

THE SHIPMENT OF NUCLEAR MATERIAL  
THROUGH THE PACIFIC OCEAN: SEEKING  
ADVANCE ASSURANCES OF SUPPORT IN  
A NON-RELEASE INCIDENT

*Caroline E Foster\**

***I INTRODUCTION***

Pacific island states (PIS) have been concerned for some time about the shipment of radioactive material through the Pacific Ocean and the potential effects on their economies of any accident in the course of shipment. The shipment of radioactive material consistently occupies a place on the agenda at meetings of the Pacific Islands Forum leaders. However, in light of more pressing issues associated with the continued development of the region, economic questions dealing with the shipment of radioactive material in the Pacific may not dominate the discussions. PIS have clear and present needs to provide for investment in the region, to protect access to export markets, to ensure macroeconomic stability and to secure technical assistance on trade and economic issues. They must also address broader international environmental concerns, including the need for ongoing assessment and planning in relation to climate change, climate variability and sea level rise. Nevertheless, as discussed in this

---

\* Lecturer in Law, Faculty of Law, University of Auckland. With many thanks to Isaac Hikaka, Chapman Tripp Research Assistant 2003-2004, for research on the transportation of radioactive material in the Pacific region, and to Julia Schwartz of the OECD for materials.

paper, the situation of PIS' economic vulnerability to accidents in the course of the shipment of radioactive material through the Pacific is not adequately addressed under existing international law. PIS do not, therefore, have confidence that they would necessarily be treated with the requisite consideration should an accident occur in the course of shipment of radioactive material.

Plutonium waste has been shipped at irregular intervals from Japan to France and the United Kingdom for reprocessing and return to Japan, frequently in vessels flagged to the United Kingdom. Further global shipments of radioactive material may well occur in the future, in light of increasing reliance on nuclear power worldwide, combined with the desirability of reprocessing plutonium surplus to military requirements.<sup>1</sup> Although not all shipments will pass through the Pacific, the dilemma of the PIS provides an engaging study and focus for discussion.

The contaminatory potential of the radioactive substances being shipped is of obvious concern,<sup>2</sup> but PIS' primary anxiety is that an

---

1 The voyages of the Pacific Pintail and the Pacific Teal from Charleston in South Carolina to the French port of Cherbourg in October 2004 provide an example. Companies involved in shipments from Japan have included British Nuclear Fuels (BNFL), the French operator *Companie Générale des Matières Nucléaires* (COGEMA) and the Japanese Tokyo Electric Power Company (TEPCO). From time to time press releases are issued providing bulletins on certain vessel movements. See for example "*Pacific Pintail* Docks Safely and Securely at Barrow" BNFL <<http://www.bnfl.com>> (last accessed 17 January 2005). Voyages through the Pacific by a number of vessels have attracted attention and concern. Coastal states demonstrated their views about the hazards posed by the cargo of the *Akatsuki Maru* by seeking to avert the vessel's passage through their waters in 1992. For further detail see Ben Boer, Ross Ramsay and Donald Rothwell *International Environmental Law in the Asia Pacific* (Kluwer Law International, London, 1998) 63-64. Controversy arose also over the voyage of the *Pacific Swan*, which left Cherbourg for Japan in December 2000.

2 In this regard the protection of shipping from terrorist attack has become a live issue. Reports of actual and suspected terrorist attacks on oil tankers featuring in the media in 2004 draw attention to the hazard: Michael Richardson "Ships of Terror" (21 April 2004) *The New Zealand Herald* Auckland; "France says US Wrong about Suspects" (3-4 January 2004) *Weekend Herald* Auckland. Ireland has cited risks of terrorist attack on nuclear fuel shipments in the context of the

accident or incident involving a shipment could have serious adverse effects on their economies, even if there were no escape of radioactive material. This is the feature of PIS' situation that is most challenging in terms of identifying international legal rules and mechanisms providing them with adequate protection against the effects of an incident in the course of shipment. The small size and relatively undiversified character of PIS economies, paralleled perhaps only in the Caribbean region, would render them especially vulnerable to the media exposure and consumer reaction associated with an incident. The media coverage that would follow an incident would produce a situation where travel to the vicinity of the incident and consumption of products from that area, whether or not a release of radioactive material had actually occurred, might be perceived as activities to which undesirable risks attached. The tourism sector is particularly exposed, as are sectors of primary production, most specifically the fisheries industry, which clearly stand to be affected even by an accident some distance from shore. Consumers will be aware of the potential for radioactive contamination to go undetected and yet to produce serious effects many years later for those exposed to it, or for their children. Their level of trust in the nuclear industry, and in the

---

ongoing dispute between Ireland and the United Kingdom on the commissioning of a reprocessing facility at Sellafield, in Cumbria: International Tribunal for the Law of the Sea *The Mox Plant Case* (Ireland v United Kingdom) Request for Provisional Measures Order (3 December 2001) International Tribunal for the Law of the Sea <<http://www.itlos.org>> (last accessed 19 January 2005); 41 ILM 405; Permanent Court of Arbitration *Dispute Concerning Access to Information under Article 9 of the OSPAR Convention* (Ireland v United Kingdom) Final Award (2 July 2003) Permanent Court of Arbitration <<http://www.pca-cpa.org>> (last accessed 19 January 2005); 42 ILM 1116; Permanent Court of Arbitration *The Mox Plant Case: Arbitral Tribunal Constituted Pursuant to Article 287, and Article 1 of Annex VII, of the United Nations Convention on the Law of the Sea for 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) Order No 3 (24 June 2003) Permanent Court of Arbitration <<http://www.itlos.org>> (last accessed 19 January 2005).

governments of affected countries, is unlikely to be sufficient to overcome their perceptions of risk.<sup>3</sup>

In light of these concerns, discussion has been taking place on the possibility of developing special arrangements with France, Japan and the United Kingdom to ensure that if an incident took place in the course of shipment compensation would be provided to PIS for economic loss in tourism, fisheries and other affected industries.<sup>4</sup> In a series of meetings organised by the Pacific Islands Forum Secretariat since 1999, shipping states have come to understand better the concerns of PIS and have provided them with some assurances that they will "take all practicable action to assist in the management of an incident, whether or not such an incident involved the release of radioactivity."<sup>5</sup> The willingness of shipping states and operators to travel the distance required to meet with Forum countries shows some appreciation of the concern felt in the region about these shipments, a wish to provide reassurance about the safety of the shipments and a willingness to talk through the issues raised by PIS. The talks have been broad in their coverage. The particular vulnerability of PIS clearly requires full and ongoing commitment to prevent any incident from occurring in the course of shipment and the need for an emergency response if such an incident were to take place. The

---

3 Problems of risk perception by consumers are likely to be much stronger in cases of suspected radioactive contamination, which is invisible, than other forms of contamination, such as oil spills. A contributing factor will be uncertainty in the consumer mind about the nature of radioactive contamination and its duration. Limited knowledge of the Pacific geography among consumers around the world could be expected to exacerbate the problem, with consumers potentially attributing risks to products from parts of the Pacific that were far distant from the spot where the incident occurred.

