Ireland but in the Isle of Man and in parts of the United Kingdom itself. Indeed, it has been sharpened by the build-up of waste stored on the site, and by the development of the Sellafield MOX Plant (SMP), which some fear may contribute to an expansion of reprocessing activity."<sup>66</sup>

7.99. The 2002 Report also identifies many of the problems of specific concern to Ireland. For example, it says:

"8. Our 1996 Report covered two main areas, safety and waste. ... [T]he Committee was concerned at the unknown impact that THORP might have on future discharges. The Committee was also dissatisfied with the system for incident reporting at Sellafield, and called for a bi-lateral agreement between the two Governments concerning nuclear safety. The Committee was reassured by the high standards required of BNFL ships transporting radioactive material to and from the site, but recommended that the Governments should consider a joint scheme for reporting such ship movements within the Irish Sea.

9. Concerns over some of these issues remain.

[...]

13. Although the operation of THORP appears to have had little effect on incremental discharges, it does have a knock-on effect on the amount of radioactive material stored at Sellafield. ..." (emphasis added)

7.100. The Committee then noted the "widespread concern that the SMP may lead to an increase in the total volume of material being processed,"<sup>67</sup> observing also that

"[i]t appears that hitherto none of the products of BNFL's reprocessing operations have been returned to the customers who own them and are contractually committed to taking them back. This is a matter of grave concern to the Committee, as Sellafield is increasingly becoming a quasi-permanent storage

---

<sup>66</sup> British/Irish-Parliamentary Body, Environmental and Social Committee, Enquiry Report (Document 85), November 2002: Reply, vol 3(2), Annex 178, para 3.

<sup>67</sup> *Ibid*, para 40.

facility for highly dangerous materials, including plutonium and liquid High Level Waste,”<sup>68</sup>

and remarking upon the “unfortunate” lack of clarity in the British Government’s position on new contracts for reprocessing.<sup>69</sup> That lack of clarity is also evident in the response of the United Kingdom to Question no. 3 among Ireland’s 55 questions. Asked about the possible use of the MOX Plant as a means of managing United Kingdom plutonium, the United Kingdom replied that “[d]ecisions on the management of UK plutonium stocks are a matter for the UK.”<sup>70</sup>

7.101. Committee D’s 2002 Report also touched upon two other matters: information exchange, and security. On the former the Report noted existing informal contacts between the United Kingdom and Ireland and remarked that “The British Government had more difficulty envisaging formal procedures for the exchange of information.”<sup>71</sup> On the question of security, the Committee said that “[t]he British Government is confident that measures are in place to ensure that any act of sabotage within the site does not lead to a major release of radioactive material. We hope that the Government’s confidence is justified.”<sup>72</sup>

#### (6). THE DRAFT COASTGUARD AGREEMENT

7.102. The arrangement between the British and Irish coastguards is a good illustration of the difficulties that Ireland faces. There is certainly no complete breakdown of communications. Relations between the two bodies are cordial and have, on a case-by-case basis, been broadly effective in the past. This effective co-operation does not, however, extend to nuclear matters.<sup>73</sup> (The suggestion in the Counter Memorial that the coastguards co-operate over IMDG Code and INF Code cargoes is misleading: any notifications regarding nuclear cargoes are transmitted through the British Embassy and the Department of Foreign Affairs, rather than between the respective coastguards.) Ireland’s complaint is not a banner-headline allegation of a refusal of co-operation by the United Kingdom. It is more subtle, but no less important for that.

7.103. There has undoubtedly been a delay in formalising the arrangement between the two coastguards. Matters moved on beyond the point recorded in paragraph 6.72 of the Counter Memorial. On 12 September 2002 Captain Liam Kirwan, Director of the Irish Coast Guard, wrote to the United Kingdom’s Maritime and Coastguard Agency (‘MCA’) concerning the draft agreement. On 15 January 2003 he received a reply dated 20 December 2002, suggesting that British representatives might come to Dublin to discuss various matters, including the draft co-operation agreement. That meeting was scheduled for 20 February 2003. From a lawyer’s perspective, the delays in finalising the agreement are regrettable; from a coastguard’s perspective, co-operation works satisfactorily in all spheres apart from the nuclear, and signature of a document describing the current

---

<sup>68</sup> *Ibid*, para 38.

<sup>69</sup> *Ibid*, para 36.

<sup>70</sup> Memorial, vol 3(1), Annex 7.

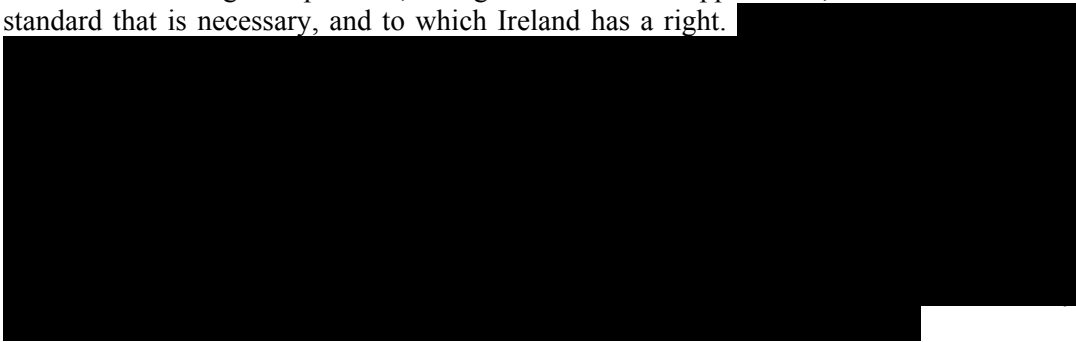
<sup>71</sup> British/Irish-Parliamentary Body, Environmental and Social Committee, Enquiry Report (Document 85), November 2002: Reply, vol 3(2), Annex 178, para 24.

<sup>72</sup> *Ibid*, para 32.

<sup>73</sup> See paras 7.118-7.122.

practical arrangements for co-operation is, understandably, a lower priority than the implementation of that co-operation. Nevertheless, Ireland is conscious of the need to finalise this agreement as soon as possible.

7.104. Once again, 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.



(7). EXCHANGE OF INFORMATION BETWEEN HEALTH AND SAFETY EXECUTIVE AND RADIOLOGICAL PROTECTION INSTITUTE OF IRELAND (RPII)

7.105. Ireland acknowledges that co-operation between the RPII and the HSE has been valuable, and that personal relations between the officials of the two bodies are good. Once more, however, the relationship is confined by the United Kingdom within limits that prevent Ireland having access to information that Ireland considers necessary for its nuclear preparedness planning. One example is the refusal of access to information concerning the risk associated with the High Level Waste tanks.<sup>75</sup> Moreover, these are technical agencies; and they are not an adequate substitute for proper inter-governmental co-operation.

(8). CO-OPERATION BETWEEN THE RPII AND THE UK'S NATIONAL RADIOLOGICAL PROTECTION BOARD (NRPB)

7.106. Ireland welcomes the scientific co-operation between the RPII and the NRPB described in the Counter Memorial. It is, however, not relevant to the question of the discharge by the United Kingdom of its obligations of co-operation and co-ordination with Ireland in the context of this case.

(9). DRAFT AGREEMENT ON EARLY NOTIFICATION

7.107. Ireland is broadly content with the principles upon which the actual notification of unplanned incidents of radiological significance at United Kingdom nuclear sites is organised. That, however, by no means disposes of the issue. Ireland's preparedness to

---

<sup>74</sup> See **Plate 2**. The waypoint positions on the ship's route are those established by Ireland by its own surveillance and were not furnished by the United Kingdom.

<sup>75</sup> Memorial, paras 8.143-8.144.

respond to any notified incidents of radiological significance depends upon Ireland having had adequate information as to the probable nature and extent of the risks of (and the risks arising from) such incidents, and upon the co-ordination of Ireland's response with the responses of other States involved, and particularly the United Kingdom. It is the failings in regard to the provision of that information, and the refusal of the United Kingdom to regard Ireland as having any role in such incidents that needs to be co-ordinated with the relevant agencies in the United Kingdom, that lie at the heart of Ireland's case.

#### (10). FOOD STANDARDS AGENCY CONTRACTS

7.108. Ireland acknowledges the contacts concerning food safety. It regards them as welcome but having only marginal significance in this case.

#### (11). UNITED KINGDOM'S INVITATION TO IMPROVE THESE ARRANGEMENTS

7.109. It was explained above<sup>76</sup> that the account given in the Counter Memorial of Ireland's response to this invitation is grossly misleading, and itself suggests that Ireland and the United Kingdom have different understandings of the meaning of co-operation.

### F. COOPERATION IN THE MOX CONSULTATIONS

7.110. Co-operation in respect of the authorisation of the MOX Plant is addressed in Chapters 3 and 6 of this Reply.

### G. COOPERATION IN RELATION TO MARINE TRANSPORTS

#### IRELAND'S MAIN CONCERNS

7.111. This section of the Counter Memorial deals with co-operation in a number of fora concerning maritime transports of radioactive material. The Counter Memorial records<sup>77</sup> (correctly), here and elsewhere, that Irish representatives at meetings expressed their appreciation when information was given to them. Ireland is pleased that Irish representatives have polite and courteous meetings with their British counterparts. It does not consider that expressions of thanks by Irish representatives estop Ireland in relation to its complaints concerning the limited nature of the United Kingdom co-operation.

---

<sup>76</sup> See para 7.64 *et seq.*

<sup>77</sup> Counter Memorial, para 6.110.

7.112.

[REDACTED]

[REDACTED]

7.113.

[REDACTED]

7.114. Access to the shipboard emergency plans was a matter identified by Capt. Kirwan as needing co-operation.<sup>83</sup> Ireland has repeatedly sought access to these plans, without success. Ireland notes that the IAEA team preparing the TransSAS report<sup>84</sup> were afforded access to the PNTL Shipboard Marine Emergency Plan.<sup>85</sup>

7.115. Further concerns were expressed by Ireland in response to the United Kingdom's consultative document, *Proposals for the Nuclear Industries Security Regulations* (July 2002). For example, Ms Dempsey (Nuclear Safety Section, Dublin) wrote to Mr Blight

---

78

[REDACTED]

79

[REDACTED]

80

[REDACTED]

81

[REDACTED]

82

[REDACTED]

83 See his letter dated 12 September 2002 to Mr John Astbury, Reply, vol 3(1), Annex 144.

84 See below, para 7.116.

85 See Reply, vol 3(1), Annex 148 .

(Nuclear Industries Directorate, London) on 11 October 2002 expressing concern at the proposal to exempt foreign-flag ships from the requirement to obtain approved carrier status from the Office for Civil Nuclear Security (OCNS), and the proposal to allow up to 48 hours for the reporting of security incidents to the OCNS.<sup>86</sup>

#### THE TRANSAS REPORT

7.116. The TranSAS report<sup>87</sup> that was published some weeks after the submission of Ireland's Memorial identified the strengths and weaknesses in co-operation between Ireland and the United Kingdom. Surprisingly, Ireland was not invited to participate in the work of the TranSAS team,<sup>88</sup> even in relation to the conclusions reached by the team on the co-operation between the United Kingdom and its neighbouring States.

7.117. For example, in paragraph 4.147 of the TranSAS report it is said that: "...although significant progress has been and continues to be made, there was no clear evidence provided during the appraisal of formalized trilateral liaison between the UK, the Republic of Ireland [*sic*] and PNTL. Such liaison agreement could prove beneficial in the event of an emergency in the Irish Sea involving ships carrying radioactive material." While Ireland does not wish to take issue with this statement, it is both surprising and unsatisfactory that Ireland's views were not sought on the matter. Similarly, the statement in paragraph 4.145 that there is extensive liaison between Irish and United Kingdom authorities regarding general counter pollution measures needs to be qualified: that liaison does not extend to nuclear matters.

7.118. Ireland has a number of reservations concerning the TranSAS report, and has written to the IAEA to make its concerns known.<sup>89</sup> For example, it is unclear how the report reached the conclusion that both BNFL and PNTL are "technically competent" in respect of responses to INF incidents. This is significant to Ireland because Ireland's co-operation is with the British Coastguard (the MCA); and the implication of the "technical competence" of BNFL and PNTL is that the MCA liaises with BNFL and PNTL only so far as is necessary to tie them into the United Kingdom's standard multi-agency response that is activated as part of the National Contingency Plan. This reinforces Ireland's perception that the MCA has in practice delegated its duties in respect of nuclear shipments to BNFL and PNTL. Ireland must therefore deal at one remove with the "competent" organisations; and in practice it has had little success in engaging with BNFL and PNTL regarding the details of shipments.

7.119. The report stated that "[b]ecause of the lack of events involving radioactive material in maritime transport, there has only been one governmental regional exercise (within the Irish Sea, working with PNTL and BNFL)".<sup>90</sup> The reference is presumably to Operation Seabird (1999). It is not clear that the very limited scope of that operation was appreciated. It only tested communications facilities. At the time of the operation BNFL were unable to provide information on shipboard or coastguard emergency planning

---

<sup>86</sup> Reply, vol 3(1), Annex 145.

<sup>87</sup> Counter Memorial, Annex 15.

<sup>88</sup> See Reply, vol 3(1), Annex 148.

<sup>89</sup> Reply, vol 3(2), Annex 191.

<sup>90</sup> Counter Memorial, Annex 15, para 4.136.

arrangements that would be activated if an emergency were to take place. Though a reading of paragraph 6.116 of the Counter Memorial might give a different impression, Ireland has not had sight of – indeed, has been refused access to – any Shipboard Marine Emergency Plans (SMEP) for PNTL ships travelling through the Irish Sea.

7.120. Ireland has already noted its SAR responsibilities. Ireland’s emergency services would plainly respond to any emergency off the Irish coast. Co-ordination with any United Kingdom response units is an obvious practical necessity. Such co-ordination has not been tested. BNFL and PNTL have consistently taken the position that they are capable of dealing with any incident without any third-party assistance. Similarly, in response to Ireland’s Question 38, concerning plans to deal with any terrorist threat to vessels in the waters off Ireland, the United Kingdom responded bluntly that “[t]here are no plans to involve Ireland in any measures that might be taken to handle any event or incident.”<sup>91</sup> Ireland does not regard this response as being either satisfactory or an adequate ground on which Ireland could properly decide not to respond to an incident in its SAR zone or not to discharge its responsibilities under international law to foreign ships in Irish waters.

7.121. The question of co-operation is addressed by Captain Miller in paragraphs 162-170 of his Witness Statement.<sup>92</sup> Ireland does not see in that Statement any response to the concerns relating to co-operation in respect of incidents at sea raised in its Memorial and rehearsed in this Reply. In particular, in paragraph 168 of the Statement it seems to be asserted that, were there a need for co-operation between the United Kingdom and Ireland to counter threats to MOX-related shipments through the Irish Sea “it is reasonable to assume and expect that the UK and Irish Governments would take steps to counter the threat.” This appears to be presented as a reason why the United Kingdom need not, despite the injunction in paragraph 4.2.6.3 of the IAEA Guidelines,<sup>93</sup> routinely co-operate with Ireland in order to inform it and secure in advance its co-operation and assistance for adequate physical protection measures and for recovery actions. In other words, there is no need for the United Kingdom to co-operate with Ireland because if there were they would already be co-operating. Captain Miller’s argument appears, with respect, to be circular.

7.122. The TranSAS report notes that Ireland attended Anglo-French discussions in May 2002 on joint counter pollution and contingency planning issues in the English Channel.<sup>94</sup> Ireland was invited, for the first time, to join in those discussions in May 2002, and a number of issues, including co-operation, search and rescue, pollution and wind farms were discussed. The question of transportation of radioactive material was not on the agenda and was not discussed.

7.123. In general terms, however, Ireland shares the approach underlying some of the conclusions of the TranSAS Appraisal Team. For example, the report suggested, *inter alia*, that the United Kingdom Department for Transport “re-establish and implement plans for joint agency enforcement liaison exercises, with a view to convening at least one exercise per year”, that the United Kingdom Government “should continue bilateral liaison with the Irish Government on counter pollution and response issues, including the provision of an Irish Sea emergency towing vessel” and “continue multilateral liaison with neighbouring

---

<sup>91</sup> Memorial, vol 3(1), Annex 7.

<sup>92</sup> Counter Memorial, Annex 6.

<sup>93</sup> This point is explained in the Memorial, paras 8.224-8.229.

<sup>94</sup> Counter Memorial, Annex 15, para 4.146.

