

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE SECRETARY

In the Matter of

Docket No. 110-540

U.S. DEPARTMENT OF ENERGY

(Plutonium Export License)

**SUPPLEMENTAL DECLARATION OF 11 DECEMBER 2003 OF JOHN H LARGE
IN SUPPORT OF PETITIONERS' HEARING REQUEST
AND PETITION TO INTERVENE**

Under penalty of perjury I, John **H Large**, declare as follows:

- 1 I am a citizen of the United Kingdom, a Consulting Chartered Engineer and head of Large & Associates, a UK based firm of Consulting Engineers specialising in nuclear matters.
- 2 On 26 November 2003, I submitted a declaration and technical report in support of Petitioners' Hearing Request and Petition to Intervene.
- 3 My report, reference R3112-A3, dated 26 November 2003, addresses security and environmental issues relating to the proposed *Eurofab* programme to transport plutonium dioxide from the United States to France for fabrication into MOX fuel assemblies, and thence the return of these to the United States.
- 4 The sea transit legs of Eurofab are to be undertaken in ships owned and operated by Pacific Nuclear Transport Limited (PNTL).
- 5 The United Kingdom government has an active role in providing security for PNTL ships: It acts as the Competent Authority as required by IAEA INFCIRC/225.Rev 4; it provides members of its own constabulary from the United Kingdom Atomic

Energy Agency (UKAEA);¹ and the PNTL ships are British registered and British crewed.

6 It follows that the UK government will be intimately involved with and responsible for the proper implementation of IAEA INFCIRC/225 as well satisfying the additional measures required by the US Department of Energy (DOE) to protect and safeguard the United States-origin strategic special nuclear material involved in Eurofab. The UK government implements these measures through its Department of Trade & Industry and, specifically, through its agency the Office of Civil Nuclear Security (OCNS).

7 In paragraph 5.8 of my original report I noted that (at that date) the UK government's Radioactive Material Transport Division (RMTD) and the Office of Civil Nuclear Security (OCNS) had not responded to my enquiries on the overseeing of security of PNTL ships that are to carry the Eurofab shipments.

8 I have now received a response to my e-mail enquiries directly from the RMTD and on behalf of OCNS – I have attached this correspondence as Appendix I.²

9 The correspondence in Appendix I demonstrates that British Nuclear Fuels (BNFL), which is the principal owner³ and licensee of the two PNTL ships that are to be used to transport plutonium from the United States to and from France, has not yet submitted a transport plan to the UK competent authority.

10 This is clear from the e-mail of 1 December 2003 (correspondence item [4] of Appendix I) in which Mike Smith of UK government Department of Trade & Industry (DTI) states "*BNFL has not submitted any transport plan for Eurofab*".

1 The UKAEA police force is a government police force with the same powers of arrest, etc., as the Metropolitan (London) and County Polices forces (ie it is not a private security agency). Members of the UKAEA Police Authority (its governing Board) include the Director General of the OCNS and a member of the DTI Nuclear Industries Directorate and it operates under the auspices of the HM Government DTI.

2 I copied a draft of this supplemental declaration to Mr Young and Mr Smith of the RMTD and DTI respectively, inviting each of them to correct any unintentional misrepresentation that I may have made about the communications of Appendix I. Since I have not received any response from them, I assume that they do not dispute my reading and interpretation of the communications.

3 BNFL owns approximately 65% of the issued shares of PNTL, 25% is held a consortium of Japanese nuclear power station operators, and the remainder is held by COGEMA of France (as of 1996). BNFL is a wholly owned company with its single share being under the control of the UK Government Secretary of State for Trade and Industry.

11 I believe that Mr Smith is the UK government officer responsible for nuclear security policy issues, as spelled out by Mr Young of RMTD (correspondence item [2]). As such, M Smith clearly has the authority to respond on behalf of the UK government’s nuclear security agency OCNS, to whom my original enquiry was addressed (correspondence item [3]).

12 Mr Smith further confirms that UK government agencies will be responsible for approving the Eurofab sea transport stages:

“... ”

If and when a plan is received it will be scrutinised in the normal way to ensure arrangements satisfy requirements. What those requirements are should become clearer in the fullness of time. As you rightly suppose, OCNS would have a role here and they are, of course, conversant with LAEA and RADSAFE guidelines and standards.

...”

13 I am surprised that at this stage in the US export licensing process for Eurofab, Mr Smith clearly does not know what the ‘requirements’ will be, particularly because these US-mandated physical security and safeguards requirements are made very clear in Sections 5.1, 5.3, 5.5 and 5.7 of the Supplement Analysis⁴ prepared by the US DOE.

14 Moreover, Mr Smith implies that the IAEA and RADSAFE guidelines and standards will be sufficient, seemingly being unaware that the US DOE requires ‘additional’ safeguards and protective measures for ‘strategic special nuclear material’. Again, this is clearly spelled out in the Supplement Analysis and other related documents, and is discussed in Section 4 of my report R3112-A3.