4 Pacific Islands Forum Secretariat "Forum on Nuclear Shipment" (23 February 2001) Press Statement 1401.

5 The shipping states have also assured Pacific island states (PIS) that in the event of an incident they will "cooperate effectively with any state concerned, particularly states close to where any incident has taken place." Pacific Islands Forum "Forum Communiqué of the Thirty-Fourth Pacific Islands Forum" (Auckland, New Zealand, 14-16 August 2003) para 34.

character and level of development of the regional infrastructure will need to be taken into account in developing appropriate emergency response plans. Arguments have been raised both by PIS and Caribbean states that the unique characteristics of their oceanic environment require a specialised approach to advance environmental impact assessment in relation to shipments, for example in light of the frequency and pattern of cyclones in the Pacific region and the possible occurrence of tidal waves.<sup>6</sup>

## ***II APPLICABLE INTERNATIONAL LAW***

### ***A The Law of the Sea and the Standards and Conventions of the International Atomic Energy Agency and the International Maritime Organization***

Although perhaps more economically and environmentally desirable than deep hard-rock burial of waste, the reprocessing of radioactive material presently requires the shipment of radioactive material from one hemisphere to another, across the high seas and through the exclusive economic zone (EEZ) of various states. Whether these states have the legal authority and political power to avert shipments, or require shipments to be taken via alternative routes, is debatable.<sup>7</sup> The same freedoms guaranteed on the high seas, including the freedom of navigation,<sup>8</sup> are enjoyed by vessels within

---

6 Pacific Islands Forum "Forum Communiqué of the Thirty-Fifth Pacific Islands Forum" (Apia, Samoa, 5-7 August 2004) para 30:

Leaders agreed that further work be undertaken on the case for a region-specific Environment Impact Assessment including the extent to which the IAEA and shipping States' EIAs adequately take account of region-specific dimensions and on any examples of claims being made for rumour-type damage.

7 See Boer, Ramsey and Rothwell, above n 1, 62-63. For an overview of international legal issues associated with the shipment of radioactive material, see Duncan E J Currie and Jon M Van Dyke "The Shipment of Ultrahazardous Nuclear Materials in International Law" (1999) 8 RECIEL 113.

8 United Nations Convention on the Law of the Sea (UNCLOS) (10 December 1982) 1833 UNTS 3; 21 ILM 1261, art 87.

coastal states' EEZs.<sup>9</sup> While the right of innocent passage is enjoyed within their territorial seas,<sup>10</sup> coastal states may impose certain requirements on the exercise of the right of innocent passage by vessels carrying radioactive material, including the right to require the use of designated sea lanes and the carrying of certain documentation.<sup>11</sup> It is clear that these freedoms of navigation remain unaffected by the 1995 Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region.<sup>12</sup>

Certain of the safety standards developed in the International Atomic Energy Agency (IAEA) and the International Maritime Organization (IMO) apply to the transport and handling of radioactive material, in particular the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Waste on Board Ships (INF Code).<sup>13</sup> Initially recommendatory, the INF Code became mandatory in 2001.<sup>14</sup> Note

---

9 UNCLOS, above n 8, art 87.

10 UNCLOS, above n 8, arts 17-21.

11 UNCLOS, above n 8, arts 22-25.

12 Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (Waigani Convention) (16 September 1995) 2161 UNTS 93, art 2(4); Pacific Islands Forum Secretariat <<http://www.forumsec.org>> (last accessed 19 January 2005).

13 See Part D Chapter VII of the International Convention for the Safety of Life at Sea (1 November 1974) 1184 UNTS 2, subsequently amended as indexed on the website of the International Maritime Organization (IMO) <<http://www.imo.org>> (last accessed 26 January 2005). Part D Chapter VII sets out requirements for the carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes. Ships carrying such cargo are required to comply with the Code, which regulates, *inter alia*, fire protection, temperature control of cargo spaces, cargo securing arrangements, radiological protection equipment, training and shipboard emergency plans.

14 See amendments to Chapter VII adopted on 27 May 1999, entry into force 1 January 2001; see also amendments to Chapter VII adopted in June 2001, entry

might also be made of the IAEA's 1990 Code of Practice on the International Transboundary Movement of Radioactive Waste (1990 Code).<sup>15</sup> The 1990 Code was not a legally binding instrument, but its main provisions were given binding effect under the IAEA's 1997 Joint Convention on the Safety of Spent Fuel and Radioactive Waste Management (Joint Convention).<sup>16</sup> The Joint Convention did not, however, adopt the 1990 Code's provisions on the need for prior informed consent from states through whose jurisdiction radioactive material may transit.<sup>17</sup> Further, the records reveal that the majority of

---

into force 1 January 2003, bringing Chapter VII and the International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Waste on Board Ships (INF Code) into line with the amended International Maritime Dangerous Goods Code (IMDG Code) IMO <<http://www.imo.org>> (last accessed 26 January 2005). The IMDG Code has also become mandatory, through amendments to Chapter VII adopted on 24 May 2002, entry into force 1 January 2004, triggering a further amendment of the INF Code, adopted on 12 December 2002, entry into force 1 July 2004. Additional amendments to the IMDG Code, including measures to address the security of dangerous goods being carried by sea, adopted in May 2004, may be applied on a voluntary basis from 1 January 2005 and are expected to enter into force on 1 January 2006.

- 15 Code of Practice on the International Transboundary Movement of Radioactive Waste (13 November 1990) Information Circular INFCIRC/386 International Atomic Energy Agency (IAEA) <<http://www/iaea.org>> (last accessed 20 January 2005); 30 ILM 556. The Code was adopted following the negotiation of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (22 March 1989) 1673 UNTS 57; 28 ILM 649 and the decision to exclude radioactive material from the coverage of that Convention. See also Regulations on Safe Transport for Radioactive Materials (1996) Safety Series TS-R-1 additionally referred to by Patricia W Birnie and Alan E Boyle *International Law and the Environment* (2 ed, Oxford University Press, Oxford, 2002) 456, note 36.
- 16 Joint Convention on the Safety of Spent Fuel and Radioactive Waste Management (Joint Convention) (5 September 1997) IAEA <<http://www/iaea.org>> (last accessed 20 January 2005); 36 ILM 1436. On safety in the nuclear industry, see also the Convention on Nuclear Safety (17 June 1994) IAEA <<http://www/iaea.org>> (last accessed 20 January 2005); 33 ILM 1518.
- 17 Code of Practice on the International Transboundary Movement of Radioactive Waste, above n 15, para 3. The Joint Convention, above n 16, art 27(1) specifies only that "transboundary movement through States of transit shall be subject to

states involved in the negotiations did not consider that international law required notice to or consent by a state through whose territorial waters or EEZ radioactive material was to be transported.<sup>18</sup> Some shipping states have, however, adopted a practice of providing information and responses to coastal states in a timely manner in advance of shipments in order to address safety and security concerns. The IAEA has welcomed this practice.