States. Such liaison agreements could prove beneficial in the event of an emergency in waters surrounding the UK involving ships carrying radioactive material.”<sup>95</sup>

#### THE NUMBER OF SHIPMENTS

7.124. There are two further matters treated in this section of the Counter Memorial which demands a response from Ireland. First, there is an account, bewildering to anyone familiar with the matter, of Ireland’s attempts to extract from the United Kingdom an indication of the approximate number of sea transports that were expected to and from the Sellafield site through the Irish Sea.<sup>96</sup>

7.125. That information was sought in the questions addressed by Ireland to the United Kingdom after the ITLOS proceeding.<sup>97</sup> The lengthy United Kingdom response avoided giving a direct answer to the question. Ireland put the question again in the course of a letter sent to the United Kingdom on 1 February 2002,<sup>98</sup> and again on 27 March 2002.<sup>99</sup> The United Kingdom had already indicated, during the ITLOS proceedings, that it was willing to disclose the number of expected transports on a confidential basis;<sup>100</sup> and this offer was reiterated in its letter dated 19 April 2002, which stated that “[t]he planned frequency of shipments is considered to be commercially confidential information.”<sup>101</sup>

7.126. In a letter dated 9 May 2002 Ireland reaffirmed its wish to know the intended numbers of shipments, but stated that it did not accept that the information was “subject to any commercial confidentiality exception.”<sup>102</sup> The United Kingdom responded on 17 May 2002 by offering to give the estimated number provided that Ireland “will undertake to respect confidentiality and can guarantee the confidentiality of the information.”<sup>103</sup>

7.127. Absolute confidentiality, in its strictest form, defeats the purpose of obtaining the information. The information is clearly of very limited practical value unless the Irish Government is entitled to act upon it –for example, by advising the coastguard and the Department of Defence as to the number of transports to expect. That necessarily involves some dissemination of the information within the Government. Ireland had also explained to the United Kingdom, in a letter dated 7 February 2002,<sup>104</sup> that under the Irish Freedom of Information Act no public official could determine in advance how the statutory power to refuse to release documents would be exercised in any particular case if an application were made to release them under the Act, and that determinations might be challenged by appeal to the courts. Accordingly Ireland could not *guarantee* confidentiality but “it is fair to say that the most likely outcome is that release of these records would be refused and that a conclusive certificate that they are exempt from the provision of the Act would

---

<sup>95</sup> Counter Memorial, Annex 15, pp 5, 8.

<sup>96</sup> Counter Memorial, para 6.109.

<sup>97</sup> Memorial, vol 3(1), Annex 7, question 31.

<sup>98</sup> Memorial, vol 3(1), Annex 48.

<sup>99</sup> Memorial, vol 3(1), Annex 59.

<sup>100</sup> Counter Memorial, para 6.109.

<sup>101</sup> Memorial, vol 3(1), Annex 61.

<sup>102</sup> Memorial, vol 3(1), Annex 62.

<sup>103</sup> Memorial, vol 3(1), Annex 63.

<sup>104</sup> Memorial, vol 3(1), Annex 50.



issue.”<sup>105</sup> (Ireland understood that the position under the law of the United Kingdom is similar).

7.128.

[REDACTED]

7.129.

[REDACTED]

7.130.

[REDACTED]

#### THE ASSURANCES REGARDING SHIPMENTS

7.131. The second matter arising in this part of the Counter Memorial is the question of the scope of the assurances given by the United Kingdom to the ITLOS concerning

---

105 Memorial, vol 3(1), Annex 50.

106 [REDACTED]

107 [REDACTED]

108 [REDACTED]

109 [REDACTED]

110 [REDACTED]

111 [REDACTED]

112 [REDACTED]

113 [REDACTED]

shipments through the Irish Sea.<sup>114</sup> The United Kingdom had indicated that there would be no additional marine transports arising as a result of the commissioning of the MOX Plant until October 2002 at the earliest.<sup>115</sup>

7.132. The Counter Memorial makes no attempt to address Ireland's complaint in paragraph 8.262 of the Memorial concerning the intended use and destination of the MOX cargo that was due to return to Sellafield before October 2002.<sup>116</sup>

7.133. Similarly, when Ireland questioned whether shipments of spent fuel from Germany in mid-2002 were consistent with the United Kingdom's undertakings to the ITLOS, the United Kingdom replied that the shipments were not movements arising from the commissioning of the MOX Plant. They arose, it said, from reprocessing contracts signed in the 1970s and early 1980s, before the MOX Plant was built.<sup>117</sup> Ireland noted above<sup>118</sup> that the reality is that those contracts would have been cancelled but for the possibility of returning the reprocessed fuel as MOX pellets. While the United Kingdom response is, accordingly, strictly speaking quite true, it betrays a preference for form over substance that Ireland considers unhelpful in the context of international co-operation.

## H. CO-OPERATION IN RESPECT OF TERRORIST THREAT

7.134. The United Kingdom raises UNCLOS Article 302 as a justification for its refusal to share certain information with Ireland. That Article applies, in its own terms, "[w]ithout prejudice to the right of a State Party to resort to the procedures for the settlement of disputes provided for in this Convention." As the *Virginia Commentary* records, that phrase was included in order to make clear "the need to submit to the dispute settlement procedure any question of failure to disclose information."<sup>119</sup>

7.135. It is for the Tribunal to determine whether particular pieces or categories of information may be withheld by the United Kingdom under UNCLOS Article 302. Ireland will abide by any such determination.

7.136. In relation to information not covered by the right of non-disclosure under UNCLOS Article 302, Ireland maintains its claim to co-operation and co-ordination from the United Kingdom.

7.137. 

---

<sup>114</sup> Counter Memorial, paras 6.108, 6.114.

<sup>115</sup> A formula repeated in a letter from the United Kingdom Agent dated 6 February 2002: Memorial, vol 3(1), Annex 49.

<sup>116</sup> The Counter Memorial states that Ireland's Memorial did not give the actual date of return of the cargo, which was 17 September 2002. That is because Ireland's Memorial was submitted on 26 July 2002.

<sup>117</sup> Memorial, vol 3(1), Annex 49.

<sup>118</sup> See paras 2.7 *et seq* and the Report of Gordon MacKerron, Reply, vol 2, Appendix 17.

<sup>119</sup> *Virginia Commentary*, vol V, p 156, para 302.1.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7.138.

[REDACTED]

7.139.

[REDACTED]

7.140.

[REDACTED]

---

120

[REDACTED]

121

[REDACTED]

122

[REDACTED]

123

[REDACTED]

124

[REDACTED]

125

[REDACTED]

[REDACTED]

7.141. The United Kingdom has consistently taken the position that it has fully reviewed security matters and satisfied itself that all necessary steps have been taken, and that Ireland must be content with that assurance. While Ireland accepts that some information may be kept secret to the United Kingdom, its agents and officials, it considers that there is a good deal of information that can properly be shared on a highly confidential Government-to-Government basis which the United Kingdom is refusing to share, to the prejudice of Ireland's emergency planning and its ability to respond effectively to incidents involving the threat of releases of radiation.

### **I. CO-OPERATION WITH RESPECT TO THE MARINE ENVIRONMENT**

7.142. The brief response in the Counter Memorial on this point seems to be based upon two false premises. First, that Ireland must either show the logical necessity of further pollution arising from the operation of the MOX Plant, or wait until such pollution occurs and then makes its complaint. As was explained above,<sup>127</sup> Ireland is entitled to base its complaint upon the likelihood, the foreseeability, of pollution arising. The second false premise is that deliberate discharges on an industrial scale of radioactive material into the sea does not count as 'pollution' if the radioactive dose to the complaining State's population is within internationally agreed standards. As was explained above,<sup>128</sup> UNCLOS does not give 'pollution' such an attenuated meaning.

### **J. CO-OPERATION WITH RESPECT TO THE COMMUNICATION OF INFORMATION (1998-2001)**

7.143. As has already been noted,<sup>129</sup> at various points in the Counter Memorial there are suggestions that Ireland has failed to respond to the United Kingdom's initiatives or, indeed, in relation to its own statements of intended action. The implication seems to be either that Ireland is not wholly serious in its concerns about the MOX Plant or that the Irish Government is inefficient. While the United Kingdom will no doubt disclaim any intention to make such implications, and detailed responses would to that extent be redundant, some of the episodes merit responses because of the light that they cast upon the genesis of the present proceedings and the troubled history of attempts to reach a proper co-operative relationship concerning the MOX Plant and Sellafield in general.

---

126 [REDACTED]

127 Paras 2.13-2.19.

128 Paras 2.41-2.46.

129 Paragraph 7.64 *et seq.*

## GENERAL NON-COOPERATION AND UNREASONABLENESS

7.144. Some of the suggestions might be thought to amount to accusations of a general lack of co-operation or reasonableness on Ireland's part. For example, in paragraph 1.18 of the Counter Memorial it is said that when the United Kingdom indicated its wish to engage in an exchange of views on the handling of the MOX Plant dispute as required by UNCLOS Article 283, the Irish Government responded on 23 October 2001 that no settlement would be possible so long as the MOX Plant remained authorised, and initiated the present UNCLOS action two days later. It may seem that Ireland was rebuffing an ingenuous invitation from the United Kingdom, and responding by instituting proceedings within 48 hours. The full record, however, puts the matter in a different context.

7.145. Ms Beckett did indeed write to Mr Jacob on 18 October 2001, saying that 'the UK is anxious to exchange views on the points you raise in your letter as soon as possible. In order to do so meaningfully, we need to understand why the Irish Government considers the UK to be in breach of the provisions and principles identified in your letter.'<sup>130</sup> In his response of 23 October 2001, Minister Jacob noted that Ireland's position on MOX Plant had been set out on a number of occasions over the last number of years, and specifically in Ireland's letter of 23 December 1999, which set out the grounds on which Ireland considered that the United Kingdom was in violation of UNCLOS.<sup>131</sup> The United Kingdom's only response to Ireland's letter of 23 December 1999 was the reply, on 9 March 2000, to the effect that the United Kingdom could not address the points raised in Ireland's letter before a final decision on the operation of the MOX Plant was reached.<sup>132</sup>

7.146. It should be added that Ireland's concerns had long been known. Mr Jacob, the Irish Minister of State, wrote to the United Kingdom on 23 October 1998 expressing concern at proposed decisions on Sellafield discharges and on the operation of the MOX Plant, in the light of the United Kingdom's Sintra commitments. The reasons for that concern are considered more fully in Chapter 3 of this Reply.

7.147. When, on 18 October 2001, the United Kingdom offered to discuss the issues raised in Ireland's letter of 23 December 1999, almost two years had elapsed since the letter was sent. The United Kingdom had by then already notified Ireland, on 5 October 2001, of its decision to proceed with the authorisation of the MOX Plant.<sup>133</sup> Ireland's requests to delay the operation of the MOX Plant pending the resolution of the OSPAR dispute had already been rejected by the United Kingdom.<sup>134</sup> Even so, Ireland did not close the door on negotiations.

7.148. The Counter Memorial asserts that Ireland responded "that no settlement would be possible so long as the MOX Plant remained authorised."<sup>135</sup> What Mr Jacob actually wrote was this:

"Since the United Kingdom appears strongly committed to the authorisation and early operation of the MOX Plant there would appear to be little point in proceeding to an exchange of views regarding the settlement of the dispute under

---

<sup>130</sup> Memorial, vol 3(1), Annex 35.

<sup>131</sup> Memorial, vol 3(1), Annex 36.

<sup>132</sup> Memorial, vol 3(1), Annex 22.

<sup>133</sup> See the letter of Mr Jacob to Ms Beckett, 16 October 2001, Memorial, vol 3(1), p 165.

<sup>134</sup> See the exchanges of letters in the Memorial, vol 3(1), Annexes 28, 30, 32.

<sup>135</sup> Counter Memorial, para 1.18.

UNCLOS by negotiation or by means envisaged by Article 283 of UNCLOS. Nevertheless, Ireland wishes to signal its availability to proceed to such an exchange if the United Kingdom considers that an exchange could be useful.”<sup>136</sup>

7.149. Ireland’s statement on 23 October 2001 that ‘no settlement would be possible so long as the MOX Plant remained authorised’ must be read in light of the failure of the Parties to agree a resolution to the dispute over the course of two years of correspondence and exchanges of views.

7.150. The United Kingdom has already raised this argument based on Article 283 before the ITLOS, which rejected it. The ITLOS held that

“60. ... a State Party is not obliged to continue with an exchange of views when it concludes that the possibilities of reaching agreement have been exhausted.”<sup>137</sup>

7.151. A second example of excessive economy in the Counter Memorial’s representation of the facts is the statement that the United Kingdom held a round of public consultation after the publication of the ADL report in 2001, and that “Ireland did not participate on this occasion (although it could have done).” That is not true: Ireland did make its views known in relation to that consultation.<sup>138</sup> It might also have been mentioned that Ireland objected to the withholding by the United Kingdom of key sections of the ADL report, and that Ireland and the United Kingdom have been pursuing before the OSPAR tribunal the question of Ireland’s entitlement to see the complete report.

#### CRITICISM OF IRELAND’S CHOICE OF PROCEDURE

7.152. Some criticisms in the Counter Memorial concern Ireland’s choice of the procedure by which to pursue its complaints. The Counter Memorial remarks upon ‘threats’ dating from early October 2001 by Ireland of proceedings in the European Court of Justice, which have not materialised.<sup>139</sup> That reflects no more than Ireland’s decision as to the advantages and disadvantages (including the speed with which proceedings can be concluded) of the various fora open to it, and of the extent to which it is necessary and appropriate to pursue remedies in other tribunals while the OSPAR and UNCLOS Tribunals are seised of the disputes before them.

7.153. As was stated in the Memorial, the proceedings initiated by Ireland under Article 9 of the OSPAR Convention are limited to seeking access to information relating to the economic ‘justification’ of the MOX Plant.<sup>140</sup> Those proceedings arose in the face of the United Kingdom’s refusal to provide Ireland with certain information excised from two reports commissioned by the United Kingdom. Ireland’s efforts to obtain information are detailed in the Memorial.<sup>141</sup> Ireland has sought the information because it is concerned about the impact of the MOX Plant on the environment, including the impact from the

---

<sup>136</sup> Memorial, vol 3(1), Annex 34.

<sup>137</sup> Order of the ITLOS, 3 December 2001, Memorial, vol 3(1), Annex 3.

<sup>138</sup> Reply, vol 3(1), Annex 142.

<sup>139</sup> Counter Memorial, para 1.16.

<sup>140</sup> Memorial, para 4.10 *et seq.*

<sup>141</sup> Memorial, para 4.27 *et seq.*

intensification of activities at THORP. Ireland wishes to ensure that the justification process has occurred in a transparent manner, allowing proper public scrutiny of the economic justification, or otherwise, of the MOX Plant. Ireland is concerned to ensure that all relevant costs (including in particular environmental costs) have been taken into account.<sup>142</sup> The OSPAR Tribunal does not have jurisdiction that extends to all of the matters which are before this Tribunal.

7.154. The United Kingdom has raised these issues previously, before the ITLOS.<sup>143</sup> That Tribunal was unanimously satisfied that the Annex VII Tribunal would *prima facie* have jurisdiction over the dispute. Rejecting the submissions made by the United Kingdom, the Tribunal noted that:

“50. [...], even if the OSPAR Convention, the EC Treaty and the Euratom Treaty contain rights or obligations similar to or identical with the rights or obligations set out in the Convention, the rights and obligations under those agreements have a separate existence from those under the Convention;

51. *Considering* also that the application of international law rules on interpretation of treaties to identical or similar provisions of different treaties may not yield the same results, having regard to, *inter alia*, differences in the respective contexts, objects and purposes, subsequent practice of parties and *travaux préparatoires*;

52. *Considering* that the Tribunal is of the opinion that, since the dispute before the Annex VII arbitral tribunal concerns the interpretation or application of the Convention and no other agreement, only the dispute settlement procedures under the Convention are relevant to that dispute.”<sup>144</sup>

#### CRITICISM OF THE BASIS OF IRELAND’S COMPLAINTS

7.155. Other criticisms in the Counter Memorial seem to be directed at the basis of Ireland’s complaints concerning the MOX Plant project. Thus, the Counter Memorial makes a point of the fact that Ireland did not challenge the Euratom Article 37 Opinion and the United Kingdom’s related submission.<sup>145</sup> Ireland’s decision not to do so is in part a reflection of the range of procedures open to Ireland, and its choice of those that appeared most appropriate to its case, and in part a reflection of the fact that the Euratom process was

---

<sup>142</sup> Ireland’s amended Statement of Claim in the OSPAR proceeding is at vol 3(1), Annex 72. The relief sought in those proceedings is that the arbitral tribunal order and declare:

- a. That the United Kingdom has breached its obligations under Article 9 of the OSPAR Convention by refusing to make available information deleted from the PA Report and the ADL Report as requested by Ireland.
- b. That, as a consequence of the aforesaid breach of the OSPAR Convention, the United Kingdom shall provide Ireland with a complete copy of the PA Report and the ADL Report, alternatively a copy of the PA Report and the ADL Report which includes all such information the release of which the arbitral tribunal decides will not affect commercial confidentiality within the meaning of Article 9(3)(d) of the OSPAR Convention.
- c. That the United Kingdom pay Ireland’s costs of the proceedings.

<sup>143</sup> See for example the Verbatim Record of the proceedings before ITLOS, 20 November 2001 at <http://www.itlos.org>.

<sup>144</sup> Order of the ITLOS, 3 December 2001, Memorial, vol 3(1), Annex 3.

<sup>145</sup> Counter Memorial, para 2.21.

focused on the impact of MOX discharges on human health, and not on the different and broader question of environmental impact and pollution.

## **CONCLUSION**

7.156. The Memorial set out the factual basis of Ireland's complaint in its Statement of Claim that the United Kingdom had failed to co-operate and co-ordinate its activities with Ireland as required by UNCLOS. The Counter Memorial has not responded to those complaints, except by pointing to mechanisms and opportunities for co-operation. Ireland's complaint, as has been explained in this Chapter, is that neither the mechanisms nor the opportunities have been used in order to provide for the kind of inter-State co-operation that is envisaged by UNCLOS. Ireland's position is not that of an interested bystander or curious member of the public. It is a sovereign State. It has the same legal and political responsibilities for the seas around its coasts and the people and environment within its territory as the United Kingdom has for its seas and territory. Ireland has not received the measure of information and co-operation that it needs to discharge those responsibilities and to co-ordinate its activities with those of the United Kingdom.