15 Also, the US DOE makes specific reference⁵ to the ‘Stored Weapons Standard’ as being one such additional measure essential for the protection and safeguarding of the outward and return shipments of plutonium dioxide and the mixed oxide fuel assemblies. It is quite clear from the US DOE documentation that this *Stored*

⁴ Supplement *Analysis, Fabrication of Mixed Oxide Fuel Lead Assemblies in Europe*, November 2003, US DOE/EIS-0229-SA3

⁵ *Surplus Plutonium Disposition Environmental Impact Statement (SPD EIS)*, (DOE/EIS 0283, November 1999) (DOE 1999b).

Weapons Standard is to be applied to all stages of the transfers, including the 3,300 or so miles of each outward and return sea leg across the Atlantic.

16 It is surprising, therefore, that Mr Smith acknowledges that “*Regarding the US Stored Weapons Standard I regret I have no knowledge of this.*”

17 **In conclusion:**

18 I do not believe that the UK government will allow use of PNTL ships for Eurofab without first reviewing a transport or shipping plan in accordance with its obligations under INFCIRC/224 and 225. Therefore, it is troubling that the US DOE has applied to the US Nuclear Regulatory Commission (NRC) for an export license before BNFL, the principal operator of the PNTL ships, has submitted and sought approval of the protection and security aspects of the transport plan from the UK government competent authority (OCNS).

19 It also concerns me that a UK civil servant (Mr M Smith) in the UK government department specifically responsible for nuclear security policy (and in practice who answers for OCNS), seems to be genuinely oblivious of the special and additional protective and security measures (the *Stored Weapons Standard*) required by the US DOE for transport of strategic special nuclear material.

20 Without a specific OCNS review and approval of the PNTL arrangements, including assessment of the human resource, weaponry and technical equipment levels to be available on board and in support of the PNTL ships (which may differ from previous shipments to and from Japan), it is not possible to evaluate the veracity or reliability of the analysis and conclusions of the US DOE 1996 PEIS⁶ and the 2003 Supplement Analysis relating to the potential effect of ocean transport on the global commons, and for the US east coast dispatching and receiving ports (Charleston etc).

21 In my view, the DOE should not have submitted the export license request, or finalised its Supplement Analysis, before receiving a UK government approved shipping plan. The same shipping plan should also have been made available to the US State Department for review.

- 22 In this respect, with the Eurofab consignments being carried on UK government controlled ships (because, for one thing, the shipping plan is UK government approved), the United Kingdom should also be identified as a ‘recipient state’ of the plutonium.
- 23 The DOE plans to put the plutonium into the hands of a foreign state (here the United Kingdom) whilst the consignments are in transit on the high seas. Thus, it is important that the NRC also duly authorise an export license for the ship transport phases by the United Kingdom. Yet, to my knowledge, no request has been made in the export license application filed by DOE to involve the UK as a recipient state.
- 24 These deficits and shortfalls in the UK and US approach to complying with IAEA INFCIRC/225 and the additional requirements stipulated by the US DOE, strengthen my conviction that the DOE’s export license application is premature, incomplete (since it omits the UK as a recipient state), and that consideration of the application by the NRC should be postponed until both of the overseas states (United Kingdom and France) have completed their respective security and safeguards approvals and submitted details of these to the US DOE.

Executed and dated 11 December 2003.



JOHN H LARGE

APPENDIX I CORRESPONDENCE WITH RMTD & OCNS

[1] TO RMTD, HM DEPARTMENT FOR TRANSPORT

Subj: **Eurofab Programme - IAEA INFCIRC/224**
Date: 20/11/2003
To: clive.young@dft.gsi.gov.uk
CC: tom.clements@wdc.greenpeace.org, shaun.burnie@ams.greenpeace.org, xavier.coeytaux@wise-paris.org

I am presently preparing a statement which is to be part of a request for a NRC Hearing relating to the Surplus Plutonium Disposition Programme of the United States. For this I am instructed by Greenpeace International.

As you are no doubt aware, the so-called Eurofab program involves the one-off transportation of plutonium dioxide from a US east coast port to Cherbourg, land transfer of the consignment to Cadarache for fabrication of four lead MOX fuel assemblies and return of these to Cherbourg for sea shipment back to the United States.

I understand that for both delivery and return sea journeys (the oxide and MOX) consignments are to be carried by the PNTL ships Pacific Pintail and Teal. Relating to the physical protection and security of these shipments (under IAA INFCIRC/224), I ask for your response on the following:

- 1) Since these ships are British registered vessels and I understand are to be crewed by a British registered company (James Fisher & Sons), will your division (RMTD) act as the Competent Authority and will the United Kingdom be the Transit State in accord with the IAEA requirements; and, if so,
- 2) Other than compliance with IAEA INFCIRC/225, does the UK apply/operate any additional standard of materials security, particularly that being commensurate with the US requirements for what it refers to as 'strategic special nuclear material';
- 3) is it correct to assume that that the carrier's RADSAFE plan has been approved and is to be put in place for the transits; and
- 4) under the INFCIRC/224 convention has the UK concluded a formal agreement with the other states (United States and France) ensuring that the appropriate physical protection measures will be implemented; and
- 5) have licenses containing the appropriate physical protection provisions been issued ?

