INTRODUCTION

- Pursuant to Article 10(5) of the Rules of Procedure prescribed by the Tribunal on 21 February 2002, the United Kingdom of Great Britain and Northern Ireland ("United Kingdom") submits this Rejoinder in response to the Reply of Ireland dated 18 July 2002 ("Ireland's Reply").
- 2. Ireland's Reply is brief. It contains no response to certain of the United Kingdom's arguments: for instance, it ignores altogether Article 292 of the Treaty establishing the European Community, although Ireland indicates that it may seek to respond on some issues at the oral hearing, without first addressing them in writing. Further, the Reply, like the Memorial, contains numerous inaccuracies. In particular:
 - (a) It is inaccurate in stating² that the United Kingdom accepts that "the heart of the case" is the question whether, on an objective analysis, the information excised from the public domain versions of the PA and ADL Reports could properly be withheld on grounds of commercial confidentiality. The United Kingdom stated in the Counter-Memorial that it challenged Ireland's case on three grounds:
 - (i) first, Article 9 of the OSPAR Convention does not establish a direct right to receive information;
 - (ii) second, the excised material is not "information" within the meaning of Article 9(2) of the OSPAR Convention;
 - (iii) third, the task of this Tribunal is to determine whether the United Kingdom has acted properly, within the range of its discretion, in withholding publication.³

¹ Reply, paragraph 2. At this stage the United Kingdom can only reserve its position on any application that Ireland may make to address during the oral proceedings any issue of which no notice is given in the written procedure.

² Reply, paragraph 3.

³ Counter-Memorial, paragraphs 1.4 to 1.6.

- In its Reply Ireland continues to use the term "environmental information" as (b) though it were quoted from Article 9 of the OSPAR Convention. 4 However, it is nowhere to be found in the text of the Convention.
- Ireland reiterates in the Reply its assertion that it should be supplied with (c) information excised from the PA and ADL Reports so that it can discover to what extent account has been taken of the costs of producing at THORP the plutonium feedstock for the MOX Plant.⁵ This ignores the fact that no information on THORP was excised from those Reports.⁶
- 3. Ireland has developed its claim that it is entitled to the excised information in order to determine what the environmental consequences of the MOX Plant could be.⁷ The subject of the PA and ADL Reports was not an assessment of the environmental consequences of the MOX Plant: it was BNFL's economic case for that Plant. The decision taken by Ministers on 3 October 2001 was not that the MOX Plant was likely to produce certain environmental consequences but that the process of manufacture of MOX fuel was justified.⁸ In any event, the OSPAR Convention does not confer on Ireland the right to all of the information supplied to the United Kingdom for the purpose of making its own assessment of the economic case for the MOX Plant.
- Ireland's Reply repeats an argument advanced in the Memorial⁹ that since Ireland 4. has placed the excised information into fourteen categories and the United Kingdom has placed it into a smaller number of categories, the United Kingdom must have conceded that there is a residual body of information, for the excision of which there can be no justification. The fallacy is obvious. Dr Varley identified eight categories into which all of the excised information fell. 10 It was by reference to those

⁴ Reply, paragraphs 4, 8, 13, 15.

⁵ Reply, paragraph 5, second indent. ⁶ Counter-Memorial, paragraph 1.23.

⁷ Reply, paragraphs 5 (first indent) and 12. Ireland states, at paragraph 12, that it wishes to have access to the excised information in order to determine whether the "environmental costs" of the MOX Plant have been accounted for: but the PA and ADL Reports did not distinguish between environmental and other costs.

⁸ Counter-Memorial, paragraph 2.8.

⁹ Memorial, paragraphs 75-77; Reply, paragraphs 5 (fourth indent) and 24.

¹⁰ Report of Dr Geoff Varley, Annex 2 to Counter-Memorial, paragraphs 1.5 and 3.6.

categories that he assessed the commercial rationale for excising the information. It is incorrect for Ireland to assert that there are five categories of information not included in any of Dr Varley's eight descriptions.