## CHAPTER 8

### POLLUTION

#### INTRODUCTION

8.1. The United Kingdom addresses Ireland's claims concerning its failure to prevent pollution in Chapter 7 of its Counter Memorial. The United Kingdom's arguments address the facts and the law, and in both respects adopt a minimalist approach. The United Kingdom asks the Tribunal to treat the radioactive discharges from the MOX Plant as non-polluting, to disregard altogether discharges and risks from associated activities such as THORP and transports, and to interpret the relevant provisions of the 1982 Convention in such a way as to deprive them of most of their practical meaning and consequence.

8.2. The evidence put before the Tribunal by the United Kingdom demonstrates that its authorisation of the MOX Plant was premised on the following factors:

- The United Kingdom considered only those environmental consequences arising directly from the MOX Plant: it disregarded all intended or foreseeable discharges and other environmental consequences arising (or likely to arise) from consequential increased and extended operation of THORP and "from the Sellafield site generally";<sup>1</sup>
- The United Kingdom proceeded on the basis that the discharges arising directly from the MOX Plant are so small that they do not constitute "pollution" within the meaning of UNCLOS;
- The United Kingdom proceeded on the basis that discharges from the MOX Plant could be accommodated within the authorised discharge levels established by the Environment Agency in 1994 and/or in 1999;
- The United Kingdom's regard to the environmental consequences of the discharges from the MOX Plant were limited to the impact on collective doses to humans, and did not have any regard to the impacts upon the marine environment as such;
- The United Kingdom had no regard (whether direct or indirect) to the consequences of the authorisation of the operation of the MOX Plant for its commitments under UNCLOS and international standards and rules adopted in accordance with UNCLOS, including the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration;

---

<sup>1</sup> See e.g. Counter Memorial, para 7.12 (the immediate closure of the MOX Plant "would have no effect whatever on emission levels from THORP").

- In its process for assessment and decision-making, the United Kingdom failed to consider the use of alternative technologies, including abatement technologies, either for the MOX Plant or THORP; and
- The authorisation was based on the use of “best practical means”, rather than measures “designed to minimize [discharges] to the fullest possible extent” or based upon “Best Environmental Practices” or “Best Available Techniques”.

8.3. The United Kingdom has failed to engage with Ireland’s case on pollution prevention and minimisation. Many points in the Memorial are ignored. The United Kingdom chooses instead to respond to a case which Ireland has not made. Ireland’s case on pollution is not about whether the discharges arising directly from the MOX Plant will or will not increase radiation doses to people living in Ireland (although it is a part of the case that there exists considerable uncertainty about the consequences to human health of exposure to low doses, as the evidence of Dr Mothersill and Professor Liber make clear).<sup>2</sup>

8.4. By focusing exclusively on doses to people and limiting itself only to wastes arising from the MOX Plant the United Kingdom has missed the point. Ireland’s claim is straightforward: it says that the United Kingdom has not taken all the steps necessary to protect and preserve the marine environment of the Irish Sea, as it is required to do by Part XII of UNCLOS. Ireland’s claim is that UNCLOS required the United Kingdom to have regard to matters which it has, on its own evidence, disregarded entirely. Ireland’s position, in summary, is that the United Kingdom has violated its obligations not to pollute under UNCLOS because *inter alia*:

- It has failed to identify and then take into account all the environmental consequences (for the Irish Sea) of the authorisation of the MOX Plant;
- It has misdirected itself by ignoring the potential consequences of the extended operation of THORP and other facilities at Sellafield, as well as increased international transports;
- It has focused exclusively on the consequences of discharges from the MOX Plant on human health, and should have taken into account all possible impacts of discharges on the marine environment;
- It has failed to require the adoption of measures “designed to minimize [discharges] to the fullest possible extent”, or to require the application of “Best Environmental Practices” and “Best Available Techniques”;
- It has failed to consider and require the use of alternative technologies, including abatement technologies; and
- It has failed to have any regard to the consequences of the authorisation and operation of the MOX Plant for its obligations to progressively and substantially reduce discharges of radionuclides into the Irish Sea, and to reduce concentrations of radionuclides to “close to zero” by 2020.

8.5. The differences in the approach of the Parties are clear. Ireland focuses on discharges to the marine environment, whereas the United Kingdom addresses only impacts on human health. Ireland focuses on the direct, planned and foreseeable consequential environmental impacts of authorising the MOX Plant (including in particular

---

<sup>2</sup> Additional Statement of Dr Mothersill, Reply, vol 2, Appendices 18 and 19; Additional Statement of Professor Liber, Reply, vol 2, Appendix 16. See also Additional Statement of Professor Salbu, Reply, vol 2, Appendix 20.

THORP and transports), whereas the United Kingdom addresses only the direct impact of the MOX Plant.

8.6. The differences in approach are equally apparent when it comes to the law concerning marine pollution. For Ireland, the obligations under Part XII of UNCLOS establish meaningful commitments which will deliver real improvements to the marine environment. For the United Kingdom the Convention is merely a skeleton framework which imposes no real or substantive obligations, the plain meaning of which are to be ignored where they may impose constraints. The United Kingdom has adopted the very approach which Judge Fitzmaurice, commenting on the judgment of the International Court of Justice in the *Anglo-Iranian Oil Company Case*, said is to be avoided:

“... the Court pronounced itself in general terms in a manner unfavourable to a method of interpretation which would, so to speak, leave certain words in the air.”<sup>3</sup>

8.7. At UNCLOS III a leading member of the United Kingdom delegation, in introducing the United Kingdom’s views on what was to become Part XII, said that the Convention should provide ‘an efficient and effective framework into which those [i.e., existing] conventions and others [i.e., future conventions] could be incorporated...’<sup>4</sup> That statement expressly referred to the 1974 Paris Convention for the Prevention of Marine Pollution from Land-Based Sources (the predecessor to the 1992 OSPAR Convention) as one of the conventions to be incorporated into UNCLOS. As described in Chapter 5 and subsequently in this Chapter, the approach taken by Sir Roger Jackling is no different from that which Ireland has adopted in its dealings with the United Kingdom on the authorisation of the MOX Plant: see Ireland’s letter of 23 December 1999, for example.<sup>5</sup> The United Kingdom has now abandoned its own approach to “incorporation”. It accuses Ireland of an excess of “incorporational” zeal, and calls on the Tribunal to ignore applicable rules and standards adopted in accordance with UNCLOS, in particular the 1992 OSPAR Convention and the 1998 Sintra Ministerial Statement.

8.8. As with its arguments on environmental assessment and cooperation, the United Kingdom is selective in its approach to Ireland’s submissions on pollution. It addresses a few, refashions others, and ignores some altogether. As shown in this Chapter, the United Kingdom adopts the most minimalist of approaches to various provisions of UNCLOS.

8.9. The United Kingdom’s attitude is reflected in its dismissive approach to Ireland’s genuine and long-standing interest in maintaining the quality of the Irish Sea – and it should be emphasized that Ireland has a legitimate interest in the entire Irish Sea, and not simply in that part falling within Ireland’s maritime zones. The United Kingdom’s assertion that Ireland makes “speculative and vexatious claims” is wholly unwarranted, particularly in a dispute between two friendly, neighbouring States.<sup>6</sup> The Tribunal will form its own view as to the merits of Ireland’s interests.

8.10. In this Chapter Ireland responds to the United Kingdom’s arguments on pollution prevention and minimisation. **Section A** briefly returns to two preliminary factual and legal

---

<sup>3</sup> G. Fitzmaurice, “The Law and Procedure of the International Court of Justice”, 1951-1954 [1957] BYIL 203 at 222.

<sup>4</sup> Sir Roger Jackling, Third UN Conference on the Law of the Sea, Official records, Vol II, para 30.

<sup>5</sup> Memorial, vol 3(1), Annex 20.

<sup>6</sup> Counter Memorial, para 7.6.

matters, namely the relationship between the MOX Plant and THORP and the character of their discharges as pollution (paras 8.11-8.15); **Section B** deals with certain observations made by the United Kingdom on general aspects of Ireland’s pollution claim, including its extent, the application of the precautionary principle, the United Kingdom’s reliance on “Best Practicable Means”, the existence of unutilised abatement technologies, the role of cost-benefit analysis and the evaluation of risk and harm (paras 8.16-8.59); and **Section C** responds to the United Kingdom’s arguments on Ireland’s specific assertions concerning violations of the 1982 Convention (paras 8.60 *et seq*).

## A. FACTUAL MATTERS

### (1) MOX AND THORP ARE LINKED

8.11. The United Kingdom’s claim to be in compliance with its obligations under Part XII of UNCLOS is based in large part on the wholesale exclusion from consideration of related discharges and risks to the Irish Sea from THORP and other activities. According to the United Kingdom, the Tribunal should look only to the discharges and risks arising directly from the MOX Plant itself. The radiological impact of these, it is said, is so insignificant as to be negligible.<sup>7</sup>

8.12. The United Kingdom additionally makes the point that

“were the MOX Plant to close immediately, this would have no effect whatever on emission levels from THORP or from the Sellafield site generally”.<sup>8</sup>

The statement is inconsistent with the evidence before the Tribunal, in particular the material which shows that THORP is expected to increase its output, to operate until 2024, and to contribute to increased discharges to the Irish Sea until 2016.<sup>9</sup> As the evidence shows,<sup>10</sup> the MOX Plant is an essential element in attracting that extra business for THORP. And the statement misses the point. The focus of Ireland’s claim is not only what happens tomorrow, but what has happened in the past (in relation to assessment and cooperation) and what will happen over the next 20 years and beyond (in relation to the obligation to reduce discharges and concentrations). The United Kingdom has authorised the production of 120 tonnes of MOX fuel per annum for a period of 20 or more years.<sup>11</sup> Ireland’s case is that it is foreseeable that this will lead to greater activity at THORP, which has not been assessed or taken into account.<sup>12</sup>

8.13. The United Kingdom has authorised the production of up to 2400 tonnes of MOX fuel. This will require approximately about 12,000 tonnes of foreign spent nuclear fuel to be reprocessed, at THORP. That will produce additional discharges. According to the

---

<sup>7</sup> Counter Memorial, para 7.11.

<sup>8</sup> Counter Memorial, para 7.12.

<sup>9</sup> See para 3.25 *et seq* and Reply, vol 3(1), Annex 167 at p. 278.

<sup>10</sup> See paras 2.7 *et seq* and the MacKerron Report, Reply, vol 2, Appendix 17.

<sup>11</sup> See para 3.41 *et seq*.

<sup>12</sup> See paras 6.20, 6.54 *et seq*.

United Kingdom's evidence the environmental consequences of these discharges have not been addressed at all in the MOX authorisation process. These environmental consequences are directly related to the authorisation of the MOX Plant, the operation of which is premised upon the availability of sufficient plutonium oxide feedstock, and whose existence is intended to attract customers for the THORP/MOX process.<sup>13</sup> They have to be taken into account in considering whether or not the United Kingdom has complied with its obligations under Part XII of UNCLOS.

(2) THE DISCHARGES INTO THE IRISH SEA FROM THE MOX PLANT AND RELATED ACTIVITIES (INCLUDING THORP) ARE "POLLUTION"

8.14. Ireland's claims are premised on the view that Part XII of UNCLOS is applicable to the planned and unplanned discharges arising from the MOX Plant and related activities (in particular THORP) because the discharges constitute "pollution" within the meaning of Article 1(4) of the Convention.<sup>14</sup> In Chapter 2 Ireland has explained why the United Kingdom's argument to the contrary is without foundation.

8.15. Ireland considers the proposition that the deliberate discharge (on an industrial scale) of any anthropogenically produced radionuclides might not constitute "pollution" to be a remarkable one coming from a State which claims to be committed to environmental protection and sustainable development. If correct (which Ireland vigorously disputes), such discharges would not be subject to the constraints of Part XII of UNCLOS at all. That proposition cannot be correct. It must be rejected by the Tribunal.

## B. GENERAL LEGAL MATTERS

(1) JURISDICTION AND APPLICABLE LAW

8.16. The United Kingdom challenges Ireland's claim that the Tribunal is entitled to have regard to and, in certain circumstances, apply the provisions of certain applicable international standards and rules adopted in accordance with UNCLOS. Ireland has responded to these arguments in Chapter 5 of this Reply.

(2) THE EXTENT OF IRELAND'S CLAIMS

8.17. The United Kingdom claims that Ireland has not addressed specific allegations of breaches in respect of certain provisions of UNCLOS, including Articles 192, 193, 207 and 211. The United Kingdom says that it "assumes that no allegation of breach is being made in respect of these provisions".<sup>15</sup>

---

<sup>13</sup> See inter alia para 3.41 *et seq.*, and the report of Gordon MacKerron Reply, vol 2, Appendix 17.

<sup>14</sup> Memorial, paras 9.61-9.68.

<sup>15</sup> Counter Memorial, para 7.32 and 8.6.

8.18. As explained in Chapter 9, that assumption is, for the most part, wrong. The Relief sought by Ireland expressly includes requests that the Tribunal order and declare that the United Kingdom has breached its obligations *inter alia* under Articles 192, 193, 207 and 211 of UNCLOS: see Memorial at paragraphs 10.15, and Amended Statement of Claim at para 41.<sup>16</sup> For the avoidance of doubt, the violations alleged are occasioned in the following manner:

- The violations of Article 192 and 193 are engaged by a finding of violation under the other provisions invoked by Ireland (in particular 194, 206, 207, 213 and 222);<sup>17</sup> and
- The United Kingdom has failed to take “other measures as may be necessary to prevent, reduce and control such pollution” from land-based sources, as required by Article 207(2); this claim forms part of Ireland’s claim in relation to violations of Article 194(3)(a): see below at paras 8.75 *et seq.*

8.19. The United Kingdom is correct to assume that no allegation of breach is now made in respect of the obligation to establish international rules and standards and to adopt laws regarding pollution from vessels, under Article 211(1) and 211(2). No application was made for relief in respect of a breach of Article 217.

### (3) THE PRECAUTIONARY PRINCIPLE

8.20. There appears to be a degree of convergence between the Parties as regards the Precautionary Principle (or approach). The United Kingdom asserts that its approach in authorising the operation of the MOX Plant is consistent with the dictates of a precautionary approach, that the formulation in Principle 15 of the Rio Declaration is a “generally accepted expression of the precautionary approach”, and that it “is content for reference to be made to the Community formulation of the principle”.<sup>18</sup> The 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”.<sup>19</sup>

8.21. Ireland considers that precaution is inherent in UNCLOS (as Judge Laing put it in his Separate Opinion in the *Southern Blue-Fin Tuna Cases*, in terms which apply not only to fisheries conservation but also protection of the marine environment).<sup>20</sup> The most familiar embodiment of precaution – in Principle 15 of the Rio Declaration – has been accepted by all the parties to UNCLOS. Ireland submits that the Tribunal should apply, as

---

<sup>16</sup> Memorial, vol 3(1), Annex 1, p 3 at p 22.

<sup>17</sup> In this regard, Ireland fails to understand the pertinence of the United Kingdom’s arguments on the ILC draft Articles on Prevention of Transboundary Harm with regard to the interpretation and application of Articles 192 and 193 of UNCLOS. The ILC’s Draft Articles purport to establish rules of general application in relation to transboundary harm: Articles 192 and 193 are conventional rules setting forth the obligation of States “to protect and preserve the marine environment” everywhere (i.e. within and beyond a state’s boundaries). Neither these provisions nor any other provisions with which the Tribunal is concerned limit the obligations geographically or substantively (the 1982 Convention nowhere refers to an obligation to prevent “significant transboundary harm” or “significant harm”).

<sup>18</sup> Counter Memorial, paras 7.52, 7.57 and 7.59.

<sup>19</sup> Memorial, para 6.23.

<sup>20</sup> *Southern Blue-Fin Tuna Cases*, Separate Opinion of Judge Laing, 27 August 1999, para 17.

a minimum, Principle 15 of the Rio Declaration, and also have regard to the more onerous and applicable rules set forth in the Article 2(2)(a) of the 1992 OSPAR Convention and in the European Community formulation of the Principle.

8.22. The Parties disagree on the manner in which the Precautionary Principle is to be applied in the context of a dispute concerning the interpretation and application of UNCLOS, and the consequences of its application. Ireland considers the application of the Precautionary Principle to be relevant in a number of ways. To begin with, defining “pollution” in such a way as to exclude radioactive discharges on an industrial-scale – as the United Kingdom proposes – is scarcely consistent with precaution. The United Kingdom’s approach is also wholly inconsistent with the commitment made by the Parties (including the United Kingdom) to the 1972 London Dumping Convention to apply a precautionary approach to the assessment of impacts of *de minimis* quantities of radionuclides on flora and fauna and the marine environment.<sup>21</sup>

8.23. Excluding radioactive discharges from pollution controls is also incompatible with a precautionary approach. In its Memorial (at paragraphs 9.80 *et seq.*) Ireland sought to explain in detail various other respects in which the United Kingdom had failed to apply a precautionary approach. The United Kingdom simply ignores the argument. A claim put with precision by Ireland is met with the dismissive response that the United Kingdom’s efforts were “in every respect consistent with the dictates of a precautionary approach”.<sup>22</sup> Nor is it satisfactory – in response to Ireland’s detailed and particularised arguments – to refer the Tribunal to lengthy extracts from recommendations of the International Commission on Radiological Protection.<sup>23</sup> The extracts to which the United Kingdom refers relate solely to the exposure of individuals and individual doses. The United Kingdom ignores 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. And it is now clear that the ICRP itself recognises that its earlier approach of focusing on doses to humans will not necessarily provide protection to flora and fauna and the marine environment.<sup>24</sup> The United Kingdom’s response is wholly inconsistent with the position it has taken under the 1972 London Dumping Convention.