International law on responses to emergencies involving the release of radioactive material developed considerably following the Chernobyl disaster in 1986 and the Soviet failure adequately and promptly to inform potentially affected states of the events at Chernobyl. The resulting Convention on Early Notification of a Nuclear Accident (Early Notification Convention), concluded the same year, established binding notification and reporting requirements supplementing those found in IAEA guidelines.<sup>19</sup> The Convention specifies that it applies to accidents in the course of the transport of nuclear fuels or radioactive wastes as well as to accidents involving fixed plants, though it is unclear whether it would apply to an incident occurring entirely on the high seas.<sup>20</sup> In any event, the Convention does not apply to the non-release situations of concern to PIS, as its coverage extends only to accidents as a result of which "a release of

---

those international obligations which are relevant to the particular modes of transport utilized." The Joint Convention thus defers to the general rules on navigation applicable under the law of the sea, which are based on the fundamental notion of the freedom of navigation.

18 Birnie and Boyle, above n 15, 460, 464, noting also that the Joint Convention was opposed by New Zealand and Pakistan, and that a vote was only narrowly won on a number of contentious provisions.

19 Convention on Early Notification of a Nuclear Accident (26 September 1986) IAEA <<http://www/iaea.org>> (last accessed 20 January 2005); 25 ILM 1370, art 2. The Convention requires states to report the time and location of an accident and to give information on radiation releases as well as other data relevant for minimizing the radiological consequences of an event (art 5).

20 Convention on Early Notification of a Nuclear Accident, above n 19, art 1(2). See also Birnie and Boyle, above n 15, 471.

radioactive material occurs or is likely to occur and which has resulted or may result in an international transboundary release that could be of radiological safety significance for another State."<sup>21</sup>

Looking beyond the requirements to notify other states of nuclear emergencies and investigating the extent to which states may be required to assist other states in case of emergency, the provisions of the IAEA's 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention),<sup>22</sup> also supplementing relevant IAEA guidelines, may be mentioned. The Assistance Convention requires parties to cooperate with one another and with the IAEA "to facilitate prompt assistance in the event of a nuclear accident or radiological emergency to minimize its consequences and to protect life, property and the environment from the effects of radioactive releases."<sup>23</sup> In 1986, the IAEA established a 24-hour warning point and operational focal point within its Secretariat, known as the Emergency Response Centre. An Emergency Notification and Assistance Technical Operations Manual sets out operational arrangements between IAEA and its members, as well as states party to the Early Notification Convention and the Assistance Convention and other international inter-governmental organisations.<sup>24</sup> Further arrangements for strengthening emergency

---

21 Convention on Early Notification of a Nuclear Accident, above n 19, art 1(1). Notification obligations under the International Convention for the Safety of Life at Sea, above n 13, should be taken into account, however.

22 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (Assistance Convention) (26 September 1986) IAEA <<http://www/iaea.org>> (last accessed 20 January 2005); 25 ILM 1377.

23 Assistance Convention, above n 22, art 1(1).

24 These organisations include the World Health Organization (WHO), the World Meteorological Organization (WMO) and the Food and Agriculture Organization (FAO) of the United Nations. An Inter-Agency Committee on Response to Nuclear Accidents is convened regularly and a Joint Radiation Emergency Management Plan of the International Organizations has been developed, complementing the agencies' own emergency plans, for instance the IAEA's in-house Nuclear Accident/Radiological Emergency Assistance Plan and the WHO's Radiation Emergency Medical Preparedness and Assistance Network Manual.

response have been made through an Emergency Response Network, consisting of regional emergency response teams from member states organised into a global network.<sup>25</sup> The provisions of the Assistance Convention are somewhat restricted, however. Where an affected state requests assistance, the Convention gives the IAEA a role in coordinating a response, but the Convention places no obligation on other states to provide such assistance.<sup>26</sup>

### ***B The Obligation of Due Diligence***

The occurrence of an accident involving a nuclear facility or nuclear material will not necessarily constitute a breach of international law by a source state.<sup>27</sup> An enquiry into whether a source state might have breached international legal requirements would certainly be expected, however. Whether or not a release of radioactive material is involved will not be the determining factor. A central focus of such an enquiry, in addition to examining whether any particular obligations under applicable treaties may have been breached, is likely to be whether the source state has fulfilled its obligations under customary international law diligently to regulate and control potentially harmful activity within its jurisdiction.<sup>28</sup> When

---

25 For further information, see IAEA <<http://www.iaea.org>> (last accessed 20 January 2005).

26 See Birnie and Boyle, above n 15, 472 and the Assistance Convention, above n 22, art 2(1)-(3) and (6). A state party needing assistance in relation to a nuclear accident or radiological emergency may call for such assistance from any other state party, directly or through the IAEA, and from the IAEA or other international inter-governmental organisations, specifying if possible the assistance required. Responding states shall promptly decide whether they are in a position to render the assistance requested. The IAEA must respond to a request for assistance, in accordance with its Statute and as provided for in the Assistance Convention, by making available appropriate resources allocated for this purpose, transmitting promptly requests to other states and international organisations for resources and, if so requested, by coordinating the assistance at the international level that may thus become available.

27 Birnie and Boyle, above n 15, 468.

28 On the obligation of due diligence, see Birnie and Boyle, above n 15, 112-113; Alexandre Kiss and Dinah Shelton *International Environmental Law* (2 ed,

it comes to the protection of the marine environment, this general rule is elaborated in Articles 206-212 of the United Nations Convention on the Law of the Sea.<sup>29</sup>

---

Transnational publishers, New York, 2000) 264; Phoebe N Okowa *State Responsibility For Transboundary Air Pollution in International Law* (Oxford University Press, Oxford, 2000) 79-90; Brian D Smith *State Responsibility and the Marine Environment: The Rules of Decision* (Oxford University Press, New York, 1988) 36-43, 128. Smith makes the point that obligations of due diligence may be involved with respect both to territorial and extraterritorial private conduct. In regard to the extent of due diligence obligations outside national territory, Smith posits a criterion of whether the state has meaningful control over the conduct in question. Queries may accordingly arise about the extent of due diligence obligations in relation to vessels on the high seas or travelling through other states' exclusive economic zones. However, given that it lies within the power of a state to prohibit the conduct of an activity through the exercise of jurisdiction on the basis of nationality, and taking into account the magnitude of the risks involved in certain ultra-hazardous activities, there is an argument that a regime of strict liability on the part of states for the consequences of such activities would not be inappropriate (Smith, above, 250):

The standard of diligence required may be strict, however, in circumstances in which the injurious conduct was foreseeable (and subject to effective preventive measures), due to pre-existing characteristics such as inadequate vessel condition or ultrahazardous function or behavior.