One point in the Reply is new. Ireland refers to the United Kingdom's recent White Paper *Managing the Nuclear Legacy: A Strategy for Action*, which sets out the Government's strategy for the effective management of United Kingdom public sector civil liabilities. ¹¹ Ireland claims that this confirms that the operation of the MOX Plant is not to be treated as a normal commercial operation. What the White Paper says is that:

"The economic case for operation of SMP was carefully considered by the Government, informed by advice from independent consultants. It was based on a prudent assessment of likely sales of MOX fuel to Japan, Germany, Switzerland and Sweden, using the plutonium arising from existing spent fuel reprocessing contracts. As was made clear in the 3 October 2001 decision by the Secretaries of State for Health and for the Environment, Food and Rural Affairs on the justification of MOX manufacture, the economic case was demonstrated to be strongly positive compared to the non-operation of the plant." ¹²

- 6. In the remainder of this Rejoinder, the issues arising raised in Ireland's Reply are addressed below under the following headings:
 - The Role and Function of the Tribunal
 - A Right to Receive Information?
 - The Scope of Article 9(2)
 - Legal Issues Relevant to Commercial Confidentiality
 - Factual Issues Relevant to Commercial Confidentiality
 - Concluding Submissions.
- 7. Appended to this Rejoinder are supplementary expert reports by Mr David Wadsworth and Dr Geoff Varley, respectively at Annexes 28 and 29, and a supplementary witness statement by Mr Jeremy Rycroft, at Annex 30. These reports

¹¹ Reply, paragraph 5, third indent.

¹² Annex 2 to Reply, paragraph 5.20.

and this statement address certain issues raised in the Second Report of Mr Gordon MacKerron appended as Annex 1 to Ireland's Reply (the "Second MacKerron Report"). ¹³

THE ROLE AND FUNCTION OF THE TRIBUNAL

- 8. Article 9(3) of the OSPAR Convention affirms the right of Contracting Parties ("le droit qu'ont les Parties contractantes") to provide for requests for information to be refused where it affects commercial confidentiality. The United Kingdom submits that the role and function of the Tribunal in the present case is not to address the question of commercial confidentiality de novo but to assess whether the United Kingdom acted properly in exercise of its right "to provide for a request for such information to be refused". Ireland makes two points in response.
- 9. First, it is said that the United Kingdom's case is not supported by the OSPAR Convention or other authority. ¹⁴ The United Kingdom's case is based, however, on the language of Article 9(3) of the OSPAR Convention. It is implicit in the wording of Article 9(3) that Contracting Parties have a measure of discretion when it comes to the exercise of their right to provide for requests for information to be refused. It is equally implicit that, in respect of such matters, the task of an international tribunal charged with reviewing compliance with Article 9 is to assess whether that discretion has been exercised within acceptable bounds. This approach is well-known to international law. In the field of human rights it is described in terms of a margin of appreciation. In international trade law, the task of the tribunal is commonly to apply a national standard of review and either to uphold the relevant

¹³ Ireland's Reply refers to the "Second MacKerron Report". However on its face this report is presented as though its author were an organisation, NERA (National Economic Research Associates), and some of the sections appear to be written by persons other than Mr MacKerron. It is assumed that the report is nonetheless to be treated as a second report by Mr MacKerron as opposed to NERA, which cannot be an expert and whose reports cannot be tested in the same way by cross-examination. The possibilities are that Ireland intends (i) Mr MacKerron to speak to the whole Report; (ii) different authors to speak to different sections although Ireland has not intimated this; (iii) the Report to stand as by NERA which is unsatisfactory for the reason outlined above.

¹⁴ Reply, paragraph 19.

decision of a competent national authority or to remand it to that national authority for further action. ¹⁵

Second, it is said that, as the OSPAR Convention makes no provision for the settlement of disputes by national courts, there would be no remedy in any forum on the merits of a refusal to provide information (if the United Kingdom were correct). This goes hand in hand with Ireland's interpretation of Article 9(1). However, once it is acknowledged that there is an obligation on Contracting Parties under Article 9(1) to ensure that their competent authorities *are required* to make information available in response to any reasonable request, it is evident that in any given case a requesting person will have a domestic forum in which to challenge any refusal of the request. If there were no such forum, it would be open to a Contracting Party to allege breach of Article 9(1).

A RIGHT TO RECEIVE INFORMATION?