8.24. And in respect of the one matter it does address – doses to individuals – the United Kingdom ignores entirely the conclusions of its own National Radiological Protection Board: “even the lowest dose of ionising radiation, whether natural or man-made, has a chance of causing cancer”.<sup>25</sup> These views are endorsed by Ireland, and reflected in the additional statements of Dr Mothersill and Professor Liber in this Reply<sup>26</sup>.

8.25. The precautionary approach also directs States to carry out prior environmental assessments (as Article 206 of UNCLOS does explicitly), and it informs the content of the assessment process. The European Commission Communication recognises that a precautionary environmental assessment comprises various elements, including hazard

---

<sup>21</sup> Reply, vol 3(2), Annex 180, p 148, Report of 23<sup>rd</sup> Consultative Meeting of Parties to the 1972 Convention, LC 23/16, 10 December 2001, p. 31, para 7.10.

<sup>22</sup> Counter Memorial, para 7.52.

<sup>23</sup> Counter Memorial, para 7.61-7.64.

<sup>24</sup> Protection of Non-Human Species from Ionising Radiation, Draft ICRP Publication, Reply, vol 3(2), Annex 184.

<sup>25</sup> Memorial, para 9.66.

<sup>26</sup> Reply, vol 2, Appendices 16, 18 and 19.

identification, hazard characterisation, appraisal of exposure and risk characterisation.<sup>27</sup> The United Kingdom appears to accept this approach, at least at the theoretical level. But in practice it ignores the approach, and does not rebut on a point-by-point basis Ireland's view that the process whereby the United Kingdom authorised the operation of the MOX Plant was not precautionary. As described in Chapter 6, a process of environmental assessment which fails to identify all the potential consequences is, by definition, not precautionary in character. Similarly, an environmental assessment which fails to consider the additional discharges arising from the increased operation of THORP is not precautionary. The United Kingdom's dilatory approach stands in sharp contrast to what is required of UNCLOS State Parties.

8.26. As described subsequently in this chapter, the application of the Precautionary Principle also informs the interpretation and application of the detailed requirements for substantive action to prevent pollution, including the requirements to apply Best Available Techniques and Best Environmental Practices.<sup>28</sup>

#### (4) BEST PRACTICABLE MEANS

8.27. In its Counter Memorial, the United Kingdom makes numerous references to the regulatory requirement that the MOX Plant (and discharges from the Sellafield site generally) comply with the standard of "best practicable means".<sup>29</sup> Specifically in relation to the MOX Plant, it is said (by Mr Parker of the Environment Agency) that the treatment through existing effluent plants (SETP) of the small amount of MOX Plant-derived liquid waste "is considered by the Agency to be BPM".<sup>30</sup> As the United Kingdom put it:

"This corresponds to the express requirement in Article 194(1) of UNCLOS for States to take all measures that are necessary to prevent, reduce and control pollution of the marine environment using the "best practicable means" at their disposal."<sup>31</sup>

8.28. "Best practicable means" is the standard applied to the whole of the Sellafield site, including MOX and THORP.<sup>32</sup> The difficulty for the United Kingdom is that the "best practicable means" standard is the one which is generally applicable to all sources of pollution (as Article 194(1) makes clear). It is the minimum standard applicable under UNCLOS to all sources of pollution. In relation to discharges of toxic, harmful or noxious substances which are persistent – such as radiation – the standard to be applied by UNCLOS is more onerous: the measures to be adopted are those "designed to minimize to

---

<sup>27</sup> Memorial, para 9.82.

<sup>28</sup> See in this regard S. Marr, *The Precautionary Principle in the Law of the Sea* (2003), at 223 ("With relation to pollution of the marine environment, the most adequate, generally accepted precautionary measures recognised by States are, license requirements, risk assessments, a reverse listing approach of hazardous substances and the obligation to use BAT.").

<sup>29</sup> See e.g. Counter Memorial, para 2.77 ("best practicable means to be used to minimise the activity of the radioactive waste produced that will require disposal under the authorisation"); paras 3.7 3.76, 7.25, 7.113, 7.122, 7.148.

<sup>30</sup> Counter Memorial, para 3.7.

<sup>31</sup> Counter Memorial, para 7.122.

<sup>32</sup> See Reply, vol 3(2), Annex 169, Schedule to Environment Agency draft Discharge Authorisation, 2002.



the fullest possible extent” the releases, as Article 194(3)(a) makes clear.<sup>33</sup> Moreover, UNCLOS Article 213 requires, as Ireland explained in its Memorial, that in relation to discharges of radioactive substances from land-based sources the United Kingdom implement the standards of “Best Environmental Practices” and “Best Available Techniques”.<sup>34</sup>

8.29. The standards of measures “designed to minimize to the fullest possible extent”, or “Best Environmental Practices”, or “Best Available Techniques” are materially more onerous than that of “best environmental practises”. In his report Mr Richard Killick looked at various discharges on the basis of techniques used or proposed in France, Japan and Germany for reprocessing. He concludes:

“...It is apparent that “cleaner technologies” exist, with examples of Best Practice and that improvements in the performance of Sellafield are achievable..[.]

The planned performance of Wackersdorf, discharging into a river, demonstrates figures thousands of times better than Sellafield. The technology to achieve this is an example of virtually clean technology and represents Best Practice. Wackersdorf was abandoned in 1989 [...], so the planned techniques are not new...”<sup>35</sup>

8.30. In relation to the proposed MOX Plant in the United States the United Kingdom does not dispute that its zero liquid discharges provides an example of cleaner available technology.<sup>36</sup>

8.31. The United Kingdom introduces no evidence or argument to demonstrate that it applied the higher standards required by UNCLOS. It provides no explanation as to why it is not required to apply measures “designed to minimize to the fullest possible extent”, or “Best Environmental Practices”, or “Best Available Techniques”. The Tribunal will search in vain for an explanation as to why the standard which is claimed to have been applied (Best Practical Means) is sufficient. It has failed even to address the arguments made by its own Radioactive Waste Management Advisory Committee (RWMAC) and the views of The Royal Society, both of which support Ireland’s view.<sup>37</sup> They are simply ignored by the United Kingdom.<sup>38</sup>

8.32. On its own evidence the United Kingdom has failed to apply the correct standard. That alone is a sufficient basis to establish a violation of the Convention.

8.33. The point applies equally to discharges arising from THORP and other parts of Sellafield which are or will be impacted by the consequence of the authorisation of the MOX Plant. The evidence before the Tribunal provides no possible basis to permit the conclusion that the United Kingdom has applied the correct standard. It has applied the wrong standard.

---

<sup>33</sup> Memorial, paras 9.12, 9.59 *et seq.*

<sup>34</sup> Memorial, paras 9.14-9.16 and 9.127 *et seq.*

<sup>35</sup> Reply, vol 2, Appendix 15, paras 4.18 and 4.20.

<sup>36</sup> Counter Memorial, Annex 7, para 6.11.

<sup>37</sup> Memorial, paras 9.118-9.119.

<sup>38</sup> *Ibid.*

## (5) ABATEMENT TECHNOLOGIES

8.34. The subject of “abatement technologies” is closely related to the standard required to be used to prevent or minimise pollution. A lower standard – such as “best practicable means” – would tend to permit a more limited use of abatement technologies. A higher standard – as required by the need to apply measures “designed to minimize [pollution] to the fullest possible extent” – necessarily implies a greater use of abatement technologies (such as those which are planned in the United States’ MOX Plant and the Japanese Rokkasho plant).

8.35. In its Memorial, Ireland identified abatement technologies that are available and which would reduce discharges from the MOX Plant, and also from THORP, very significantly. In particular, it directed the Tribunal’s attention to the fact that liquid discharges from the United States’ MOX facility would be zero.<sup>39</sup> And it made the point that in such circumstances “it cannot be claimed by the United Kingdom that it has taken measures “to minimize to the fullest possible extent” the liquid discharges from the MOX Plant.<sup>40</sup> The United Kingdom has failed to respond. The Tribunal will note what the United Kingdom does not say. It does not dispute the existence of the technologies or their application to the MOX Plant and THORP. In fact the United Kingdom has not taken issue with any of Ireland’s assertions as to the existence of abatement technologies and their non-use; instead it makes vague and unparticularised assertions as to the costs associated with such technologies. Ireland’s response to this argument is addressed below.

8.36. Ireland also directed the Tribunal to the views of the United Kingdom’s own Radioactive Waste Management Advisory Committee (RWMAC). RAWMAC said:

“[I]t is difficult to see how any significantly extended reprocessing programme could be compliant with the Government’s proposed OSPAR objectives unless substantial advances in abatement technology can be achieved.”<sup>41</sup>

8.37. The United Kingdom proposes to extend the reprocessing programme to 2024 (off the back of MOX), but requires no use of available abatement technologies. Again, the point is ignored entirely by the United Kingdom in the Counter Memorial. The United Kingdom also ignores the views expressed by the Royal Society in April 2002:

“The current waste management regime falls short of that which could be achieved through the use of currently available technologies.”<sup>42</sup>

8.38. Ireland also provided more specific information – in the form of a report prepared by Dr Barnaby – on abatement technologies currently available to reduce liquid and aerial waste discharges in respect of activities consequential to the operation of the MOX Plant.<sup>43</sup>

8.39. What does the United Kingdom say in response to these points? Very little. The views of RWMAC and the Royal Society are ignored. As to the views of Dr Barnaby, the United Kingdom claims that Mr Parker of the Environment Agency, is “highly critical” of

---

<sup>39</sup> Memorial, para 9.117.

<sup>40</sup> *Ibid.*

<sup>41</sup> Memorial, para 9.118 (emphasis added).

<sup>42</sup> Memorial, para 9.119.

<sup>43</sup> Memorial, paras 9.120-9.121. See also Reply, vol 2, Appendix 13.

Dr Barnaby's analysis.<sup>44</sup> The "criticism" amounts to one line in one paragraph of Mr Parker's statement. This does no more than accuse Dr Barnaby of (1) dealing "in a superficial way with abatement technologies" and (2) making "no attempt to balance the factors that would normally be taken into account in deciding whether to pursue any particular technology".<sup>45</sup> As to the first point, no explanation is given as to why the analysis is "superficial". Mr Parker does not take issue with any of the available technologies which are identified, he does not deny their availability, and he does not state that they would lead to no material reductions in discharges. There is no substantive challenge to Ireland's evidence. The evidence is now strengthened by additional material provided in Mr Killick's report.<sup>46</sup>

8.40. As to the second point, Mr Parker provides no convincing explanation of what factors are to be taken into account in deciding whether to pursue any given technology. Nor does he indicate in his Report whether all of those technologies identified by Ireland were actually considered, or why they have been excluded. Indeed, there is no evidence before the Tribunal to establish that any other abatement technologies were considered prior to the authorisation of the operation of the MOX Plant. Ireland's view, as expressed in its Memorial, that "no consideration was given to the use of alternative technologies which could reduce discharges to the Irish Sea and to the atmosphere to zero, or close to zero",<sup>47</sup> has not been rebutted by the United Kingdom.

#### (6) COST-BENEFIT ANALYSIS

8.41. In the absence of any real effort to address Ireland's arguments on the availability and non-use of abatement technologies, the United Kingdom's response rests on general and unparticularised assertions as to the costs of these technologies, and the need to adopt an approach based on cost-benefit analysis.

8.42. What does the United Kingdom argue on cost-benefit analysis? The substance of the argument is to be found in the report of Mr Parker. He says:

"The Agency has a duty to consider any likely costs in discharging its functions (Section 4(1) EA 95). The Agency recognises that cost is only one of a number of factors that should be considered in its decision making process. Other factors include radiological and environmental impact, health and safety, technical feasibility, waste management factors and social factors. For any decision on new or improved abatement technologies the complex process of assessing these factors is undertaken. [...] When the assessment indicates the balance is in favour of implementing new technologies the Agency will, through the regulatory regime, require BNFL to implement the new technology."<sup>48</sup>

8.43. The argument is deficient in three respects. First, it is not particularised: the United Kingdom fails to identify the cost of any of the technologies or the value of any of the benefits that would arise. Second, it is not supported by any evidence or independent

---

<sup>44</sup> Counter Memorial , para 7.148.

<sup>45</sup> Counter Memorial , Annex 7, para 6.8.

<sup>46</sup> Reply, vol 2, Appendix 15, e.g. at paras 4.21 *et seq.*, and Chapter 5.

<sup>47</sup> Memorial, para 9.124.

<sup>48</sup> Counter Memorial, Annex 7, para 5.36.

assessment or study: see below, the discussion on the Judgment of the European Court of Human Rights in *Hatton v United Kingdom*. And third, it is plainly an *ex post facto* argument intended to address Ireland's claim: there is no contemporaneous evidence before the Tribunal that the United Kingdom considered the abatement technologies that were available or that the United Kingdom rejected them on reasoned grounds at the time that the MOX Plant and THORP authorisations were given.

8.44. In this respect the United Kingdom's practice is not unprecedented. The European Court of Human Rights recently ruled that the United Kingdom violated Article 8 of the European Convention on Human Rights because its assessments of the costs and benefits of increasing night flights into Heathrow Airport were inadequate. In *Hatton v the United Kingdom*, the European Court had to assess whether a fair balance had been struck between the competing interests of the individuals (residents near Heathrow Airport who were claiming excessive noise pollution) and of the community as a whole (the United Kingdom's interest in developing the use of Heathrow Airport). Ruling by 6 votes to 1 against the United Kingdom, the European Court ruled:

“The Court would, however, underline that in striking the required balance, States must have regard to the whole range of material considerations. Further, in the particularly sensitive field of environmental protection, mere reference to the economic well-being of the country is not sufficient to outweigh the rights of others. The Court recalls that in the above-mentioned *Lopez Ostra v. Spain* case, and notwithstanding the undoubted economic interest for the national economy of the tanneries concerned, the Court looked in considerable detail at “whether the national authorities took the measures necessary for protecting the applicant's right to respect for her home and for her private and family life ...” (Judgment of 9 December 1994, p. 55, § 55). It considers that States are required to minimise, as far as possible, the interference with these rights, by trying to find alternative solutions and by generally seeking to achieve their aims in the least onerous way as regards human rights. In order to do that, a proper and complete investigation and study with the aim of finding the best possible solution which will, in reality, strike the right balance should precede the relevant project.<sup>49</sup>

The European Court went on to find that the United Kingdom had relied on industry sources but did “not appear to have carried out any research of their own as to the reality or extent of” its economic interest in night flights (para. 100) and that it had made “no attempt ... to quantify the aviation and economic benefits [of night flights] in monetary terms” (para. 101). The Court noted that “whilst it is, at the very least, likely that night flights contribute to a certain extent to the national economy as a whole, the importance of that contribution has never been assessed critically, whether by the Government directly or by independent research on their behalf.” (para. 102). The Court concluded that “in the absence of any serious attempt to evaluate the extent or impact of the interferences with the applicants' sleep patterns, and generally in the absence of a prior specific and complete study with the aim of finding the least onerous solution as regards human rights, it is not possible to agree that in weighing the interferences against the economic interest of the country – which itself had not been quantified – the Government struck the right balance in setting up the 1993 Scheme.”(para. 106).

---

<sup>49</sup> Judgment of 2 October 2001, at para 97 (emphasis added) at <http://hudoc.echr.coe.int/hudoc/ViewRoot.asp?Item=0&Action=Html&X=220192236&Notice=0&NoticeMode=&RelatedMode=0>.

8.45. Similarly, in this case the United Kingdom has not put before the Tribunal any evidence of a “serious attempt to evaluate” the costs and benefits of abatement technologies, in particular in the form of a “prior specific and complete study”. It may well be that a serious and complete study would support the United Kingdom’s argument. But none has been put before the Tribunal. The only evidence presently before the Tribunal is contained in the limited contribution from Mr Parker, which is not supported by any contemporaneous documentary material demonstrating that alternative technologies were considered by the Environment Agency in authorising the MOX Plant. The only consideration was whether discharges from the MOX Plant could be accommodated within existing limits.

8.46. There is another point: the United Kingdom’s approach to cost-benefit analysis appears to be contradicted by its own practice on technetium-99 and the evidence it has put before the Tribunal on that subject. On 11 December 2002 the United Kingdom adopted a Decision on discharges into the Irish Sea of technetium-99.<sup>50</sup> It will have the effect of reducing discharge limits from 90 TBq per annum to 10 TBq, and the possibility of a complete prohibition is being considered. Yet the United Kingdom has consistently adopted the position that there is no evidence that the historically high discharges of Tc-99 into the Irish Sea pose any credible threat to human health of the marine environment. As Mr Killick puts it:

“Nevertheless, [the United Kingdom Government] adopted a fast tracking procedure, enhanced the recommendations of the EA, and adopted very significant reductions. The approach taken to technetium-99 indicates what is possible.”<sup>51</sup>

8.47. The United Kingdom’s reliance on cost-benefit analysis suffers from a further difficulty: its approach is not permitted by any provision of UNCLOS, the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration. Nonetheless, the United Kingdom places cost in the forefront, even in its Strategy to implement the 1998 Sintra commitments.<sup>52</sup>

## (7) AUTHORISATION PROCESS AND EVALUATION OF RISK AND HARM

8.48. The United Kingdom devotes a large section of its arguments on pollution to an effort to demonstrate that it appropriately evaluated the consequences of the MOX Plant, and that it did so in application of a precautionary approach.<sup>53</sup>

---

<sup>50</sup> See Decision of the Secretary of State for the Environment, Food and Rural Affairs and the Secretary of State for Health concerning the Environment Agency’s proposed decision for the future regulation of technetium-99 (“Tc-99”) discharges from British Nuclear Fuels Plc’s (“BNFL”) Sellafield site into the Irish Sea. 11 December 2002, Reply, vol 3(2), Annex 168.