I would appreciate an early and frank response from you in order that I may meet the somewhat pressing US timescales.

John H Large

[2] FROM RMTD, HM DEPARTMENT FOR TRANSPORT

Subj: **Re: Eurofab Programme - IAEA INFCIRC/224**
Date: 01/12/2003 14:27:30 GMT Standard Time
From: Clive.Young@dft.gsi.gov.uk
To: Largeassociates@aol.com
CC: smith.gwia.ETHOSIA_GWD@dtlr.gsi.gov.uk

Dear Mr Large,

I apologise for the delay in responding to your enquiry, copied below, which was received while I was out of the office.

Your enquiry is entirely concerned with the UK's security (as distinct from safety) obligations under the Convention on the Physical Protection of Nuclear Material (IAEA INFCIRC/274) and its application of the IAEA's recommendations in the document, "Physical Protection of Nuclear Material and Nuclear Facilities", INFCIRC/225.

These are matters for the Department of Trade and Industry's Office for Civil Nuclear Security (OCNS), which is the UK's civil nuclear security regulator. I am therefore referring your enquiry to the DTI office which has policy responsibility for civil nuclear security matters. The officer concerned is Mr Mike Smith at the DTI, 1 Victoria Street, London, SW1H 0ET. To avoid unnecessary delay, I am copying this e-mail directly to him.

Clive Young
Radioactive Materials Transport Division
Floor 2/Zone 33
Great Minster House
tel: 020-7944-5795
GTN 3533-5795

[3] **TO OCNS, HM DEPARTMENT OF TRADE & INDUSTRY**

Subj: **Eurofab**
Date: 21/11/2003
To: chris.dixon@ocns.gsi.gov.uk
CC: tom.clements@wdc.greenpeace.org, shaun.burnie@ams.greenpeace.org, mike.smith@dti.gsi.gov.uk,
jonathan.cook@dti.gsi.gov.uk, michael.buckland-smith@ocns.gsi.gov.uk

Chris

I am presently preparing a statement which is to be part of a request for a NRC Hearing relating to the Surplus Plutonium Disposition Programme of the United States. For this I am instructed by Greenpeace International.

As you are no doubt aware, the so-called Eurofab program involves the one-off transportation of plutonium dioxide from a US east coast port to Cherbourg, land transfer of the consignment to Cadarache for fabrication of four lead MOX fuel assemblies and return of these to Cherbourg for sea shipment back to the United States.

I understand that for both delivery and return sea journeys (the oxide and MOX) consignments are to be carried by the PNTL ships Pacific Pintail and Teal. Relating to the physical protection and security of these shipments (under IAA INFCIRC/224), since these ships are British registered vessels and I understand are to be crewed by a British registered company (James Fisher & Sons), and will have on board officers from the UKAEA constabulary, I ask for your response on the following:

- 1) if your office has considered the security issues for this shipment, including an evaluation of the RADS SAFE Summary Plan specifically relating to these shipments;
- 2) if, in addition to the protection and security measures of IAEA INFCIRC/225, any further measures or standards of materials security, particularly that being commensurate with the US requirements for what it refers to as 'strategic special nuclear material' and to which it applies its 'Stored Weapons Standard';
- 3) If the UK does not apply the US 'Stored Weapons Standard', say for reason that it does not have access to this, perhaps you could advise me if there is an equivalent UK standard and, if so, where I might gain access to this ?

I would appreciate an early and frank response from you in order that I may meet the somewhat pressing US timescales - I have copied this e-mail to Messrs M Smith and J Cook at the DTI because of their previous interest in a past similar enquiry.

John H Large

[4] **FROM DEPARTMENT OF TRADE & INDUSTRY FOR OCNS**

Subj: **RE: Eurofab**
Date: 01/12/2003 13:01:09 GMT Standard Time
From: Mike.Smith@dti.gsi.gov.uk
To: Largeassociates@aol.com

Dear Mr Large

I have been asked to reply to your email below to Chris Dixon, who has retired. BNFL has not submitted any transport plan for Eurofab. If and when a plan is received it will be scrutinised in the normal way to ensure arrangements satisfy requirements. What those requirements are should become clearer in the fullness of time. As you rightly suppose, OCNS would have a role here and they are, of course, conversant with IAEA and RADS SAFE guidelines and standards. Regarding the US Stored Weapons Standard I regret I have no knowledge of this.

Mike Smith