- 11. Article 9 of the OSPAR Convention does not create a direct right to receive information in response to any particular request. It provides that each Contracting Party "ensure that its competent authorities are required" ("font en sorte que leurs autorités compétentes soient tenues") to make available the information described in paragraph 2 to any natural or legal person. To this objection, Ireland makes three replies.
- 12. First, it says ¹⁸ that as Ireland must be entitled to ask for and receive information from the "competent authorities" of the United Kingdom, the United Kingdom must be obliged to ensure that its competent authorities make that particular information available. This confuses the right to receive information, that Ireland may enjoy as a matter of the United Kingdom's domestic legislation, with the rights that it may have under international law. Ireland's right, as a natural or legal person, to receive certain information from the United Kingdom's "competent authorities" is governed

¹⁵ See for example Article 1904 and Annex 1911 of the North American Free Trade Agreement.

¹⁶ Reply, paragraph 20.

¹⁷ Reply, paragraph 9.

¹⁸ Reply, paragraph 7.

by the Environmental Information Regulations 1992 ("1992 Regulations"). ¹⁹ This is a right enforceable before the United Kingdom's courts. In contrast, the right that Ireland may assert before this Tribunal is its right, as a Contracting Party, to secure the United Kingdom's respect of its obligation under Article 9 of the OSPAR Convention to ensure that its competent authorities shall be required to make available to natural or legal persons information of the kind defined in Article 9(2), subject to the United Kingdom's right, in accordance with its national legal system and applicable international regulations, to provide for a request to be refused in certain designated cases.

- 13. Second, Ireland contends that the United Kingdom is inconsistent in recognizing that natural or legal persons have the right under Directive 90/313/EEC to receive specific information, while denying that there is such a right under Article 9 of the OSPAR Convention. ²⁰ This discloses a misunderstanding of the United Kingdom's position. Under the Directive, as under Article 9 of the OSPAR Convention, the States' obligation is to take such legislative or administrative measures as may be appropriate to achieve the stated objective. ²¹
- Third, Ireland refers to the United Kingdom's submission that the only possible cause of action for breach of Article 9 of the OSPAR Convention would be in respect of a failure to provide for an appropriate regulatory framework. Ireland questions whether this submission "is limited to Ireland (as a legal person) or relates to any natural or legal person entitled to the information". The words "entitled to the information" assume that which Ireland seeks to prove. The right that a natural or legal person may have to receive certain information is not the same as the right of a Contracting Party to secure observance of their treaty obligations by other Contracting Parties. It adds nothing to say that the United Kingdom's interpretation in this respect goes against the plain meaning of Article 9. The United Kingdom's interpretation is precisely based on the ordinary meaning of Article 9 in accordance

¹⁹ Counter-Memorial, paragraph 3.12.

²⁰ Reply, paragraphs 8-9.

²¹ Counter-Memorial, paragraph 3.11.

²² Counter-Memorial, paragraph 3.4; Reply, paragraph 10.

with the principles of interpretation set out in the Vienna Convention on the Law of Treaties²³.

THE SCOPE OF ARTICLE 9(2)

- In the United Kingdom's submission, when it becomes necessary to determine whether material constitutes information falling within Article 9(2) of the OSPAR Convention, or whether Contracting Parties have the right to provide for a request for such information to be refused under Article 9(3), that question must be answered by reference to the particular information requested. Ireland, on the other hand, asserts that it does not need to address the question of whether each individual piece of data constitutes "environmental information": the question is whether the reports as a whole are to be treated as such
- A single document may well contain some information which falls within the rubric of Article 9(2) and other information that does not do. Even a cursory review of national and international practice concerning access to information and commercial confidentiality affirms that the approach of selective redaction is universally accepted and applied. This, indeed, is entirely consistent with policies designed to facilitate the disclosure of information as it allows the vast bulk of information to be released into the public domain, restricting disclosure of only such information that the relevant authority considers is properly characterised as commercially confidential.
- On Ireland's approach, data having nothing to do with the maritime area, or activities likely to affect it, must be disclosed if it is contained within a document which, when viewed as a whole, falls within Article 9(2). That cannot be correct. It would make the duty to disclose specific items of information dependent on formal considerations: all would depend on the size and tenor of the document in which the information happened to be contained.

²³ 23 May 1969, UKTS 58 (1980); 63 AJIL (1969) 875: see Counter-Memorial, paragraphs 3.1-3.2.