<sup>51</sup> Reply, vol 2, Appendix 15, para 3.35. See also para 3.40 of the Killick Report, on the treatment of this issue in the UK Sintra Strategy.

<sup>52</sup> See the Killick Report, Appendix 15, para 2.43.

<sup>53</sup> Counter Memorial, paras 7.113-7.146.

*Process of Evaluation*

8.49. As regards the process of evaluation, the United Kingdom makes much of the “extended nine-year process of planning and evaluation that was undertaken in respect of the MOX Plant”.<sup>54</sup> Four points may be made in response.

8.50. First, as explained above (para 8.27 *et seq*), it is apparent that in applying the standard of “best practicable means” the United Kingdom misdirected itself as to the appropriate standard to be applied during the planning and evaluation process. It did not apply, and does not claim to have applied, the standards which it was required to apply from the summer of 1998, by which time UNCLOS and applicable international rules and standards reflected in the 1992 OSPAR Convention and the 1998 Sintra Ministerial Declaration were in effect. In particular, it did not require the application of measures “designed to minimize to the fullest possible extent” pollution, or “Best Environmental Practices”, or “Best Available Techniques”.

8.51. Second, it is equally apparent – although not stated – that the operation of the MOX Plant was authorised on the basis of discharge limits which had been adopted in 1994 or 1999 (depending on the stage at which the authorisation process had reached).<sup>55</sup> The discussion as to the Environment Agency’s proposed decision of August 2002 for the “future regulation of disposals of radioactive waste from the Sellafield site” is irrelevant to the assessment of whether, when the United Kingdom adopted its MOX authorisations in October and December 2001, it had complied with its UNCLOS obligations. As is clear from the Decision of 3 October 2001, the context and standards taken into consideration by the United Kingdom were those adopted and already in force.<sup>56</sup> No regard was had to future authorisations (although it may well be that future authorisations will accommodate the unconstrained operation of the MOX Plant and THORP).

8.52. Third, the Counter Memorial confirms that in authorising the MOX Plant no regard was had to the standards required by the 1982 UNCLOS or (for the Irish Sea) the most relevant applicable international rules and standards. Not one document, or instrument referred to at the time that the decisions were taken, make any reference to those instruments. On the evidence available, the process of evaluation gave no consideration to the implications that the authorisation of the MOX Plant would have for the United Kingdom’s compliance with the requirements of Part XII of UNCLOS.

8.53. Fourth, notwithstanding its irrelevance to the assessment of the legality of the 2001 authorisation decision, the United Kingdom’s treatment of the proposed Environment Agency decision of August 2002 – in particular the reference to “a reduction in discharge limits of 80% in the case of aerial discharges and 50% in the case of liquid discharges”- is highly misleading.<sup>57</sup> It refers to limits, not actual discharges. Furthermore, it refers to limits in relation to the Sellafield site as a whole, not discharges (or discharge limits) from the MOX Plant and THORP. And it provides for an overly generous “headroom” between discharges and limits, so as not to constrain operations of THORP and the MOX Plant. These points are addressed in further detail below. In this regard, the Tribunal will have noted the United Kingdom’s failure to include in its Annexes the Appendices to its July 2002 OSPAR Strategy. Those Appendices show the true position:

---

<sup>54</sup> Counter Memorial, para 7.116.

<sup>55</sup> Memorial, para 4.9.

<sup>56</sup> Memorial, vol 3(2), Annex 92, paras 3-7.

<sup>57</sup> Counter Memorial, para 7.122.

- increased discharges from reprocessing (including THORP) in the period 2001-2005 and beyond;
- increased throughput at THORP after 2001; and
- extension of the life of THORP to 2024 and (possibly) beyond.

The United Kingdom does not explain how these figures are compatible with its arguments in these pleadings, to the effect that the authorisation of the MOX Plant will have no impact upon activities at THORP.<sup>58</sup>

#### *Scientific Evidence*

8.54. As to the scientific evidence, Ireland has made clear in Chapter 2 of this Reply – and as it has consistently sought to do – that this case is not about risks to human health relating to the discharges from the MOX Plant alone. Ireland’s claim concerns the consequences of all additional discharges arising from the authorisation of the MOX Plant – MOX, THORP, EARP, HAST, transports etc – for all aspects of the marine environment. It concerns the obligations of the United Kingdom under UNCLOS, of which harm to human health is but one element.

8.55. In Chapter 2, Ireland has addressed the state of scientific evidence after the first round of written pleadings. There are points of convergence, and there are points of difference. But the key points are that there are uncertainties: as to the effects of the gyre in the Irish Sea, as Dr Hartnett’s second report makes clear;<sup>59</sup> and on the possible effects of exposure to low-doses of radiation, as the additional reports of Dr Mothersill and Professor Liber confirm.<sup>60</sup> It is also now clear that the need to have regard to environmental effects is also recognised by the ICRP, following the adoption of a new approach in 2003.<sup>61</sup>

#### *Design, Structural and Security Considerations*

8.56. 

#### *Evaluation of Risk and Harm*

8.57. The United Kingdom asserts that the authorisation of the MOX Plant was subject to “an evaluation of risk and harm by reference to the available scientific evidence”.<sup>63</sup> The assertion misses the point.

---

<sup>58</sup> On the relationship between MOX and THORP see paras 2.7 *et seq.* The Appendices are at Reply, vol 3(1), Annex 167.

<sup>59</sup> Reply, vol 2, Appendix 14.

<sup>60</sup> Reply, vol 2, Appendices 16, 18 and 19.

<sup>61</sup> Reply, vol 3(2), Annex 184.

<sup>62</sup> 

<sup>63</sup> Counter Memorial, para 7.144.

8.58. The environmental obligations under UNCLOS are far broader than the limited objectives identified by the United Kingdom. This case is not just about doses to humans and MOX discharges, which is all the United Kingdom has addressed. The key point – with which the United Kingdom has failed to engage in its Counter Memorial, and in all its dealings with Ireland on this matter – is what the authorisation of the MOX Plant will do for the intensification and extension of the use of various parts of the Sellafield site, notably THORP. In that regard what should have been evaluated are the implications of the MOX authorisation by reference to the United Kingdom’s commitments under UNCLOS and applicable rules and standards adopted in accordance with UNCLOS.

8.59. There is no evidence that the United Kingdom evaluated the authorisation of the MOX Plant by reference to the standards required by UNCLOS, or that it evaluated the additional discharges into the Irish Sea by reference to its commitment to reduce concentration of radionuclides in the Irish Sea to “close to zero” by 2020. The United Kingdom has addressed the wrong questions. It has done so in the face of continuous efforts on the part of Ireland to make it address the right questions. It has chosen to ignore those efforts, and disabled itself from evaluating matters properly.

### C. SPECIFIC CLAIMS

8.60. Ireland turns now to address the nine specific claims it raised in its Memorial, together with the claim which was not particularised in the Memorial but is here addressed. These claims are divided into four categories:

- violations of general obligations to prevent pollution (paras. 8.61-8.74);
- violations relating to obligations to prevent pollution from land-based sources (paras. 8.75-8.89);
- violations relating to obligations to prevent pollution from vessels (paras. 8.90-8.95); and
- violations relating to obligations to prevent pollution through the atmosphere (paras. 8.96-8.98).

#### VIOLATIONS OF GENERAL OBLIGATIONS TO PREVENT POLLUTION

*(1) The United Kingdom has failed to “take all measures consistent with UNCLOS that are necessary” to prevent, reduce and control pollution of the Irish Sea*

8.61. Ireland’s claim under this head is that the United Kingdom has violated UNCLOS Article 194(1) *inter alia* by failing to carry out proper (or any) environmental assessments of the discharges from the MOX Plant, together with the THORP discharges and the potential consequences to the environment of international transports and the storage of additional quantities of radioactive wastes, and by authorising the operation of the MOX Plant and the continued and increased operation of THORP without requiring discharges to



be minimized “to the fullest possible extent”, or applying “Best Available Techniques” and “Best Environmental Practices”.<sup>64</sup>

8.62. The United Kingdom responds that the discharges from or associated with the MOX Plant are not “pollution of the marine environment.” This response is entirely without merit, for the reasons set out in Chapter 2.<sup>65</sup> Similarly without foundation is the claim that the authorisation of the MOX Plant has no consequences for the operation of THORP. As has been made clear in Chapter 2, Ireland’s claim is not that there is a “necessary and inevitable” link between the two plants, but that it is and always has been intended and foreseeable that the authorisation of the MOX Plant will give rise to increased operations at THORP (as well as other associated facilities) and that these should have been taken into account in authorising the MOX Plant.<sup>66</sup>

8.63. The United Kingdom also argues that it has appraised all the risks associated with intended and unintended discharges resulting from the commissioning and operation of the MOX Plant.<sup>67</sup> This argument is untenable once it is accepted that the United Kingdom erred in law by focusing exclusively on the narrow range of radiation dose consequences associated solely with the operation of the MOX Plant itself. Having failed to consider the consequential effects of the MOX Plant authorisation – on THORP, EARP, HAST and transports – or to properly assess effects on the marine environment the United Kingdom cannot argue that all risks have been assessed. It is notable that the United Kingdom has failed to explain why the approach proposed by Ireland of considering the project “as a whole” – which the United Kingdom adopted in relation to the NIREX proposal, and which the United States Nuclear Regulatory Commission has adopted in relation to the United States MOX facility – should not have been adopted in relation to the MOX Plant.<sup>68</sup>

8.64. The United Kingdom’s silence on the materials relating to the rejection of the NIREX proposal and the approach taken by United States regulators speaks loudly. No doubt the United Kingdom has its own strategic reasons for wishing to separate the operation of the MOX Plant from all other facilities. Having chosen that strategy, however, it must accept the logical consequences of that choice.

8.65. The United Kingdom’s fourth argument – that it has taken all measures necessary to prevent, reduce and control pollution – is flawed for the same reason. It does not assist the United Kingdom to suggest that Ireland’s approach might require “a search for zero risk or ... the complete elimination of all risk of harm or a guarantee that significant harm will be totally prevented”.<sup>69</sup> That is not Ireland’s case. Again the United Kingdom addresses arguments that Ireland has not made and ignores those that have been made. Ireland recognises that certain risks may be inherent in the activity which has been authorised, as in any industrial activity: what it seeks, and as UNCLOS requires, is confirmation that such risks have been minimised and that UNCLOS commitments to reduce discharges and concentrations of radionuclides (with all that implies for reductions

---

<sup>64</sup> Memorial, paras 9.92-9.100.

<sup>65</sup> paras 2.41 *et seq.*

<sup>66</sup> paras 2.7 *et seq.*

<sup>67</sup> Counter Memorial, para 7.70.

<sup>68</sup> Chapter 6, paras 6.50.

<sup>69</sup> Counter Memorial, para 7.71.

in discharges) have been complied with. The United Kingdom has not provided any such confirmation.

*(2) The United Kingdom has failed to take all measures necessary to ensure that the MOX Plant does not cause damage by pollution to Ireland and its environment*

8.66. Ireland's second specific claim is that the United Kingdom has violated the first part of Article 194(2) of the UNCLOS by failing to take "all measures necessary" to ensure that the authorisation and operation of the MOX Plant (together with the consequential increase in the operation of THORP, increased transports and the storage at Sellafield of additional quantities of radioactive wastes) does not cause "damage by pollution" to Ireland and its environment.<sup>70</sup> Ireland argued that the United Kingdom had not met this requirement because *inter alia* it has failed to take all necessary measures to ensure that the authorisation of the MOX Plant is consistent with its Law of the Sea commitments, including those relating to progressive and substantial reductions of radioactive discharges and reductions in concentrations of radionuclides in the Irish Sea.

8.67. Again the United Kingdom takes refuge in formalistic arguments as to the meaning of "pollution" and in its factual argument as to the relationship between the MOX plant and THORP.<sup>71</sup> For the reasons set out in Chapter 2, the arguments are without merit.

8.68. A further part of the United Kingdom's argument turns on the meaning of the word "damage" in Article 194(2). The United Kingdom treats this as being limited to "harm", "hazards", "hindrance", "impairment" and "reduction", citing the Virginia Commentary.<sup>72</sup> In fact the word "damage" is not defined in UNCLOS. Certainly it encompasses physical damage of the kind envisaged by the United Kingdom, but that includes such damage as may arise from exposure to low-levels of radiation.<sup>73</sup> It also includes loss of amenity and pure economic loss that may result from consumer concerns relating to the presence of radionuclides in fish products and on beaches.

8.69. Ireland's case is not, however, premised on having to prove the existence of any of these kinds of damage. The obligation under Article 194(2) is "to take all measures necessary to ensure" that no such damage occurs: in its Memorial and in this Reply, Ireland has identified "measures" that are available (e.g. environmental assessment, abatement technologies, the use of "Best Available Techniques" and "Best Environmental Practices" etc) and that are required by UNCLOS and applicable standards and rules adopted in accordance with UNCLOS. These are necessary measures. They have not been taken by the United Kingdom. It has not met the standard required by Article 194(2). Ireland also rejects the notion that it has no legal interest in the Irish Sea except insofar as it is entitled to claim in respect of material damage to that sea.

---

<sup>70</sup> Memorial, paras 9.101-9.104.

<sup>71</sup> Counter Memorial, para 7.74.

<sup>72</sup> Counter Memorial, para 7.75.

<sup>73</sup> See Reply, vol 2, Appendices 16, 18 and 19.

*(3) The United Kingdom has failed to take all measures necessary to ensure that pollution from the MOX Plant does not spread beyond the areas where it exercises sovereign rights*

8.70. Ireland's third specific claim is that the United Kingdom has violated the second part of Article 194(2) by failing to take "all measures necessary" to ensure that pollution arising from the authorisation of the MOX Plant (including consequential discharges from THORP) "does not spread beyond the areas" where the United Kingdom exercises sovereign rights.<sup>74</sup>

8.71. The United Kingdom does not dispute that radionuclides will enter the Irish Sea as a result of the authorisation of the MOX Plant (including from THORP) and that some will be transported beyond the waters over which the United Kingdom has jurisdiction or exercises sovereign rights and will enter Irish waters.<sup>75</sup> The United Kingdom denies, however, that these radionuclides are "pollution" within the meaning of UNCLOS.<sup>76</sup> The arguments against that view have already been set out in Chapter 2.<sup>77</sup>

8.72. The United Kingdom's remaining argument is that it has taken all measures necessary to prevent such pollution spreading to Irish waters. Specifically, it disputes Ireland's assertion that it has not put itself in a position to know what the totality of those radioactive discharges will be. There is no evidence before the Tribunal, however, which establishes the volume of all of the radioactive discharges which will or might reach the Irish Sea as a result of the authorisation and operation of the MOX Plant. In particular, the environmental assessment which the United Kingdom claims to have carried out in the period 1993 to 2001, culminating in the Decision of 3 October 2001, nowhere addresses the additional discharges which would arise, for example, from THORP in the event that the MOX Plant was to operate according to the production levels and over the period (20 years) envisaged in the 1993 Environmental Statement.

8.73. The United Kingdom has not made that information available to Ireland notwithstanding express requests: as part of the 55 Questions, Ireland asked the United Kingdom: "What additional discharges will arise from THORP as a result of [...] extra reprocessing activity?" The United Kingdom did not provide a substantive response.<sup>78</sup> The United Kingdom has now chosen to deny Ireland's argument whilst at the same time declining to make the information available to the Tribunal. Ireland's assertion at para 9.107 of its Memorial remains unchallenged. If the United Kingdom has the information it should make it available to the Tribunal, failing which the Tribunal is invited to infer that the information is not available to the United Kingdom. From that inference, the only conclusion which may be drawn is that is that the United Kingdom has authorised the MOX Plant without such information having been obtained in advance of the authorisation.

8.74. Having failed to inform itself as to how much pollution the authorisation of the MOX Plant will cause, the United Kingdom cannot claim to have taken "all measures necessary" to ensure that such pollution does not reach another State, or to have taken "all

---

<sup>74</sup> Counter Memorial, paras 9.105-9.111.

<sup>75</sup> These parts of the Reports of Dr.Nies (Memorial, Vol 2, Appendix 4) and Dr Salbu (Memorial, Vol 2, Appendix 2) reports do not appear to have been challenged.

<sup>76</sup> Counter Memorial, para 7.78.

<sup>77</sup> Paras 2.41 *et seq.*

<sup>78</sup> Memorial, Annex 7, p 74 (Questions 23 and 24).

measures necessary” to reduce discharges substantially or progressively, or to take measures to reduce concentrations of radionuclides in the Irish Sea to “close to zero”. Nor, having failed to require the use of appropriate standards (see *supra* para 8.27 et seq), or to require the use of available abatement technologies, can it claim to have taken “all measures necessary” to prevent pollution from reaching Irish waters.