This is consistent with the view of Birnie and Boyle, above n 15, 112, who believe that "[c]onsiderations of the effectiveness of territorial control, the resources available to the State, and the nature of specific activities may all be taken into account and justify differing degrees of diligence." On the obligation of due diligence, see also the Commentary to The Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, art 3 para 11 and 18; Report of the International Law Commission (2001) UN Doc GAOR A/56/10. See also Declaration of the United Nations Conference on Environment and Development (Rio Declaration) (3-14 June 1992) UN Doc A/CONF./151/26/Rev.1 (Volume 1); 31 ILM 874, principle 2 and *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226, 240 para 29.

<sup>29</sup> Birnie and Boyle, above n 15, 352, 462. A number of precedents indicates that the obligation is equally as applicable to nuclear risks as it is to other categories of risk. Birnie and Boyle, above n 15, 467-469. French acknowledgment of the obligation to minimize the risks of nuclear activity and to prevent injury and pollution from arising as a result of such activity is seen in the context of the litigation over French Nuclear Testing in the Pacific, Note to New Zealand of 19 February 1973, cited by Birnie and Boyle, above n 15, 490, note 129.

If there were a breach of international law, then recovery for such injury would in principle be consistent with international legal requirements for reparation as set out in the International Law Commission's Articles on State Responsibility.<sup>30</sup> However, PIS might face a number of practical, if not legal, difficulties in the situation described in this paper. Novel questions of causation, proximity and certainty of profits lost could be expected to determine the compensability of such loss in given circumstances. Considerable legal work could be required to pursue the arguments necessary to secure damages for the injury in question. Most PIS have limited physical capacity to investigate an incident occurring offshore, many miles away from their capitals. They have limited legal capacity to pursue claims for redress that would be likely to involve complex questions of fact and law, even where physical damage has been sustained. In relation to a non-release incident, it is likely to be harder to prove a breach of due diligence obligations than in relation to an incident where radioactivity is released. PIS' claims for damage affecting tourism and primary sector industries in a non-release situation would require the input of extra technical and legal resources. The distinct possibility that the due diligence obligation may actually have been fulfilled in a given case, and that the incident that has caused harm is not the result of a breach of the law, would put into question the merits of PIS' dedication of their limited resources to these endeavours.

### ***C The Nuclear Civil Liability Conventions***

A developed body of treaty rules already exists under which states have established a system that channels directly to the operators of nuclear facilities or vessels any civil liability for harm caused by nuclear misadventure, on the basis of strict but limited liability. This system of civil liability operates in tandem with applicable international legal obligations borne by states themselves, including the obligation of due diligence. The scheme in the civil liability

---

30 Draft Articles on Responsibility of States for International Wrongful Acts, Report of the International Law Commission (2001) UN Doc GAOR A/56/10.

conventions distributes the risks of operating nuclear power plants through supplementary funding mechanisms, as discussed below. Without such a scheme, it is unlikely that these risks could have been accepted, given their ultra-hazardous character. However, for a number of reasons that will be discussed below, the civil liability conventions do not address adequately the particular situation of PIS.

### *1 Overview of the core nuclear civil liability conventions*

The core civil liability conventions in relation to nuclear energy are as follows:

- the 1960 Convention on Third Party Liability in the Field of Nuclear Energy (Paris Convention);<sup>31</sup> and the 1963 Agreement Supplementary to the Paris Convention of 1960 on Third Party Liability in the Field of Nuclear Energy (Brussels Convention);<sup>32</sup>
- the 1963 Vienna Convention on Civil Liability for Nuclear Damage (Vienna Convention);<sup>33</sup> and the 1997 Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (producing the revised Vienna Convention),<sup>34</sup>

---

31 Convention on Third Party Liability in the Field of Nuclear Energy (Paris Convention) (29 July 1960) 956 UNTS 251, as revised by the Additional Protocol to the Convention on Third Party Liability in the Field of Nuclear Energy (28 January 1964) 956 UNTS 335 and by the Protocol to amend the Convention of 31 January 1963 Supplementary to the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964 (16 November 1982) 1650 UNTS 444.

32 Agreement Supplementary to the Paris Convention of 1960 on Third Party Liability in the Field of Nuclear Energy (Brussels Convention) (31 January 1963) 1041 UNTS 358; 2 ILM 685, as amended by the Additional Protocol of 28 January 1964, above n 31, and the Protocol of 1982, above n 31.

33 Vienna Convention on Civil Liability for Nuclear Damage (Vienna Convention) (21 May 1963) 1063 UNTS 265; 2 ILM 727.

34 Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (Revised Vienna Convention) (12 September 1997); 36 ILM 1462, as revised by the Additional Protocol of 28 January 1964, above n 31.

negotiated in the light of new perspectives on nuclear liability in the wake of the Chernobyl disaster;

- the 1997 Convention on Supplementary Compensation for Nuclear Damage (Supplementary Convention),<sup>35</sup> which has not yet entered into force, also negotiated following the Chernobyl disaster; and
- the 2004 Protocol to amend the Paris Convention on Third Party Liability in the Field of Nuclear Energy (producing the revised Paris Convention),<sup>36</sup> and the 2004 Protocol to amend the Brussels Convention Supplementary to the Paris Convention (producing the revised Brussels Convention)<sup>37</sup> – both signed on 12 February 2004 but not yet in force.

The civil liability conventions apply not only to nuclear installations but also to the carriage of nuclear material.<sup>38</sup> They create

---

35 Convention on Supplementary Compensation for Nuclear Damage (Supplementary Convention) (12 September 1997) 36 ILM 1473.

36 Protocol to Amend the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964, above n 31, and by the Protocol of 16 November 1982, above n 31 (Revised Paris Convention), Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, Paris, 12 February 2004.

37 Protocol to Amend the Agreement Supplementary to the Paris Convention of 1960 on Third Party Liability in the Field of Nuclear Energy (Brussels Convention), as amended by the Additional Protocol of 28 January 1964, above n 31, and by the Protocol of 16 November 1982, above n 31 (Revised Brussels Convention), Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, Paris, 12 February 2004.