Only one remaining point made by Ireland in relation to Article 9(2) of the Convention calls for a response from the United Kingdom at this stage. Ireland refers to a part of a footnote in the Counter-Memorial stating that the PA and ADL Reports do not contain information on the costs of meeting safety standards;²⁴ Ireland asserts that this "suggests that safety costs may not have been taken into account at all in the exercise of "justifying" the MOX Plant; and it requests clarification of the statement.²⁵ The point made in the footnote is that the public domain versions of the PA and ADL Reports identify the nature of any information excised. As those versions of the Reports show, there was no excision of specific information about meeting the costs of safety standards. This is not to suggest that no account was taken of those costs: rather, the cost of meeting safety standards was not separately identified in the PA and ADL Reports (and there is no reason why it should have been).

LEGAL ISSUES RELEVANT TO COMMERCIAL CONFIDENTIALITY

Addressing the legal issues relevant to commercial confidentiality, Ireland notes that the United Kingdom did not comment on a letter from the Ministry of Agriculture, Fisheries and Food ("MAFF") to Friends of the Earth dated 4 April 2001, in what Ireland terms the "Aventis case" or on a subsequent letter from the Pesticides Safety Directorate in the same matter. It is difficult to see why Ireland attributes special importance to a response of MAFF to an enquiry from Friends of the Earth in relation to disclosure of specific information about a pesticide. This is all the more so where there is no inconsistency between the MAFF letter and the United Kingdom's position in the present litigation. It appears that the draftsman of the MAFF letter of 4 April 2001 was adopting, with appropriate modification, the language of Sullivan J in the *Birmingham Northern Relief Road* case. The letter, like the judgment, distinguished between "specific information" such as information on prices and costs, which could properly be excised on grounds of commercial

²⁴ Counter-Memorial, paragraph 1.16, footnote 9.

²⁵ Reply, paragraph 16.

²⁶ Reply, paragraph 39; Memorial, paragraph 139.

The MAFF response is dated 4 April 2001 and is reiterated in a letter of the Pesticides Safety Directorate dated 6 June 2001. Both are at Annex 13 to Memorial.

²⁸ [1999] JPL 231, Annex 14 to Counter-Memorial.

confidentiality, and "general knowledge of business organisation or methods", which could not be so excised. That case is considered in some detail at paragraphs 5.9 to 5.11 of the Counter-Memorial. As the United Kingdom there explains, the approach of Sullivan J in that case is precisely the approach adopted by the United Kingdom in the present case.

- 20. Ireland continues to approach the *London Regional Transport* case as if the view of the Court of Appeal had been that the commercially confidential information in the report then at issue should not have been redacted.²⁹ The Court of Appeal's view was quite the opposite.³⁰
- Ireland uses the reference to "applicable international regulations" in Article 9(3) of 21. the OSPAR Convention, which is concerned with the right of a Contracting Party to provide for a request for information to be refused, as a springboard to include any instrument or "evolving international law or practice" that might be thought relevant to the issue of access to "environmental information". ³¹ The passage from the *Case* concerning the Gabcíkovo-Nagymaros Project³² on which Ireland relies could only be apposite insofar as Ireland could point to any relevant "new norms and standards [that] have been developed, set forth in a great number of instruments during the last two decades". It cannot do so. The Aarhus Convention, on which Ireland relies to the exclusion of all other treaties, is not in force for the United Kingdom and Ireland. 33 Ireland pleads that it has been signed; and on the basis of Article 18 of the Vienna Convention on the Law of Treaties submits that neither party should do anything to frustrate its purpose. Even if the provisions of Article 18 of the Vienna Convention (to which Ireland is not a party) reflected an established principle of customary international law (which is questionable)³⁴ there is no basis for the suggestion that the withholding of certain information, on grounds of commercial confidentiality, would "defeat the object and purpose" of the Aarhus Convention,

²⁹ [2001] EWCA Civ 1481, Annex 15 to Memorial; see Reply, paragraph 40.

³⁰ See paragraphs 5.14-5.18 of the Counter-Memorial.

³¹ Paragraph 42 of Ireland's Reply.

³² (1997) ICJ Rep. paragraph 140.