VIOLATIONS RELATING TO OBLIGATIONS TO PREVENT POLLUTION  
FROM LAND-BASED SOURCES

*(4) The United Kingdom has failed to take measures designed to minimise to the fullest extent possible the release of radioactive substances arising from the authorisation of the MOX Plant*

8.75. Ireland’s fourth specific claim is that the United Kingdom has violated Article 194(3)(a) of the 1982 UNCLOS by failing to take measures to prevent pollution from land-based sources which are “designed to minimize to the fullest possible extent” the release of “toxic, harmful or noxious substances, especially those which are persistent”, from land-based sources. The United Kingdom has not challenged Ireland’s claim that the radioactive substances which will be discharged into the Irish Sea from the MOX Plant (and those discharges from THORP which are related to the MOX Plant) are toxic or harmful or noxious, and that they are persistent.<sup>79</sup>

8.76. What the United Kingdom does say is that the obligation under Article 194(3)(a) “does not create a self-standing obligation to act and it cannot therefore be relied upon by Ireland”.<sup>80</sup> The argument appears to be premised on the view that the language of Article 194(3)(a) is merely an introductory provision which does not create an obligation to act.<sup>81</sup> The United Kingdom has not made that argument in relation to Articles 194(1) and (2) and has – earlier in its Counter Memorial – expressly recognised that these provisions are to be taken with Article 194(3) as connected general obligations under Part XII of UNCLOS.<sup>82</sup>

8.77. The interpretation proposed by the United Kingdom is hardly compelling. Article 194(1) provides that

“States shall take, individually or jointly as appropriate, all measures consistent with the Convention ...”

The introductory *chapeau* to Article 194(3) provides:

“The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment”

The *chapeau* then goes on to state that:

“These measures shall include ...” (encompassed)

---

<sup>79</sup> Memorial, paras 9.112-9.126.

<sup>80</sup> Counter Memorial, para 7.82.

<sup>81</sup> Counter Memorial, para 7.81.

<sup>82</sup> Counter Memorial, para 7.25.

The list of measures is plainly not intended to be exhaustive. The plain meaning of Article 194(3)(a), read in the context of the requirements of Article 194(1) and (2), is that the United Kingdom shall take measures which are “designed to minimise to the fullest possible extent ... the release of toxic, harmful or noxious substances”. There is nothing in the language of Article 194(3)(a) to suggest that it is not capable of creating the legal obligations, and the correlative rights, which Ireland has identified.<sup>83</sup>

8.78. In any event, in the present context there is no practical difference between the formulation of Article 194(3)(a) and that of Article 207(5) (“measures ... shall include those designed to minimise to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment”). Ireland is content for its claim under this head to be based on both Article 194(3)(a) and Article 207(5) (as the relief sought requests).

8.79. In its substantive response to this claim by Ireland, the United Kingdom merely refers to its subsequent arguments denying that it failed to inform itself as to the volume of radioactive substances that will be released as a result of the authorisation of the MOX Plant and failed “to use appropriate abatement technologies”.<sup>84</sup> Ireland has addressed this point above and it applies equally in respect of this argument by the United Kingdom.<sup>85</sup>

*(5) The United Kingdom has failed to implement applicable international rules and standards to prevent, reduce and control pollution of the Irish Sea arising from the authorisation of the MOX Plant*

8.80. Ireland’s fifth specific claim is that the United Kingdom failed to take the measures “necessary to implement applicable international rules and standards established through competent international organisations or diplomatic conferences to prevent, reduce and control pollution of the marine environment from land-based sources” as required by Article 213 of the 1982 Convention.<sup>86</sup> Ireland identified numerous international rules and standards which are applicable to prevent, reduce and control marine pollution which could arise from land-based sources of pollution associated with the authorisation of the MOX Plant, and demonstrated that the United Kingdom failed to implement those rules and standards.

8.81. The United Kingdom’s response is brief. Its first argument is limited to the following statement: notwithstanding its express language Article 213 “does not incorporate such rules and standards into UNCLOS, the UNCLOS obligation being simply to take the necessary implementing measures”.<sup>87</sup> In that part of its Counter Memorial dealing with Ireland’s specific claim under Article 213, the United Kingdom does not elaborate upon this statement, or provide any further guidance as to its thinking or the

---

<sup>83</sup> An example of a treaty provision which the ICJ has ruled is not “capable of creating legal rights and obligations” is Article 1 of the 1955 Treaty of Amity, Economic Relations and Consular Rights between the United States and Iran, which provides that: “There shall be firm and enduring peace and sincere friendship between the United States . . . and Iran”: see *Case Concerning Oil Platforms* (Iran v United States), 1996 ICJ Reps . . . , para 52. Compared to that provision it should be readily apparent that Article 194(3)(a) is of an altogether different character and quality.

<sup>84</sup> Counter Memorial, para 7.82.

<sup>85</sup> *Supra*, para 8.27 *et seq.*

<sup>86</sup> Memorial, paras 9.127-9.145.

<sup>87</sup> Counter Memorial, para 7.86.

consequences to be drawn from its approach. However, later in its Counter Memorial the United Kingdom states that

“As is evident from the text [of Article 213], the focus of the obligation is on the adoption of measures within a municipal framework to give effect to international rules and standards. This reading draws support from the opening phrase of each article which requires States to “enforce their laws and regulations” adopted in accordance with articles 207 and 212 of UNCLOS. The focus of articles 213 ... is thus on the establishment of an effective municipal legal regime addressing pollution from land-based sources [...]”<sup>88</sup>

8.82. Ireland does not share the limited interpretation adopted by the United Kingdom which would, if correct, render the provision largely devoid of practical effect. The approach taken by the United Kingdom is not supported by the clear language of Article 213 (which is neither ambiguous nor obscure). That Article imposes on States Parties three distinct duties:

- a. the duty to enforce their laws and regulations adopted in accordance with Article 207;
- b. the duty to adopt laws and regulations necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources;
- c. the duty to take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources.

The United Kingdom is obliged to fulfil each of those three duties. The position taken in the Counter Memorial appears not to recognise the three distinct duties expressly prescribed by Article 213, but only the first two.

8.83. Article 213 thus requires States to adopt and enforce their laws and regulations adopted in accordance with Article 207 and to take necessary implementing measures in relation to obligations arising from Article 207 in relation to the prevention of pollution from land-based sources: the necessary implementing measures are plainly separate and distinct from the enforcement of laws and regulations.

8.84. The Oxford English Dictionary defines “implement” as:

“To complete, perform, carry into effect (a contract, agreement, etc.); to fulfil (an engagement or promise)”.<sup>89</sup>

In Ireland’s view the language of “implementation” signifies an obligation of result, not an obligation of conduct. The United Kingdom must “carry into effect” the commitments it has accepted in “applicable international rules and standards”, it must put into effect its obligations arising *inter alia* under and in relation to the 1992 OSPAR Convention (as specified in paragraph 9.129 of Ireland’s Memorial). The background to Article 213 is addressed in Chapter 5 and need not be repeated here.<sup>90</sup> It is not a defence for the United

---

<sup>88</sup> Counter Memorial, para 7.152.

<sup>89</sup> *Compact Oxford English Dictionary*, 2<sup>nd</sup> edition, 1991, p. 822.

<sup>90</sup> See paras 5.29.

Kingdom to argue that it has adopted national laws and regulations or other measures. It must demonstrate that in relation to the authorisation of the MOX Plant it has “carried into effect” its obligations, for example, to apply the precautionary principle, to require the use of “Best Available Techniques” and “Best Environmental Practices”, to “take all possible steps to prevent and eliminate pollution from land-based sources”, and to achieve “progressive and substantial reductions of discharges, emissions and losses of radioactive substances” and ensure that such discharges are “reduced by the year 2020 to levels where additional concentrations in the marine environment above historic levels ... are close to zero”. As demonstrated above, the United Kingdom has achieved none of these objectives. It is not sufficient for the United Kingdom to assert in general terms – as it does – that it has established “an effective municipal legal regime”. UNCLOS aims to achieve substantive environmental protections, not the adoption of national laws and practices.

8.85. The United Kingdom is notably defensive about Article 213. Its approach seeks to preclude the Tribunal from considering the substance of “applicable international rules and standards established through competent international organisations or diplomatic conference”, and whether the United Kingdom has complied with such substantive obligations. The reticence of the United Kingdom is unsupported by the scheme established by the 1982 UNCLOS, which plainly envisages that an Annex VII Tribunal should be able to determine whether the United Kingdom has complied with its obligation to implement the requirements of applicable international conventions and standards. Article 207(4) of the 1982 Convention calls on States (acting through competent international organizations or diplomatic conference) to endeavour “to establish ... regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine from land-based sources, taking into account characteristic regional features [...]”. In the case of the Irish Sea that endeavour has been successful. In particular, the United Kingdom and Ireland have joined with other States and the European Community in adopting, through a diplomatic conference and in accordance with UNCLOS, the 1992 OSPAR Convention, establishing the OSPAR Commission as a regional international organisation.

8.86. This is precisely the type of endeavour called for by Articles 197 and 207 of UNCLOS.<sup>91</sup> The applicable international rules and standards thereby established are subject to UNCLOS’ compulsory procedures entailing binding sections, under Section 2 of Part XV of the Convention. This is confirmed by Article 297(1)(c) of the Convention, which provides that disputes concerning the interpretation or application of the 1982 UNCLOS shall be subject to the procedures in section 2

“when it is alleged that a coastal State has acted in contravention of specified international rules and standards for the protection and preservation of the marine environment which are applicable to the coastal State and which have been established by this Convention or through a competent international organisation or diplomatic conference in accordance with this Convention.” (emphasis added).

---

<sup>91</sup> The Preamble to the 1992 OSPAR Convention expressly recalls “the relevant provisions of customary international law reflected in Part XII of the United Nations Law of the Sea Convention and, in particular, Article 197 on global and regional cooperation for the protection and preservation of the marine environment”, and reflects the Contracting Parties’ consideration that “the common interests of States concerned with the same marine area should induce them to cooperate at regional or sub-regional levels”: Memorial, vol 3 (1) Annex 74.

The international rules and standards upon which Ireland relies have been established in precisely this way. Except for OSPAR Decisions 2000/1 and 2001/1<sup>92</sup> the United Kingdom does not deny that the commitments upon which the United Kingdom relies are “international rules and standards” or that they are “applicable”. The Tribunal is entitled to and must examine those rules and standards to determine whether the United Kingdom has implemented them.

8.87. The United Kingdom’s second argument under this head is that the two applicable international standards upon which Ireland relies – paragraph 22.5(c) of Agenda 21 and various provisions of the 1995 Global Programme of Action – are recommended practices or procedures and non-binding and therefore do not fall within the scope of Article 213.<sup>93</sup> Ireland does not agree. The provisions which Ireland relies upon were adopted by diplomatic conferences. They have attracted broad, consensual support. They establish standards for the siting of radioactive waste storage and disposal facilities. Both instruments – Agenda 21 and the Global Programme of Action – were adopted in accordance with UNCLOS and make extensive reference to that Convention.

8.88. Beyond these two arguments the United Kingdom relies on its earlier arguments to the effect that discharges from the MOX Plant are not “pollution” and that no account can be taken of the consequences for the operation of THORP.<sup>94</sup> For the reasons set out above these arguments are equally without foundation in respect of Article 213.<sup>95</sup> The United Kingdom disputes Ireland’s claim that the discharges which it has now committed itself to will put it in breach of its commitments under the 1998 Sintra Ministerial Declaration.<sup>96</sup> The United Kingdom describes the allegation as speculative and premature, but provides no reasoned argument in support of that view.<sup>97</sup> As described in Chapter 3, none of these statements supports the conclusion that the discharge regime upon which the United Kingdom is now embarked – and which is premised upon the authorisation of the MOX Plant and the continued and extended operation of THORP – is even capable of achieving a reduction of additional discharges of radionuclides into the Irish Sea. The United Kingdom’s failures in respect of other matters under this head – the application of the Precautionary Principle,<sup>98</sup> the use of “Best Available Techniques” and “best environmental practises”,<sup>99</sup> the obligation to cooperate,<sup>100</sup> the obligation to carry out a proper environmental assessment<sup>101</sup> and the obligation not to promote or allow the further storage of radioactive wastes near the marine environment – are addressed elsewhere in this Reply.

8.89. Finally under this head, the Tribunal will note that there are several other arguments raised by Ireland on which the United Kingdom is silent:

- The United Kingdom has provided no response to Ireland’s assertion that it has failed to review authorisations for discharges or releases of radioactive

---

<sup>92</sup> Memorial, vol 3 (1), Annexes 78 and 79.

<sup>93</sup> Counter Memorial, para 7.87-7.89.

<sup>94</sup> Counter Memorial, para 7.90.

<sup>95</sup> Paras 2.20 *et seq.*

<sup>96</sup> Counter Memorial, para 7.90.

<sup>97</sup> See generally paras 3.12.

<sup>98</sup> *Supra* para 8.20.

<sup>99</sup> *Supra* para 8.34.

<sup>100</sup> See generally Chapter 7.

<sup>101</sup> See Chapter 6.



substances from THORP with a view to implementing the non-reprocessing option.<sup>102</sup>

- The United Kingdom has failed to make available to the Annex VII Tribunal evidence demonstrating that it has properly and genuinely considered alternatives to reprocessing at THORP.<sup>103</sup>
- The United Kingdom has not challenged Ireland's assertion that new discharge authorisations (including new and additional discharges from THORP as a result of the authorisation of the MOX Plant) are to be premised upon, and established at, such levels as would permit the operation of the MOX Plant and the extended operation of THORP.<sup>104</sup>

#### VIOLATIONS RELATING TO OBLIGATIONS TO PREVENT POLLUTION FROM VESSELS

*(6) The United Kingdom has failed to take all measures necessary to minimise to the fullest extent pollution from vessels involved in transports of radioactive substances associated with the MOX Plant*

8.90. Under this head Ireland's specific claim is that the United Kingdom has failed to take "all measures necessary" to minimize "to the fullest possible extent" pollution from vessels involved in the international transportation of radioactive substances associated with the operation of the MOX Plant, as required by Article 194(3)(b) of UNCLOS. Ireland argued that this provision requires the United Kingdom to adopt measures for *inter alia* (a) preventing accidents, (b) dealing with emergencies, (c) preventing unintended discharges, and (d) regulating the design, construction, equipment, operation and manning of vessels. Ireland further argued that the United Kingdom was in violation of these requirements by reason of its persistent failure to provide information *inter alia* on the measures which it was taking to prevent accidents, to deal with emergencies and to prevent unintended discharges.<sup>105</sup>

8.91. In response the United Kingdom makes two arguments. First, it argues (as it did in relation to Ireland's claim under Article 194(3)(a), that the provision does not create a legal obligation on the United Kingdom upon which Ireland may rely. Ireland has explained at paras 8.75 *et seq* above why that argument was not well-founded in relation to Article 194(3)(a): the same explanation applies *mutatis mutandis* in relation to Article 194(3)(b).

8.92. The United Kingdom's second argument is that Ireland has made no allegations which come within the scope of Article 194(3)(b), since that provision does not require the United Kingdom to provide information to Ireland.<sup>106</sup> The United Kingdom dismisses in their entirety the points that Ireland has made, including:

- The need to make available to Ireland information (on a confidential basis) which would provide details of routes and timetables so as to allow Ireland to

---

<sup>102</sup> Memorial, para 9.137.

<sup>103</sup> Memorial, para 9.138.

<sup>104</sup> Memorial, paras 9-140-9.141.

<sup>105</sup> Memorial, paras 9.146-9.152.

<sup>106</sup> Counter Memorial, para 7.96.

take appropriate steps to plan emergency measures to cope with accidents involving hazardous cargoes;<sup>107</sup> and

- The need to make available to Ireland appropriate information to permit Ireland to take the precautionary and preventive steps which would be needed to enable Ireland to contribute to minimizing “to the fullest extent possible” the radiological consequences which might arise from an emergency involving a vessel transporting nuclear materials in consequence of the authorisation of the MOX Plant.<sup>108</sup>

8.93. Ireland disagrees. Since it filed its Memorial the need for information has been shown to be all the more pressing and legitimate. The experience relating to the return from Japan of falsified MOX fuel returned from Japan confirms the need for Ireland to have available to it information in order to be able to take necessary protective measures, in the context of emergency planning.<sup>109</sup>

8.94. [REDACTED]

*(7) The United Kingdom has failed to ensure compliance by vessels flying its flag or of its registry, with applicable international rules and standards, and has failed to ensure that vessels associated with MOX transports are prohibited from sailing where not in compliance with those rules and standards*

8.95. Ireland’s seventh specific claim concerns the United Kingdom’s failure – under Article 217(1) of UNCLOS – to ensure compliance by vessels flying its flag or of its registry with applicable international rules and standards for the “prevention, reduction and control of pollution” of the Irish Sea.<sup>111</sup> No claim for relief was made in respect of this Article. The substance of the claim is subsumed into Ireland’s claim on non-cooperation.<sup>112</sup>

#### VIOLATIONS RELATING TO OBLIGATIONS TO PREVENT POLLUTION THROUGH THE ATMOSPHERE

*(8) The United Kingdom has failed to take measures designed to minimise to the fullest possible extent the release into the atmosphere of radioactive substances arising from authorisation of the MOX Plant*

8.96. Ireland’s eighth specific claim is that the United Kingdom has violated Article 194(3)(a) of the 1982 Convention by failing to take measures “designed to minimize to the

---

<sup>107</sup> Memorial, para 9.149.