38 Paris Convention, above n 31, art 4 and Vienna Convention, above n 33, art II. Reference should also be made to the Brussels Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material 1971 (Maritime Carriage Convention) (17 December 1971) 974 UNTS 255. As between contracting parties the Maritime Carriage Convention exonerates any operator liable under the Paris or Vienna Conventions from civil liability for damage caused by a nuclear incident under any convention dealing with maritime transport. The United Kingdom, France and Japan are party to the Maritime Carriage Convention, as are Samoa and Vanuatu, from among the Pacific Island

a scheme with certain primary elements. First, as noted above, they channel limited liability to the operator of a nuclear plant. In relation to the shipment of radioactive material, a handler or carrier of radioactive material may be considered an operator.<sup>39</sup> Second, liability is absolute or strict,<sup>40</sup> in that there is no requirement for a claimant to prove fault or negligence on the part of an operator. Liability may be reduced in certain circumstances<sup>41</sup> and is excluded entirely where particular exceptions apply.<sup>42</sup> Third, under the scheme of the conventions, parties must require operators to take out liability insurance and, additionally, the source state guarantees that compensatory payment will be made. Fourth, rules are established for determining the jurisdiction in which civil proceedings may proceed, depending on the location of the incident.<sup>43</sup> The resulting judgments are to be recognised and enforced by parties to the conventions; as

---

Forum states. As between a party and a non-party to the Maritime Carriage Convention there remains scope, unless otherwise agreed, for a party affected by an incident in the course of carriage to claim damages under any other applicable convention. However, radioactive substances are excluded from the scope of the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (3 May 1996) 35 ILM 1415, not yet in force. See Rosalie Balkin "The Hazardous and Noxious Substances Convention: Travail or Travaux – The Making of an International Convention" (1999) 20 Aust Yr Bk IL 1, 11.

39 Paris Convention, above n 31, art 4(d) and Vienna Convention, above n 33, art II(2).

40 Paris Convention, above n 31, art 3 and Vienna Convention, above n 33, art II.

41 Under the Vienna Convention, above n 33, art IV(2), liability is reduced where there is gross contributory negligence on the part of the person suffering the damage or if that person has committed an act or omission with intent to cause damage.

42 Exceptions include liability for damage caused by armed conflict, negligence of the victim and natural disaster: Paris Convention, above n 31, art 9 and Vienna Convention, above n 33, art IV. Note that art IV of the Revised Vienna Convention, above n 34, does not include the exception for damage caused by natural disaster.

43 Paris Convention, above n 31, art 13 and Revised Vienna Convention, above n 34, art XI.

between parties, claims brought elsewhere are barred.<sup>44</sup> These four core elements form the basis of the international nuclear civil liability system, in tandem with the conventions' minimum ceilings on liability, minimum temporal limitation periods and provisions on the forms of damage for which liability will arise. Parties retain a discretion to extend cover according to national law by lifting liability ceilings, lengthening limitation periods and establishing cover for additional forms of damage.

Western European states adhere to the Paris Convention, which is a convention of the Organisation for Economic Co-operation and Development (OECD), while the Vienna Convention scheme establishes a similar set of arrangements in which global participation is invited. Under the scheme in the Paris and the Brussels Conventions there are three levels of funding available in case of liability. First, under the Paris Convention operators bear liability up to identified limits. Second, under the Brussels Convention source states undertake that payment will be made up to a specified limit per incident. Third, also under the Brussels Convention, additional funds are made available through levies upon treaty parties, calculated according to a formula based on the parties' gross national product and the thermal power of their reactors.<sup>45</sup> An operator's limited liability of 5 million Special Drawing Rights (SDRs) is thus backed up by a potential 170 million SDRs from the source state and a further 125 million SDRs from the remainder of the parties to the Convention.<sup>46</sup> Parties to the

---

44 The conventions cater for the situation where the operator of a facility or vessel is in fact a state rather than a private party, by precluding the invocation of jurisdictional immunity. Birnie and Boyle, above n 15, 479. Except where immunity from execution is asserted, which might raise considerable difficulties, states commit to the enforcement of judgments under the conventions.

45 Brussels Convention, above n 32, art 12 establishes a formula based 50 per cent on a party's gross national product and 50 per cent on the thermal power of a party's nuclear reactors. Under the Revised Paris and Revised Brussels Conventions this contribution is to be augmented under a separate formula.

46 Birnie and Boyle, above n 15, 480. See also Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the

Paris and Brussels Conventions that are also party to the Supplementary Convention subject themselves to higher compensation ceilings. These ceilings will be significantly increased under the revised Paris and Brussels Conventions. Operators' limited liability will be raised to €700 million, with a potential of a further €500 million from the source state and an additional €300 million from the remainder of the contracting parties.<sup>47</sup> In relation to the shipment of radioactive material, the minimum operator liability remains lower, with a threshold of €80 million applying under the revised Paris Convention.<sup>48</sup>

Parties to the revised Vienna Convention and the Supplementary Convention will participate in a parallel scheme with three tiers of funding. Under the revised Vienna Convention, there are also graduations in the scale of levies: for non-nuclear states becoming party to the revised Vienna Convention, the level of contribution required to be made to the compensation scheme is less than for nuclear states; for the poorest non-nuclear parties, no contribution is required at all.<sup>49</sup> The Supplementary Convention is also open to states that are party neither to the Paris Convention nor to the Vienna

---

Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention, para 6. The SDR is an artificial currency based on a basket of international currencies, created by the International Monetary Fund (IMF) in 1969, which now serves as the unit of account in the IMF and certain other international organisations.

47 Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention.

48 Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention, para 5. At the time of writing this converts to some 66 million SDRs.

49 Supplementary Convention, above n 35, arts III and IV. Art IV(1)(b) provides that states on the minimum United Nations rate of assessment with no nuclear reactors shall not be required to make contributions.

Convention,<sup>50</sup> permitting them to participate in the Convention's scheme for the spreading of loss.

International legal provision for civil liability in relation to nuclear accidents complements the international rules on due diligence that govern states' own potential international responsibility. The overall result is a system in which, within bounds, the financial and economic aspects of the potentially horrific risk of nuclear mishap are broadly distributed, particularly in the case of the Paris Convention. Further, in the event of incident, recovery of damages should in principle be a much simpler process than it would be under national laws governing civil wrongs. The 2004 revised Paris and Brussels Conventions will raise the current limits of liability with a view to compensating more fully for the damage that would be caused by a nuclear accident.<sup>51</sup> The civil liability conventions were, however, designed essentially to meet the needs of states with nuclear power to continue to operate and develop their plants. It was not their primary concern to consider the position of geographically distant small-economy non-contracting parties who might be affected by an incident in the course of transport of nuclear material for reprocessing. There are several respects in which the system is unsatisfactory from the point of view of these states.