As the United Kingdom demonstrated in its Counter-Memorial, there is in fact a substantial number of international instruments addressing the exemption, on ground of commercial confidentiality, from the duty to disclose information. The principles to be deduced from those instruments run counter to Ireland's submissions.

which itself makes provision for refusal to disclose information on grounds of commercial and industrial confidentiality. ³⁵

Finally, the principles that Ireland seeks to draw from the parties' reviews of different municipal laws either ignore what is inconvenient to Ireland's case or reflect what is already or must be common ground between the parties. In this last respect, it is of course the case that a domestic tribunal applying its own law will form its own view as to the merits of an assertion of commercial confidentiality. But that does not inform the question of how an international arbitral tribunal should approach the exercise by a Contracting Party of its right, in accordance with its national legal system, to provide for a request for information to be refused.

FACTUAL ISSUES RELEVANT TO COMMERCIAL CONFIDENTIALITY

- Addressing the factual issues relevant to commercial confidentiality, Ireland in its Reply and Mr MacKerron in his Second Report question the suitability of the United Kingdom's witnesses, particularly on the ground that "none of the three witnesses have any real background in economics". Ireland adds to this criticism the comment that none of the United Kingdom's witnesses responded to a part of Mr MacKerron's first Report, containing his evaluation of two letters sent from the United Kingdom to Ireland in September 2001.³⁷
- 24. The United Kingdom's witnesses have not been asked to respond to the passages in the Second MacKerron Report which consist of submissions on the law. These include Mr MacKerron's contentions about the purpose for which the excised information was requested;³⁸ and his opinion on the effects of certain European

³⁴ See A. Aust, *Modern Treaty Law and Practice*, 2000, p. 94.

³⁵ Article 4(4).

³⁶ Reply, paragraph 44.

³⁷ Letter of 5 September 2001, Annex 4 to Memorial, page 171; letter of 13 September 2001, Annex 6 to Counter-Memorial. In the United Kingdom's view, submissions on the adequacy of those letters are properly to be made by counsel.

³⁸ Referring to paragraph 7 of Mr Wadsworth's (first) Report, Mr MacKerron repeatedly alleges that the United Kingdom admitted in its Counter-Memorial that without that information the economic case for the MOX Plant could not be assessed: Second MacKerron Report, paragraph 1.1.1, 2.1.1, B.1.1. This is incorrect.

Community Directives and on the principles set out in Hall's *Commercial Secrecy:* Law and Practice.³⁹

- 25. On the basis of the Second MacKerron Report, Ireland contends that the release of the excised information will not affect BNFL's position in relation to either customers or competitors. 40
- Ireland devotes only one paragraph of its Reply to the question of confidentiality in **26.** relation to customers:⁴¹ a point on which Ireland's case is not fully supported even by Mr MacKerron, since he concedes the case for protecting BNFL's commercial interests by presentation of "averaged" information. 42 To the extent that Ireland deals with this issue at all, it reveals its misunderstanding of the industry. It is wrong to contend that since NAC International (the organisation to which Dr Varley is affiliated) regularly sells information on costs, prices and other commercial information related to MOX, interested customers can obtain information of the kind excised from the PA and ADL Reports. Consultants such as NAC offer estimates and projections only and these generally are subject to some uncertainty. Disclosure of actual details as requested by Ireland is quite different⁴³: indeed, if the excised information were readily available to customers, simply on payment, as Ireland suggests, it would be equally available to Ireland.
- 27. Relying on the Second MacKerron Report, Ireland pleads that "If MOX were a competitive market, BNFL would certainly be able to charge more for (say) small quantities of more costly BWR fuel than for larger quantities of PWR fuel". What Mr MacKerron seems not to realize is that this is exactly what does happen, not only in the case of BNFL but in the case of all MOX fabricators. 44 Mr MacKerron is also incorrect in contending, and Ireland in accepting, that knowledge of MOX prices

³⁹ Second MacKerron Report, paragraph 4.1.7.

⁴⁰ Reply, paragraphs 22-38.

⁴¹ Reply, paragraph 32.

⁴² Second MacKerron Report, paragraph 1.7.1.