<sup>108</sup> Memorial, para 9.150.

<sup>109</sup> See paras 7.104, 7.112-7.115.

<sup>111</sup> Memorial, paras 9.153-9.156.

<sup>112</sup> See Chapter 7.

fullest extent possible” pollution of the Irish Sea by releases into the atmosphere.<sup>113</sup> The claim is premised on the same principles as that pertaining to Ireland’s fourth claim (above at paras 8.75 *et seq*). Ireland notes that the United Kingdom has not challenged Ireland’s claim that the radioactive substances which will be discharged into the Irish Sea via the atmosphere (including those arising from THORP which are related to the MOX Plant) are toxic or harmful or noxious, and that they are persistent.

8.97. Once again the United Kingdom has not responded substantively to Ireland’s claim, taking refuge instead in a legalistic argument about the effect of Article 194(3)(a). The argument is without merit and should be rejected (see above paras 8.76 *et seq*). The United Kingdom has made no effort to address Ireland’s claim that it has failed to take all the measures necessary to minimize “to the fullest possible extent” atmospheric releases which will or may reach the Irish Sea. The United Kingdom’s evidence as to collective doses is irrelevant, focusing on claims as to impact rather than evidence as to discharges. Having excluded from its assessment the emissions from THORP and other facilities associated with the operation of the MOX Plant, the United Kingdom has chosen to place itself into a situation of ignorance as to the volume of radioactive substances that will be released to the atmosphere as a result of the authorisation of the MOX Plant. Notably, the United Kingdom has put no evidence before the Tribunal to challenge Ireland’s assertion – as stated in the report of Dr Barnaby – that “aerial discharges are considerably higher than if the best available knowledge and technology were used”.<sup>114</sup> And the United Kingdom is silent on Ireland’s assertion that on aerial (and liquid) discharges the Sellafield MOX Plant is, per ton of MOX produced, much more polluting than the proposed US MOX facility.<sup>115</sup>

*(9) The United Kingdom has failed to adopt laws and regulations and take other measures necessary to implement applicable international rules and standards to prevent, reduce and control pollution of the Irish Sea from or through the atmosphere.*

8.98. Ireland’s ninth specific claim is that the United Kingdom has failed to take the measures “necessary to implement applicable international rules and standards established through competent international organisations or diplomatic conferences to prevent, reduce and control pollution of the marine environment from or through the atmosphere, as required by Article 222 of the 1982 Convention.”<sup>116</sup> The claim is premised on the same principles as those pertaining to Ireland’s fifth claim (above at paras 8.80 *et seq*). The United Kingdom’s response mirrors the approach it has taken in respect of the Article 213 claim, and should be rejected for the same reasons.

## CONCLUSIONS

8.99. It is obvious that the United Kingdom took no account of the requirements of Part XII of UNCLOS in the process of authorising the MOX Plant and the arguments it has now advanced are not supported by any evidence to the contrary. If the United Kingdom

---

<sup>113</sup> Memorial, paras 9.157-9.169.

<sup>114</sup> *Ibid*, para 9.165.

<sup>115</sup> *Ibid*, para 9.164.

<sup>116</sup> *Ibid*, paras 9.167-9.169.

had taken account of the UNCLOS obligations on pollution prevention it would presumably have referred to them in the consultation documents, in the draft Decision in 1998, and in the Decisions adopted in and after October 2001. It would also have made available to the Tribunal internal memoranda, discussion papers and documents demonstrating its efforts to ensure compliance with UNCLOS and the applicable international rules and standards adopted in accordance with UNCLOS for the prevention of pollution by radionuclides.

8.100. There is no such evidence before the Tribunal. Nor is there any evidence to suggest any regard was had to the concerns expressed by Ireland from October 1998 onwards. These concerns were ignored.

8.101. There is no basis for concluding that the United Kingdom had regard to the UNCLOS rules for the prevention of pollution, or that it has met the requirements of those rules by other means. It applied different and lower standards to those required by UNCLOS. And it applied existing authorisations rather than the new rules which came into effect in the period between August 1997 and July 1998.

8.102. Those standards and authorisations mean that discharges from the MOX Plant and THORP will contribute to increased discharges in the coming years, rather than the reductions called for by UNCLOS. In these circumstances it cannot be said that the United Kingdom has taken the measures necessary to prevent, reduce and control pollution, as required by Articles 192, 193, 194, 207, 212, 213, 217 and 222.

**CHAPTER 9**

**THE ROLE OF THE TRIBUNAL  
AND THE RELIEF SOUGHT BY IRELAND**

9.1. Ireland seeks two forms of relief from the Tribunal. The first is a retrospective determination as to whether the United Kingdom did or did not fulfil its obligations under UNCLOS with respect to environmental assessment, prevention, reduction and control of marine pollution, and cooperation and coordination with Ireland. The second form of relief Ireland seeks is a prospective order that in order to comply with its international obligations the United Kingdom must meet certain conditions before it authorises and operates the MOX Plant and associated activities and international shipments. Ireland also asks the Tribunal to order that the United Kingdom pay Ireland's costs of the proceedings.

9.2. These requests are set out in Ireland's Statement of Claim, which reads as follows:

**RELIEF SOUGHT**

Ireland requests the arbitral tribunal to order and declare:

- 1) That the United Kingdom has breached its obligations under Articles 192 and 193 and/or Article 194 and/or Article 207 and/or Articles 211 and 213 of UNCLOS in relation to the authorisation of the MOX Plant, including by failing to take the necessary measures to prevent, reduce and control pollution of the marine environment of the Irish Sea from (1) intended discharges of radioactive materials and or wastes from the MOX Plant and additional discharges from the THORP plant arising as a consequence of the operation of the MOX Plant, and/or (2) accidental releases of radioactive materials and/or wastes from the MOX and THORP plants and/or international movements associated the MOX and THORP plants, and/or (3) releases of radioactive materials and/or wastes from the MOX and THORP plants and/or international movements associated with the MOX and THORP plants resulting from terrorist act;
- 2) That the United Kingdom has breached its obligations under Articles 192 and 193 and/or Article 194 and/or Article 207 and/or Articles 211 and 213 of UNCLOS in relation to the authorisation of the MOX Plant by failing (1) properly or at all to assess the risk of terrorist attack on the MOX Plant and associated facilities on the Sellafield site or on international movements of radioactive material associated directly or indirectly with the MOX Plant, and/or (2) properly or at all to prepare a comprehensive response strategy or plan to prevent, contain and respond to terrorist attack on the MOX Plant and associated facilities on the Sellafield site or on international movements of radioactive waste associated with the plant;

- 3) That the United Kingdom has breached its obligations under Articles 123 and 197 of UNCLOS in relation to the authorisation of the MOX Plant, and has failed to cooperate with Ireland in the protection of the marine environment of the Irish Sea *inter alia* by refusing to share information with Ireland and/or refusing to carry out a proper environmental assessment of the direct and indirect impacts on the marine environment of the MOX Plant and associated activities and/or proceeding to authorise the operation of the MOX Plant whilst proceedings relating to the settlement of a dispute on access to information were still pending;
- 4) That the United Kingdom has breached its obligations under Article 206 of UNCLOS in relation to the authorisation of the MOX Plant, including by
  - (a) failing, by its 1993 Environmental Statement, properly and fully to assess the direct and indirect potential effects of the operation of the MOX Plant and associated facilities on the marine environment of the Irish Sea; and/or
  - (b) failing, since the publication of its 1993 Environmental Statement, to assess the direct and indirect potential effects of the operation of the MOX Plant and associated facilities on the marine environment by reference to the factual and legal developments which have arisen since 1993, and in particular since 1998; and/or
  - (c) failing to assess the potential effects on the marine environment of the Irish Sea of international movements of radioactive materials to be transported to and from Sellafield and relating directly or indirectly to the operation of the MOX Plant; and/or
  - (d) failing to assess the risk of potential effects on the marine environment of the Irish Sea arising from terrorist act or acts on the MOX Plant and associated facilities or on international movements of radioactive material associated directly and indirectly with the operation of the MOX Plant.
- 5) That the United Kingdom shall refrain from authorizing or failing to prevent
  - (a) the operation of the MOX Plant and/or
  - (b) international movements of radioactive materials into and out of the United Kingdom related to the operation of the MOX Plant or any preparatory or other activities associated with the operation of the MOX Plant, in particular the reprocessing of spent fuel at the THORP plant for the purposes of the operation of the MOX Plant, until such time as (1) there has been carried out a proper assessment of the environmental consequences arising directly or indirectly from the operation of the MOX Plant and associated facilities as well as related international movements of radioactive materials, and (2) it is demonstrated that the operation of the MOX Plant and associated facilities and related international movements of radioactive materials will result in the deliberate discharge of no radioactive materials, including wastes, directly or indirectly into the marine environment of the Irish Sea, and (3) there has been agreed and adopted jointly with Ireland a comprehensive strategy or plan to prevent,

contain and respond to terrorist attack on the MOX Plant and associated facilities and international movements of radioactive waste associated with the plant;

6) That the United Kingdom pays Ireland's costs of the proceedings.

9.3. The United Kingdom makes a number of brief observations on Ireland's request for relief. It says that the orders and declarations Ireland seeks are unclear in scope; that they are in imprecise terms; that they fail to develop or particularise the allegations of breach; and that they allege as breach of UNCLOS, actions taken by the United Kingdom before it was bound by the Convention.<sup>1</sup>

9.4. These comments echo the approach taken by the United Kingdom throughout its Counter Memorial. They ignore the detailed presentation of facts and their analysis in relation to the obligations assumed by the United Kingdom under UNCLOS, made by Ireland throughout its Memorial.

9.5. The first comment, the allegation of lack of clarity<sup>2</sup> in the scope of the declarations sought by Ireland, is misconceived. The phrases "including by failing" and "*inter alia* by refusing" were not intended to invite the Tribunal to make declarations finding conduct by the United Kingdom to be in breach of UNCLOS, except in so far as that conduct is particularised in Ireland's pleadings.

9.6. The second allegation is that Ireland has not specified the measures that the United Kingdom has failed to take to reduce intended or accidental discharges from the MOX Plant or THORP.<sup>3</sup> Ireland has indicated those measures precisely in its Memorial and it has sought to clarify the position further in the preceding sections of this Reply. Those measures include a proper environmental assessment, which has regard to all the consequences of the MOX authorisations (including THORP in particular), addressing effects of discharges on concentrations (rather than doses), and giving full and proper effect to the requirements to minimise discharges to the fullest extent possible, including by applying "Best Available Techniques" and "Best Environmental Practices". Mr Killick's report, for example, refers to abatement technology that might have been, but was not, employed. Ireland has also submitted evidence that the United Kingdom defined the range of abatement technology that would be considered for the MOX / THORP operation more narrowly than UNCLOS specifies, by requiring the use of the "best practical means" rather than the "Best Available Techniques."<sup>4</sup>

9.7. The third allegation is that Ireland does not develop or particularise its claims that the United Kingdom has breached its obligations under UNCLOS Articles 207, 211, 217 or 222.

9.8. Ireland's Statement of Claim does not seek any declaration of breach of UNCLOS, Article 217. The failings of the United Kingdom with respect to enforcement by flag states and the measures required of them are subsumed within the instances of non-cooperation as explained in Chapter 8 of Ireland's Memorial and Chapter 7 of this Reply. The claim

---

<sup>1</sup> Counter Memorial, para 8.4-8.7.

<sup>2</sup> Counter Memorial, para 8.4.

<sup>3</sup> Counter Memorial, para 8.5.

<sup>4</sup> Reply, vol 2, Appendix 15.

with respect to UNCLOS Article 211 has been withdrawn.<sup>5</sup> The claims with respect to breach of UNCLOS Article 207 are particularised in the pleadings with respect to land-based discharges,<sup>6</sup> and those with respect to breach of UNCLOS Article 222 in the pleadings relating to aerial discharge.<sup>7</sup>

9.9. The United Kingdom asserts that Ireland seeks a remedy for violations of UNCLOS that occurred prior to the entry into force of UNCLOS for the United Kingdom. That is not so. The United Kingdom ratified UNCLOS on 24 August 1997. Ireland has shown that the MOX Plant was no more than a “planned activity” at that time and as such was subject to UNCLOS, Article 206. This remained the position until the Decision of 3 October 2001 authorising the operation of the MOX Plant to proceed and the Consent granted by the Health and Safety Executive on 19 December 2001.<sup>8</sup>

9.10. On 24 August 1997, accordingly, the United Kingdom incurred the immediate duty under UNCLOS to assess all of the foreseeable consequences of the authorisation of the operation of the MOX Plant, to take the necessary steps to prevent the pollution of the Irish Sea, and to cooperate and coordinate its activities with Ireland. The breach alleged by Ireland consists in the fact that between 24 August 1997 and the entry into operation of the MOX Plant the United Kingdom did not fulfil those duties. The United Kingdom should, furthermore, have taken into account during that period the environmental consequences of all foreseeable future contracts, for example. It was not entitled to disregard the foreseeable consequences of the authorisation of the MOX Plant. It may be that Ireland would be entitled to institute fresh proceedings in respect of any and every future MOX / THORP contract; but that possibility cannot diminish the scope of the United Kingdom’s obligations relating to the authorisation of the MOX Plant in 2001.

9.11. Moreover, as a practical matter it is clearly preferable that the scope of the rights and obligations of the United Kingdom and of Ireland be clarified now, so that any future contracts or authorisations can be considered and, if appropriate, made by the United Kingdom in a manner consistent with those rights and obligations.

9.12. Ireland seeks declarations from the Tribunal for the determination of the scope and nature of the United Kingdom’s obligations under UNCLOS, in order to assist Ireland and the United Kingdom in complying with those obligations in future. Ireland accepts that where treaty provisions impose procedural and positive obligations upon States there may be flexibility with respect to the precise manner of their implementation. Nevertheless, it is hoped that the Tribunal will provide clear and specific guidance on the nature and extent of those obligations, and thus enable the Parties to establish appropriate mechanisms and procedures for the implementation of their UNCLOS rights and duties.

9.13. The United Kingdom also disputes the appropriateness of the order that Ireland has sought. In its Statement of Claim, Ireland sought an order that, in essence, the United Kingdom must prevent the operation of the MOX Plant, and reprocessing at THORP for the purposes of the operation of the MOX Plant, and associated shipments of radioactive materials, until such time as the United Kingdom fulfils the relevant obligations under

---

<sup>5</sup> Reply, para 8.19.

<sup>6</sup> In particular, Memorial, paras 9.14, 9.15 and 9.16; Reply, paras 8.78, 8.82, 8.83, 8.85, 8.86.

<sup>7</sup> In particular, Memorial, paras 9.19, 9.20, 9.21, 9.167, 9.168, 9.169; Reply, para 8.98.

<sup>8</sup> Reply, paras 3.52 and 3.55.



UNCLOS. The nature of the remedy is, of course, itself a part of the dispute as to the “interpretation and application” of UNCLOS, and a matter for the Tribunal to decide.<sup>9</sup>

9.14. The United Kingdom presents four arguments as to why the Tribunal should not make such an order. First, it argues that it would be “exceptional for an international court to make a mandatory order addressed to a State at the merits stage.”<sup>10</sup> It refers to the *Gabčíkovo-Nagymaros Dam* case, asserting that there was no question of cessation of that part of the dam project that had been implemented while the Parties “looked afresh” at the environmental consequences of continuing with it.<sup>11</sup> The ICJ was constrained in that case by the terms of the Special Agreement upon which its jurisdiction was based; but nevertheless it did make positive orders with respect to the Parties’ future conduct, as well as determinations of past violations. It required the Parties to negotiate in good faith and to preserve and develop the “treaty relationship, in order to achieve its object and purpose in so far as that is feasible.”

9.15. The ICJ has in fact made mandatory orders, when appropriate, at the merits stage in other cases. For example, in the *Tehran Hostages Case* it ordered Iran to take “all steps to redress the situation resulting from the events of 4 November 1979 and what followed from these events”, in particular requiring it to terminate the unlawful detention and to release the hostages to the Protecting Power and to ensure the means for all the hostages to leave Iran.<sup>12</sup> Similarly, in the *LaGrand Case* Germany sought assurances from the United States with respect to future conduct, in effect that the United States would not proceed with legal proceedings against a German national without first complying with the 1963 Vienna Convention on Consular Relations. In particular Germany sought “to secure specific measures in cases involving the death penalty.” The United States argued that to make an order that addressed its future behaviour would go beyond the jurisdiction of the Court. It did, however, give assurances to the Court. The ICJ considered that where a State provides information with respect to “activities which it is carrying out in order to achieve compliance with certain obligations under a treaty” that is a sufficient assurance of non-repetition of the violation. It accordingly noted the commitment “undertaken by the United States to ensure implementation of the specific measures adopted in performance of its obligations...”<sup>13</sup> There is no suggestion in that case that the Court considered that in the absence of such assurances the requested order would be inappropriate. The United Kingdom has, of course, not given any comparable assurances in this case.

9.16. In the context of environmental harm, arbitral tribunals have made orders with regulatory provisions with respect to future conduct. For example, in the *Trail Smelter Case*,<sup>14</sup> the arbitral tribunal required the company to refrain from causing any further damage through discharges of fumes and ordered that the factory should be subject to a monitoring and regulatory regime determined by the tribunal.