---

50 Supplementary Convention, above n 35, art XVIII(1), provided the state concerned declares that its national law complies with the annex to the Supplementary Convention and, if it is a nuclear state, it is party to the Convention on Nuclear Safety, above n 16.

51 Nuclear Energy Agency "Revised Nuclear Third Party Liability Conventions Improve Victims' Rights to Compensation" (12 February 2004) Press Communiqué <<http://www.nea.fr>> (last accessed 21 January 2005): "Total compensation available under the revised Paris-Brussels regime is now €1.5 billion, compared to the previous amount of €300 million IMF Special Drawing Rights (approximately €350 million)."

## *2 Applicability of nuclear civil liability conventions to Pacific island states*

To begin with, only at a stretch can the conventions be considered to apply to a non-release situation. The Paris Convention applies to nuclear incidents in general, with Article 1 of the Convention defining "nuclear incident" in such a way that to be covered by the Convention, the resulting occurrences must arise out of the radioactive properties of nuclear fuel or waste, alone or combined with its other hazardous properties. A similar understanding is reflected in the definitions of "nuclear damage" and "nuclear incident" in Article I(k) and (l) of the Vienna Convention. It could perhaps be argued that the harm suffered in a non-release situation, which forms the subject of this paper, is due to the known radioactive properties of the material being shipped and, therefore, falls within the ambit of the definition of a "nuclear incident". The language of the Paris and Vienna Conventions is arguably open to such an interpretation. For the purposes of carrying out a full study of the difficulties associated with the nuclear civil liability conventions, this paper will at this point assume the acceptability of such an argument. The same argument can be made, but becomes more difficult, under the terms of the revised Vienna Convention and the Supplementary Convention, both of 1997. Article I(1)(k) of the revised Vienna Convention and Article I(f) of the Supplementary Convention require "nuclear damage" covered by the Conventions to arise out of ionizing radiation emitted by nuclear fuel or radioactive products or waste. This approach is also taken in the revised Paris and Brussels Conventions. So far as incidents actually involving a release of radioactivity are concerned, the Conventions' definition of "nuclear incident" and their references to the radioactive properties of nuclear material and the emission of ionizing radiation hold less potential to constrain any claims that may be made by affected states. However, from the point of view of PIS that are concerned about the shipment of radioactive material, a range of other points relating to the compensability of damage to their reputations and their economies in case of an incident remain to be addressed.

At present, a particular further obstacle for PIS is that the Paris Convention does not apply to incidents occurring or damage suffered in the territory of non-contracting parties.<sup>52</sup> Nor does the Supplementary Convention require that parties provide compensation for damage suffered in the territory of a non-contracting party.<sup>53</sup> In contrast, the revised Vienna Convention does provide for compensation for damage occurring in the territory of non-contracting parties, on certain conditions.<sup>54</sup> However, those states presently involved in the shipment of radioactive material are party to the Paris Convention rather than the revised Vienna Convention.<sup>55</sup> Under the revised Paris Convention the position of non-contracting parties will change. Claims for damage in the territory and maritime zones of non-contracting parties will be permitted. To make a claim under the revised Paris Convention, a non-contracting party is required to be party to the Vienna Convention and the Joint Protocol, or to have no nuclear installations in its territory or maritime zones, or to have adopted legislation affording equivalent reciprocal benefits that is

---

52 Unless otherwise provided in the legislation of a contracting party. Paris Convention, above n 31, art 2. As observed by Norbert Pelzer "Concepts of Nuclear Liability Revisited: A Post-Chernobyl Assessment of the Paris and Vienna Conventions" in Peter D Cameron, Leigh Hancher and Wolfgang Kuhn (eds) *Nuclear Energy Law After Chernobyl* (Graham & Trotman, London, 1988) 107, 111: "[t]he victims in non-Member States are without the protection of a special nuclear law system which, *inter alia*, would exempt them from the need to prove negligence of the operator."

53 Supplementary Convention, above n 35, art III.2(a) provides that states with reactors may exclude cover for such damage under their national law. See also art V(1)(b), expressly excluding compensation from the Convention's extended pool of funds for damage in or above the territorial sea of a non-contracting party.

54 Revised Vienna Convention, above n 34, art I(A) states that the Convention shall apply to nuclear damage wherever suffered, although a party may legislate to exclude coverage for damage suffered in the territory and any maritime zones of a non-contracting state established in accordance with the law of the sea if it does not provide equivalent reciprocal benefits to the party.

55 With the exception of Japan, which is not party to any of the civil liability conventions.

based upon the principles of the revised Paris Convention.<sup>56</sup> Supplementary compensation under the revised Brussels Convention will not, though, be available to non-contracting parties.<sup>57</sup> Neither France nor the United Kingdom has yet ratified the Protocol creating the revised Paris Convention. There is some indication that those European Union member states party to the Paris Convention may do so by late 2006 or shortly thereafter.<sup>58</sup>

In the meantime, if it were possible to stretch their scant resources far enough to carry out the necessary paperwork and constitutional processes, should the PIS consider becoming party to the Paris and Brussels Conventions? The Brussels Convention is open to accession by states party to the Paris Convention.<sup>59</sup> PIS may not wish to become parties to the Brussels Convention, as this would subject them to levies under the formula referred to above. Even assuming that the current contracting parties were agreeable to PIS becoming party to the Paris Convention, as parties only to the Paris Convention and not to the Brussels Convention, PIS would have no call on the higher levels of compensatory funding made available through the Brussels Convention. The Paris Convention is open to accession by non-OECD states only with the unanimous assent of the contracting parties.<sup>60</sup>

---

56 Revised Paris Convention, above n 36, art 2. For commentary, see the Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention.

57 Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention, para 46.

58 The Council of the European Union authorised ratification or accession on 8 March 2004, requiring member states to take the necessary steps within a reasonable time and if possible before 31 December 2006.

59 Brussels Convention, above n 32, art 19.

60 Paris Convention, above n 31, art 21(b).

Assent could not be assumed.<sup>61</sup> However, there would in any event be little point to PIS' accession to the Paris Convention so far as potential claims for damage in relation to non-release situations are concerned. As discussed below, the Paris Convention requires parties to provide cover only for loss of life, personal injury and damage to or loss of property.

The need to ensure cover for economic damage incurred in a non-release situation is the most problematic aspect of the PIS' position. Even when the shipping states have become party to the revised Paris Convention, this hurdle for PIS will remain. The civil liability conventions envisage compensation only for defined key categories of damage. Compensation does not extend to the economic loss that would be likely to eventuate in connection with even a non-release incident in the Pacific as a result of consumer perceptions of the risks generated.