 ⁴³ See Dr Varley's (second) report (Annex 29), paragraph 2.22.
 44 See Dr Varley's (second) report, paragraphs 1.5 and 3.43.

would be unimportant to possible future competition for joint reprocessing contracts. 45

- 28. In contending that the release of the excised information will not affect BNFL's position in relation to competitors, Ireland relies on Mr MacKerron's opinion that there is no competition in the market for nuclear fuel. On this he is mistaken. Dr Varley, who gives evidence on the basis of substantial practical experience in the industry as well as his knowledge of economic theory, points out that MOX *is* part of the overall market for nuclear fuel, which is a competitive market; that there is substantial competition among BNFL, COGEMA and Belgonucléaire; that the underlying technology for MOX is heterogeneous; and in particular UOX and MOX do compete with each other.⁴⁶
- 29. Indeed, on the basis of economic theory Mr MacKerron makes several deductions which are at variance with practical experience. He is mistaken in inferring that a MOX assembly, using someone else's plutonium would never be used as a substitute for a UOX assembly; 47 and he is wrong in inferring that a shortfall in recycled MOX assemblies would not be made up by use of UOX assemblies. 48 He is wrong in asserting that no plutonium swaps have taken place: they are a standard and publicly-documented practice. 49 He is mistaken in suggesting that customers do not have flexibility in the timing of their demands for MOX fuel. 50
- 30. Mr MacKerron is in error in deducing that since COGEMA has in the past cooperated with BNFL, the former is likely to have no interest in discovering the excised information. ⁵¹ BNFL has taken care to avoid disclosing to its competitors, including COGEMA, the information excised from the PA and ADL Reports. Indeed, Mr Rycroft gives evidence, on the basis of his personal experience, for his

⁴⁵ See Dr Varley's (second) report, paragraph 3.44.

⁴⁶ See Dr Varley's (second) report, paragraphs 1.7, 2.13-2.19, 3.10-3.41

⁴⁷ See Second MacKerron Report, paragraph 5.2.6 and Dr Varley's (second) report, paragraph 2.2.

⁴⁸ See Second MacKerron Report, paragraph 5.2.3 and Dr Varley's (second) report, paragraph 2.3.

⁴⁹ See Second MacKerron Report, paragraph 6.2.8; Mr Rycroft's Second Statement (**Annex 30**), paras. 2.7-2.8 and Annex 1.

⁵⁰ See Second MacKerron Report, paragraphs C.2.3; C.5.1; Mr Rycroft's Second Statement, paras. 2.10.2.12.

⁵¹ See Second MacKerron Report, paragraphs 1.4.1; 1.4.3; 4.1.7; C.3.1; C.8.3; Mr Rycroft's Second Statement, paragraph 2.9.

conviction that BNFL has already suffered through the disclosure of some information not excised from the public domain versions of those Reports.⁵²

- 31. Mr MacKerron's argument that BNFL is a monopoly, whose power would be undiminished if its prices and costs were disclosed, overlooks the fact that even if BNFL had a monopoly in the management of customers' plutonium (which it does not) it could not exploit that position without adversely affecting its other businesses.⁵³
- Mr MacKerron makes a false analogy when comparing BNFL's business model, parts of which were excised, with a profit and loss account, which is made public. 54

 The model is a financial case for future investments disclosing expectations of future contracts and prices as well as costs. That information may be (and was in this case) based in part on confidential negotiations with potential customers whose contracts have yet to be won. Accounts record what has happened, after relevant contracts have been concluded, costs incurred and payments made. Information which is confidential when it is projected and uncertain may cease to be confidential when it relates to past events. Moreover, the MOX Plant is not a company. It is a part of a business. The published profit and loss account of a company may well fail to break data down into each sector of the company's activities so as to show the profits and losses realized by each component. 55

⁵² Mr Rycroft's Second Statement, paragraph 3.2

⁵³ Mr Rycroft's Second Statement, paragraph 2.13-2.14.

⁵⁴ See Second MacKerron Report, paragraph A.1.2.

⁵⁵ See Second Wadsworth Report (Annex 28), paragraph 13.

CONCLUDING SUBMISSIONS

- **33.** For the reasons advanced above and in the Counter-Memorial, the United Kingdom respectfully requests the Tribunal:
 - (i) to adjudge and declare that it lacks jurisdiction over the claims brought against the United Kingdom by Ireland and/or that those are inadmissible;
 - or, in the alternative,
 - (ii) to dismiss the claims brought against the United Kingdom by Ireland.
- 34. The United Kingdom further invites the Tribunal to reject Ireland's request that the United Kingdom pay Ireland's costs, and instead to order Ireland to pay the united Kingdom's costs.

M. C. Wood

Agent of the United Kingdom of Great Britain and Northern Ireland

28 August 2002