---

<sup>9</sup> *LaGrand* (Germany v. United States) Judgment of 27 June 2001, para 48.

<sup>10</sup> Counter Memorial, para 8. 10.

<sup>11</sup> Counter Memorial, para 8.10.

<sup>12</sup> *United States Diplomatic and Consular Staff in Iran* (United States v. Iran) 1980 ICJ Rep., Judgment of 24 May.

<sup>13</sup> *LaGrand* (Germany v. United States) Judgment of 27 June 2001, para 127.

<sup>14</sup> *Trail Smelter case*, 16 April 1938, 11 March 1941; 3 RIAA 1907 (1941). In the *Bering Sea Fur Seals Fisheries Arbitration* (Great Britain v. United States), 1 Moore’s International Arbitrations 755 (1893) regulations for the “proper protection and preservation” of fur seals were issued by the Tribunal.

9.17. The United Kingdom has not demonstrated the existence of any rule or principle of international law that binds the Tribunal and obliges it to deny Ireland the right to an order of the kind that Ireland seeks.

9.18. Second, the United Kingdom argues that cessation would be “wholly inappropriate.” It repeats its assertion that the discharges of radioactivity from the MOX Plant to the marine environment are of negligible radiological significance.<sup>15</sup> But Ireland’s case is not built upon the additional dose of radiation that will result as a consequence of the operation of the MOX Plant. Ireland’s case is that the discharge of any anthropogenically-produced radionuclides into the marine environment constitutes pollution within the meaning of UNCLOS Part XII and is subject to the obligations of assessment, prevention, cooperation and coordination set out in UNCLOS. Those obligations have not been fulfilled by the United Kingdom.

9.19. Third, the United Kingdom argues that the costs to the United Kingdom of cessation of the operations of the MOX Plant would be disproportionate to the benefits to Ireland and the marine environment.<sup>16</sup> No authority is cited for the implied suggestion that international law requires that proportionality be taken into account in this way by a tribunal considering the scope of remedies. No indication is given of what any principle of “proportionality” might entail in this case. No attempt to quantify any loss or benefit to anyone other than BNFL is made. Ireland does not accept that, where a State acts in breach of international law, the fact that cessation of the breach may cause the State to lose expected revenue on commercial contracts is a reason for allowing the breach to continue.

9.20. Fourth, the United Kingdom argues that it would be inappropriate of the Tribunal to make an order that would rescind a Decision taken in accordance with a European Community Directive, and to cause BNFL to act in breach of its commitments to its customers.<sup>17</sup> These issues are irrelevant and misconceived. The European Community Decision was limited to just one aspect of the MOX authorisation (consequences for human health) and did not address environmental issues in any way, and it permitted, but did not require, the operation of the MOX Plant; and BNFL cannot by its contracts bind the United Kingdom not to fulfil its international duties.

9.21. The United Kingdom takes exception to the three conditions that Ireland seeks to have satisfied before the operation of the MOX Plant proceeds. It rejects the possibility of a proper environmental assessment prior to its continuing operation, instead preferring to allow the operation to proceed but to monitor the effects against criteria that it does not spell out.

9.22. This goes to the heart of one of the most important issues in this case. UNCLOS establishes a detailed and carefully balanced system for assessing pollution risk and taking internationally coordinated steps to prevent marine pollution. UNCLOS does not lay down any precise numerical discharge standards: instead, it lays down clear procedures to be followed in relation to activities that can be foreseen to entail the risk of polluting the sea. The protection of the environment is secured by the duty to follow the agreed procedure. UNCLOS adopts a precautionary and preventive approach. Those procedures are designed to ensure that the risks of pollution are properly assessed, and the necessary preventive measures taken. If States Parties can ignore those procedures and disclaim any

---

<sup>15</sup> Counter Memorial, para 8.11.

<sup>16</sup> Counter Memorial, para 8.12.

<sup>17</sup> Counter Memorial, para 8.13.

international responsibility unless some actionable harm is proved, that entire procedural system –on which many modern treaties other than UNCLOS are also based– is subverted. It is Ireland’s submission that States cannot opt out of procedural obligations that they have freely assumed and choose instead to run the risk of an action being brought against them in respect of any consequent harm. As Ireland stated in its Memorial, procedural requirements are important<sup>18</sup> and States are not free to abandon their procedural obligations because they consider that compliance would make no difference to the outcome. Allowing the United Kingdom to monitor the operation of the MOX Plant and associated activities would require Ireland to forego a proper advance assessment of the environmental impact of the MOX Plant and to accept an *ex post facto* response to the pollution that is expected to result from it. That is not the agreement that Ireland, or the United Kingdom, made when they became Parties to UNCLOS.

9.23. The United Kingdom’s response to the second condition is merely to reiterate its assertion that the planned discharges are negligible. As was explained in Chapter 1,<sup>19</sup> Ireland does not accept that industrial-scale discharges of radioactive waste can simply be ignored.

9.24. Finally, the United Kingdom asserts that to require it to agree and adopt jointly with Ireland a comprehensive strategy to prevent, contain and respond to terrorist attack on any such operations would intrude on the United Kingdom’s essential security interests.<sup>20</sup>

9.25. Ireland, too, has essential security interests. The operations of the MOX Plant, THORP, and associated transports create threats to Ireland’s security that are not of Ireland’s making and not under Ireland’s control. It is foreseeable that Ireland may be involved in action to prevent or thwart any such attack occurring wholly or partly at sea. It is foreseeable that the consequences of any completed attack would fall heavily not only on the United Kingdom but also on Ireland and the Irish Sea. Costs of cleaning up after any such attack would also fall upon Ireland. Ireland needs to cooperate and coordinate its emergency plans with the United Kingdom in order to adequately address those threats. It is not enough for the United Kingdom to assert that it has unilaterally assessed and dealt with the threats of terrorist attack on the MOX Plant and associated facilities and on transports of radioactive material in the Irish Sea.

9.26. Ireland recognises well the importance of confidentiality of information shared between Governments. Ireland acknowledges the right of the Tribunal to determine under UNCLOS Article 302 whether, and which, particular materials may be withheld by the United Kingdom on security grounds. However, the possible existence of such materials does not extinguish the obligation to cooperate and coordinate activities.

## CONCLUSION

9.27. Ireland respectfully renews its request for relief from the Court, in the terms set out in paragraph 9.2 above. As provided in paragraph 42 of its Statement of Claim and paragraph 10.16 of its Memorial, Ireland reserves the right to supplement and/or amend its

---

<sup>18</sup> Memorial, para 10.5.

<sup>19</sup> See *inter alia* para 1.10.

<sup>20</sup> Counter Memorial, para 8.16.

Claim and the relief sought as necessary and to make such other requests from the Arbitral Tribunal as may be necessary to preserve its rights under UNCLOS.

**LIST OF ANNEXES**

**This page intentionally left blank**

**VOLUME II**

**REPORTS AND STATEMENTS  
COMMISSIONED BY IRELAND**

**REPLY OF IRELAND, VOLUME II (APPENDICES)**

**REPORTS AND STATEMENTS COMMISSIONED BY IRELAND**

[Note: Appendix numbers continue from Appendix numbers in the Memorial]

13.	Revised Report on Liquid and Aerial Discharges from the Sellafield Mixed-Oxide Plant and THORP <b>Dr. Frank Barnaby</b> .....	1
14.	A Review of the Oceanography of the Irish Sea: Reply to the Counter-Memorial of the United Kingdom <b>Dr. M. Hartnett</b> .....	51
15.	Abatement Technology <b>Richard Killick</b> .....	61
16.	A Response to the Counter Memorial of the United Kingdom <b>Professor Howard Liber</b> .....	95
17.	Interconnections between THORP and SMP <b>Mr. Gordon MacKerron</b> .....	101
18.	Response to the Counter-Memorial of the United Kingdom <b>Dr. Carmel Mothersill</b> .....	153
19.	Low Dose Radiation Effects; Experimental Haematology and the Changing Paradigm <b>Dr. Carmel Mothersill</b> .....	167
20.	Radionuclides Discharged into the Irish Sea: Sources, Distributions and Long-term Ecosystem Behaviour” <b>Professor Brit Salbu</b> .....	187

## VOLUME III: ANNEXES

[Part One: Annexes 125-167]

[Note: Annex numbers continue from Annex numbers in the Memorial]

### A. DOCUMENTS RELATED TO UNCLOS PROCEEDINGS

125.	Letter from the Agent for the United Kingdom to the PCA, 26 November 2002.....	3
126.	Letter from the Agent for Ireland to the PCA, 27 November 2002.....	5
127.	Letter from the Agent for the United Kingdom to the PCA, 27 November 2002.....	7
128.	Letter from the Agent for Ireland to the PCA, 2 December 2002 .....	9
129.	UNCLOS Annex VII Arbitral Tribunal Order No.2, 10 December 2002 .....	11
130.	Letter from the PCA to the Arbitrators, 14 January 2003.....	13

### B. CORRESPONDENCE

#### Pre-Memorial Correspondence

131.	Letter from the Department of Transport, Energy and Communications, Ireland to the Copeland Borough Council, Cumbria, 2 February 1994.....	17
132.	Letter from RJ Metcalfe, Copeland Borough Council, Cumbria to the Department of Transport, Energy and Communications, Ireland, 25 February 1994 .....	19
133.	Letter from Mr Joe Jacob TD, Minister of State, Ireland, to Mr Michael Meacher MP, Minister for the Environment, DETR, United Kingdom, 9 July 1998 .....	21
134.	Letter from Mr Joe Jacob TD, Minister of State, Ireland, to Mr Michael Meacher MP, Minister for the Environment, DETR, United Kingdom, 23 October 1998 .....	23
135.	Letter from Mr Joe Jacob TD, Minister of State, Ireland, to Mr Nick Browne MP, Minister for Agriculture, Fisheries and Food, United Kingdom, 23 October 1998 .....	25
136.	Letter from Mr Michael Meacher MP, Minister for the Environment, DETR, United Kingdom, to Mr Joe Jacob TD, Minister of State, Ireland, 2 December 1998.....	27



137. Letter from Mr Joe Jacob TD, Minister of State, Ireland, to Mr Michael Meacher MP, Minister for the Environment, DETR, United Kingdom, 21 January 1999.....	29
138. Letter from Mr John Battle MP , Minister of State, DTI, United Kingdom, to Mr Joe Jacob TD, Minister of State, Ireland, 25 April 1999 .....	31
139. Letter from Mr Joe Jacob TD , Minister of State, Ireland, to Mr Michael Meacher MP, Minister for the Environment, DETR, United Kingdom, 18 February 2000.....	33
140. Letter from Mr Joe Jacob TD, Minister of State, Ireland, to Ms Helen Liddle MP, Minister of State, DTI, United Kingdom, 25 February 2000.....	35
141. Letter from Ms Helen Liddle MP, Minister of State, DTI, United Kingdom, to Mr Joe Jacob TD, Minister of State, Ireland, 30 March 2000.....	37
142. Letter from Mr Joe Jacob TD, Minister of State, Ireland, to Ms Claire Herdman, DEFRA, United Kingdom, 24 August 2001 .....	37

#### **Post-Memorial Correspondence**

143. Letter from the Agent for the United Kingdom to the Agent for Ireland, 12 August 2002.....	49
144. Letter from Captain Liam Kirwan, Director, Irish Coast Guard to Mr John Astbury, UK Maritime and Coastguard Agency, 12 September 2002.....	51
145. Letter from the Department of the Environment and Local Government, Ireland, to the Nuclear Industries Directorate, United Kingdom, 11 October 2002.....	53
146. Letter from the Department of the Environment and Local Government, Ireland, to the Department of Trade and Industry, United Kingdom, 18 October 2002 .....	57
147. Letter from Mr Patrick Robinson, DTI, United Kingdom, to the Department of Environment & Local Government (DOE&LG), Ireland, 8 November 2002 .....	61
148. Letter from the DOE&LG, Ireland, to Mr John Rankin, British Embassy, United Kingdom, 10 January 2003.....	63
149. Letter from the Agent for Ireland to the Agent for the United Kingdom, 17 January 2003 .....	67
150. Letter from the Agent for Ireland to the Agent for the United Kingdom, 17 January 2003 .....	69
151. Letter from the Agent for the United Kingdom to the Agent for Ireland [with 3 enclosures], 21 January 2003 .....	71
152. Letter from the Agent for Ireland to the Agent for the United Kingdom 4 February 2003.....	85

153. Letter from the Agent for Ireland to the Agent for the United Kingdom, 10 February 2003 .....	87
154. Letter from the Deputy Agent for the United Kingdom to the Agent for Ireland, 11 February 2003 .....	89
155. Letter from the Agent for the United Kingdom to the Agent for Ireland, 14 February 2003 .....	91
156. Letter from the Agent of Ireland to the Agent for the United Kingdom, 17 February 2003 .....	93
157. Letter from the Agent of Ireland to the Agent for the United Kingdom, 17 February 2003 regarding HSE license .....	95
158. Letter from the Deputy Agent for the United Kingdom to the Agent for Ireland, 19 February 2003 .....	97
159. Letter from the Agent for Ireland to the Agent for the United Kingdom, 25 February 2003 .....	99

### **C. INTERNATIONAL LEGAL INSTRUMENTS**

160. International Convention on Maritime Search and Rescue, 1979 .....	103
161. Amendments to the International Convention on Maritime Search and Rescue, 1998 .....	121
162. Joint Convention on the Safety of Spent Fuel Management, IAEA, 1997 .....	133
163. IAEA Convention on Nuclear Safety (INFCIRC/449), 1994 .....	169
164. PARCOM Recommendation 93/5 .....	181
165. London Dumping Convention, Resolution LC 51(16) .....	185

### **D. DOCUMENTS PREPARED BY UNITED KINGDOM AGENCIES/DEPARTMENTS**

166. United Kingdom Strategy for Radioactive Discharges 2001-2020, Consultation Document, Prepared by DETR, June 2000 .....	191
167. United Kingdom Strategy for Radioactive Discharges 2001-2020, prepared by DEFRA (Appendices) .....	265

[Part Two: Annexes 168-192]

**D. DOCUMENTS PREPARED BY UNITED KINGDOM  
AGENCIES/DEPARTMENTS (CONTINUED)**

168.	Decision of the Secretary of State, DEFRA, regarding the Future Regulation of Technetium-99, 11 December 2002 .....	3
169.	Environment Agency, Certificate of Authorisation and Introductory Note, Disposal of Radioactive Waste from Nuclear Site, BNFL .....	27

**E. OTHER UK DOCUMENTS**

170.	Select Committee on Defence, Seventh Special Report, Appendix: Government Response to the Defence Select Committee's Report on Defence and Security in the UK, October 2002 .....	33
171.	United Kingdom Parliamentary Office of Science and Technology Paper on MOX, April 2000.....	57
172.	United Kingdom Parliamentary Office of Science and Technology, Paper on Nuclear Terrorism, July 2002 .....	65

**F. PRESS RELEASES AND MEDIA MATERIAL**

173.	Press: <i>Nuclear Fuel</i> , 25 January 1999 .....	71
174.	Press: Channel 4 News, 16 September 2002 .....	75
175.	Press: <i>Independent</i> , 18 September 2002 .....	79
176.	Press: <i>The Guardian</i> , 18 September 2002 .....	81
177.	Press: <i>Utility Week</i> , 20 December 2002.....	83

**G. MISCELLANEOUS DOCUMENTS AND CORRESPONDENCE**

178.	British/Irish Inter-Parliamentary Body, Environmental and Social Committee Enquiry Report (Document 85), November 2002 .....	87
179.	Storage of Liquid High-Level Radioactive Waste at Sellafield, An Examination of Safety Documentation, prepared by FJ Turvey and C Hone, RPII, December 2000 .....	99
180.	Excerpts from the 21 <sup>st</sup> , 22 <sup>nd</sup> , and 23 <sup>rd</sup> Reports of the Consultative Meetings of the Parties to the London Dumping Convention regarding matters related to radioactive waste management .....	121

181. Application of Radiological Exclusion and Exemption Principles to Sea Disposal (The Concept of ‘ <i>de minimis</i> ’ for radioactive substances under the London Convention 1972), IAEA, March 1999 .....	151
182. European Commission’s Article 37 Opinion on MDF, 26 November 2002 .....	183
183. Documents relating to the European Commission’s Actions regarding Crystal Palace .....	185
184. Protection of Non-Human Species from Ionising Radiation, ICRP Draft Publication .....	191
185. US Nuclear Regulatory Commission Fact Sheet on Security Enhancements Since 11 September 2001 .....	247
186. The Economic and Commercial Justification for THORP, BNFL, July 1993 .....	251
187. Letter from BNFL to Copeland Borough Council, 2 October 1992 .....	273
188. Letter from the National Steering Committee of Nuclear Free Local Authorities to the Copeland Borough Council, Cumbria, 14 October 1993.....	277
189. Letter from the Radiological Protection Institute of Ireland (RPII) to the Department of Energy, Ireland, 8 November 1993 .....	285
190. Letter from CS Kemp to G Holder, Nuclear Safety Directorate, Health and Safety Executive, 18 December 2000.....	289
191. Letter from DOE&LG, Ireland to Dr Mohamed El-Baradei, IAEA, 10 January 2003 .....	293
192. Information Brief No. 19, BNFL, November 1992 .....	295