Before 1997, definitions of the "damage" that formed the baseline found in the conventions were narrow and focused on loss of life, personal injury and damage to or loss of property.<sup>62</sup> Reflecting a new emphasis on broader environmental interests, the provisions of the Supplementary Convention and the revised Vienna Convention then effectively invited parties to extend the scope of damage for which liability would be imposed. These 1997 extensions to the definition of damage were a welcomed development and are paralleled in the revised Paris Convention. Under the relevant amendments, "nuclear damage" also means economic loss arising from damage, as defined above, and loss of income deriving from an economic interest in any use or enjoyment of the environment where this loss has been incurred

---

61 The contracting parties might take the view that the purpose of the Paris Convention was to provide a basis for harmonising their laws (Philippe Sands *Principles of International Environmental Law* (2 ed, Cambridge University Press, New York, 2003) 906) and that the requests of PIS should not be accepted, given that they would be seeking to become party to the Convention for other purposes not directly aligned with the original aim of the Convention.

62 Birnie and Boyle, above n 15, 483.

as a result of significant impairment of the environment. This definition of "nuclear damage" is subject to the qualification "to the extent determined by the law of the competent court."<sup>63</sup> Subject to the same qualification, "nuclear damage" also now includes the costs of reinstating an impaired environment and of preventive measures.<sup>64</sup> The qualification "to the extent determined by the law of the competent court" refers to the national law of the court having jurisdiction over claims for compensation arising out of a nuclear incident.<sup>65</sup> The phrase might be considered somewhat ambiguous as to whether parties are obliged to provide in their national law for compensation of the forms of economic and financial loss to which it applies.<sup>66</sup> The explanatory report published to accompany the adoption of the revised Paris and Brussels Conventions conveys the parties' intention that, in principle, compensation under these new heads of damage is to be required, albeit leaving questions connected with the extent of compensation for determination by national courts in accordance with local law.<sup>67</sup>

---

63 Revised Vienna Convention, above n 34, art I(1)k; Supplementary Convention, above n 35, art I(f); Revised Paris Convention, above n 36, art 1(a).

64 Included in the definition of preventive measures are reasonable measures taken after the occurrence of an event creating a grave and imminent threat of nuclear damage. It would not seem that mitigating consumer fears of contamination from a non-release incident would fall within this definition of preventive measures.

65 Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention, para 11.

66 The International Law Commission's Special Rapporteur Mr Pemmaraju Sreenivasa Rao reads the clause as meaning "subject to the determination as admissible by the law of the competent court": Pemmaraju Sreenivasa Rao, Special Rapporteur to the International Law Commission "First Report on the Legal Regime for the Allocation of Loss in Case of Transboundary Harm arising out of Hazardous Activities" (21 March 2003) UN Doc A/CN.4/531, para 88.

67 Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention, para 11:

Unfortunately, these new heads of damage corresponding to impairment of the environment and its economic effects, or the necessity of preventive measures, envisage that physical harm to the environment will have occurred and promise compensation for economic harm only in relation thereto. It does not seem likely that a claim for harm caused by a non-release incident could successfully be made under these heads of damage.<sup>68</sup> While certain of the new provisions in the civil liability conventions may appear to hold out some promise that redress for PIS faced with the consequences of a non-release situation might be made available under the civil liability

---

While it is true that such new heads of damage will only be compensable "to the extent determined by the law of the competent court", the Contracting Parties will now, at least, be obliged to include these heads of damage in their national law, even if only to a limited degree.

The report adds that the concepts of "economic loss" and "loss of income" are referred to in general terms allowing for flexibility in their interpretation.

68 One further head of damage was also added in 1997 by the Revised Vienna Convention, above n 34, art I(1)(k)(vii) and the Supplementary Convention, above n 35, art I(f)(vii), to include within the definition of nuclear damage "any other economic loss, other than caused by impairment of the environment, *if permitted by the general law on civil liability of the competent court*" (emphasis added). Neither the Paris Convention nor the Revised Paris Convention includes such a provision. In any event, the difficulty would be that the wording of the applicable provision did not make it compulsory for parties to make such loss recoverable. Parties' obligations to make compensation available for such loss would not be absolute: the provision clearly states that nuclear damage is only to include any other economic loss "if permitted by the general law on civil liability of the competent court." National law could be expected to vary. In practice, legislation in member states of the Organisation of Economic Co-operation and Development has in the past corresponded to the requirements of the Paris Convention: Birnie and Boyle, above n 15, 483-484. Paris Convention states have observed that they do not consider such a provision for compensation for "any other economic loss" would add anything of substance to the post-1997 definition of nuclear damage: Final Act of the Conference on the Revision of the Paris Convention and the Brussels Supplementary Convention, above n 36, Annex IV, Explanatory Report by the Representatives of the Contracting Parties on the Revision of the Paris Convention and the Brussels Supplementary Convention, para 12. PIS might have a different perspective on this question.

conventions, it is, therefore, not possible to conclude that redress is assured.

Thus, it is clear that nuclear states are not required, under the civil liability conventions, to create civil liability for economic loss in tourism, fisheries and other affected industries caused by an incident during the shipment of radioactive material in relation to a non-release situation. The extension of liability to cover such damage remains optional for source states. Even assuming that provision for liability in these circumstances under the civil liability conventions can in due course be achieved, more practical considerations will need also to be addressed. Where an operator's insurer is prepared to settle a claim on acceptable terms, an affected state will not find itself in an entirely invidious position. The situation would be slightly different where an insurer disagrees with a coastal state's understanding of the facts surrounding an incident, the causal links between the incident and related damage, the categories of damage for which compensation may be available or the extent of damage suffered. Litigation against operators is not an affordable option for many small states and may seem less so in the light of the bleak economic realities they confront following an incident involving radioactive material. One avenue of assistance that should be explored would be the possible advance commitment of shipping states and operators to provide funding as necessary to assist affected states in the evaluation of damage and the preparation of claims should any mishap occur.

There is some possibility that PIS' exposure to damage might be addressed in the course of work being carried out in the IAEA, where the legal regime governing the shipment of radioactive material has recently become the focus of renewed attention. At the International Conference on the Safety of Transport of Radioactive Material held in July 2003 in Vienna, some 120 papers were submitted on diverse topics related to transportation of radioactive material.<sup>69</sup> Safety

---

<sup>69</sup> Papers were submitted on the topics of liability; communication with the public and between government; effectiveness of radiation protection in transport, packaging and transport of radioactive material; packaging and transport of non-

standards and procedural requirements for the safe transport of radioactive material were addressed, as well as the rules on liability. At its General Conference in September 2003, the IAEA decided that an action plan should be developed based on the outcomes of the Conference, to be drafted by a group of legal experts, the International Nuclear Liability Experts Group (Experts Group), established by the IAEA with a mandate, *inter alia*, to provide expert advice on general issues related to liability in the field of nuclear energy. Whether, in considering current concerns about possible gaps in the present international nuclear civil liability regime, the Experts Group will take an interest in, and establish a persuasive case for, amendments that would cover PIS' concerns remains to be seen. In the interim, therefore, PIS advisedly continue to seek assurances from shipping states and operators to cover the contingency of an incident during shipment with serious adverse economic effects for those states, as discussed below.

### **III THE PACIFIC ISLANDS FORUM TALKS**

The subject of the shipment of radioactive material through the Pacific has been discussed by Forum states, shipping states and shipping operators in a series of meetings since 1999.

From the outset of the process, Forum states conveyed the concerns they held about shipments of radioactive material<sup>70</sup> and it

---

standard radioactive material; assessment of regulatory criteria; effectiveness of the regulatory process; adequacy of safety requirements; identifying areas for potential improvement of the regulatory regime; and, emergency preparedness and response. See in particular Julian Ludbrook "Liability in the Transport of Nuclear Material: Existing Liability Regimes and Gaps in their Coverage" (International Conference on the Safety of Transport of Radioactive Material, Vienna, 7-11 July 2003).

<sup>70</sup> Indeed, coastal states' preoccupations regarding shipments have been widely recognised. See Pacific Islands Forum "Forum Communiqué of the Thirty-Third Pacific Islands Forum" (Suva, Fiji, 15-17 August 2002), para 33:

Forum Leaders welcomed the growing recognition in international fora such as at the recent ACP Summit in Nadi, in IAEA and at the

was acknowledged that "innovative arrangements and assurances"<sup>71</sup> were being sought to deal with the special concerns arising in connection with the shipment of radioactive material through the Pacific.

As noted in the introduction to this paper, a broad agenda has been pursued in the Forum's consultative meetings. Early on, it was recognised that attention should be devoted not only to the subject of liability and compensation, but also to ensuring appropriate arrangements for the ongoing exchange of information in relation to safety and security, to evaluating existing systems for the prevention of incidents in the course of shipment and to the adequacy of measures in place for immediate response in any emergency situation.<sup>72</sup>

[P]roposals include acceptance by shipping States of full responsibility and liability for compensation for any damage which may result directly or indirectly from transport of radioactive materials through the region; the assurance by those States that the highest possible safety standards are met; and the appropriate advanced notification and consultations by shipping States with States in the region through which the shipments pass, taking into account security considerations and the legitimate interests of Forum member countries.

In relation to prevention, it should be reiterated that the safety standards required to be observed in the shipment of radioactive material are extremely high.<sup>73</sup> Vessels are extensively equipped to deal with potential incidents and operators and shipping states can

---

NPT PrepCom, of the concerns of SIDS and other coastal States regarding the shipment of radioactive material.

71 Pacific Islands Forum "Forum Communiqué of the Thirty-Fourth Pacific Islands Forum", above n 5, para 34.

72 Pacific Islands Forum "Forum Communiqué of the Thirty-Third Pacific Islands Forum", above n 70, para 34.

73 Pacific Islands Forum "Forum Communiqué of the Thirty-Fourth Pacific Islands Forum", above n 5.

readily share safety information with Forum states. The sharing of such information can be seen as an important part of ensuring that all possible safety precautions are in place, and that these precautions take full account of the economic, geographical and meteorological characteristics of the region. As noted earlier, coastal states are provided with advice of a vessel's cargo. In the event of an emergency, it would be expected that emergency response plans and facilities would immediately be activated by operators and shipping states, as well as through the IAEA. Whether or not they are equipped or expected to play any part in such an emergency response, it might also be noted that coastal states would expect to be notified of any emergency situation in their waters to which the International Convention on the Safety of Life at Sea would apply.<sup>74</sup> The Forum states are seeking additional assurances from operators that contingency planning reflects fully the need to keep them informed closely of the steps being taken in response to an incident or emergency so as to help minimize risks of harm. Their concern about the economic damage that could be inflicted upon them if consumers misperceive the magnitude of an incident involving a vessel carrying radioactive material in the Pacific remains constant. The need for reassurance that full capacity exists for urgent physical response to any incident or emergency is, for Forum states, matched with an almost equally significant need to ensure the effective handling of public relations and media interest in relation to such an incident or emergency.

Progress towards a point where Forum states receive an appropriate range of assurances in relation to the shipment of radioactive material through the Pacific on the range of issues canvassed above has been relatively steady, though talks were not held in 2002. The events of 11 September 2001 may have been a contributing factor, diverting the energy of nuclear states and operators into reviewing the safety and security of their plants and

---

74 International Convention on the Safety of Life at Sea, above n 13.

operations worldwide. In 2003, the consultations found themselves back on track. Forum leaders welcomed:<sup>75</sup>

[T]he recent assurance by shipping States to take all practicable action to assist in the management of an incident, whether or not such an incident involved the release of radioactivity, and to cooperate effectively with any state concerned, particularly states close to where any accident had taken place.

The subject of liability or compensation for damage caused by an incident involving a shipment of radioactive material requires further discussion between Forum states and shipping states, in respect both of situations involving the release of radioactive material and non-release situations.

#### *IV CONCLUSION*

Serious questions remain about the effectiveness with which applicable international law guarantees appropriate compensation for PIS in relation to an incident in the course of the shipment of radioactive material through the Pacific. If a state has not breached its obligations of due diligence in respect of shipments, or if breach is not acknowledged and remains unproven by a PIS, recovery on the basis of state responsibility may not be possible. Even if recovery is possible, it is not clear that compensation would be agreed or awarded for the contemplated economic damage.

Achieving compensation in relation to an incident not involving release of radioactive material looks difficult for PIS. Nor do the conventions on civil liability for nuclear mishap assist. Until the shipping states become party to the revised Paris Convention of 2004, they will not be required to implement a civil liability scheme providing cover for damage in the territory of non-contracting parties. Even when they become party to the revised Paris Convention and the Convention enters into force, it is clear that the Convention places no

---

<sup>75</sup> Pacific Islands Forum "Forum Communiqué of the Thirty-Fourth Pacific Islands Forum", above n 5, para 34.

obligation on states to make provision in their national laws for compensation following a non-release incident.

With the ongoing commitment of all parties, PIS may be able to benefit from arrangements under which shipping states and operators provide them with assurances in relation to the potential effects of a non-release incident in the course of shipment of radioactive material. This outcome will be squarely on all fours with the view that compensation mechanisms capable of application in the absence of a breach of international law can and should be created and applied to remedy the harmful consequences of certain international activities.