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NUCLEAR WASTE MANAGEMENT ORGANIZATION
SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

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NWMO BACKGROUND PAPERS
7. INSTITUTIONS AND GOVERNANCE

7-4 LEGAL AND ADMINISTRATIVE PROVISIONS FOR RADIOACTIVE WASTE MANAGEMENT WITHIN THE NORTH AMERICAN FREE TRADE AGREEMENT (NAFTA)

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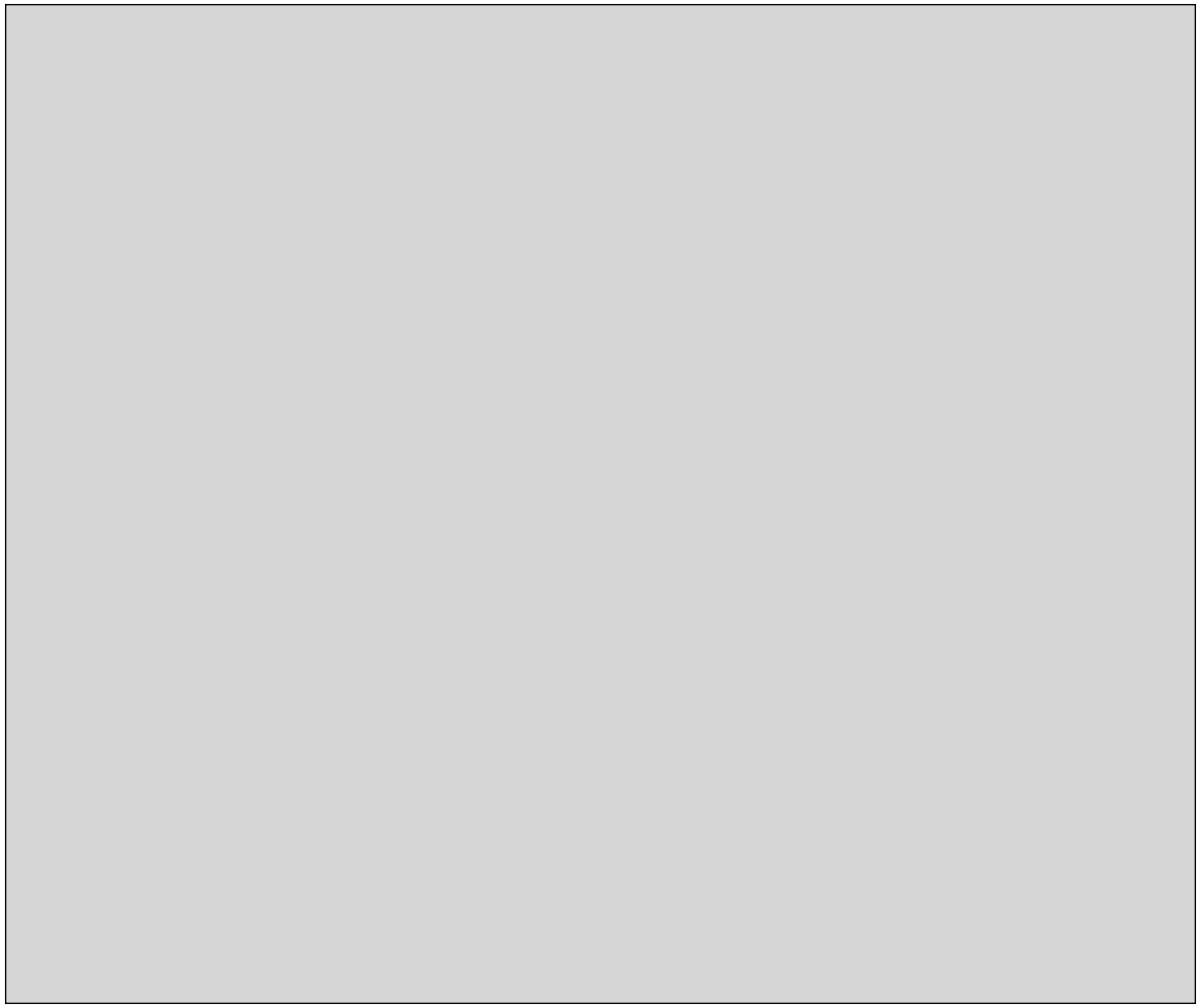

NWMO Background Papers

NWMO has commissioned a series of background papers which present concepts and contextual information about the state of our knowledge on important topics related to the management of radioactive waste. The intent of these background papers is to provide input to defining possible approaches for the long-term management of used nuclear fuel and to contribute to an informed dialogue with the public and other stakeholders. The papers currently available are posted on NWMO's web site. Additional papers may be commissioned.

The topics of the background papers can be classified under the following broad headings:

1. **Guiding Concepts** – describe key concepts which can help guide an informed dialogue with the public and other stakeholders on the topic of radioactive waste management. They include perspectives on risk, security, the precautionary approach, adaptive management, traditional knowledge and sustainable development.
2. **Social and Ethical Dimensions** - provide perspectives on the social and ethical dimensions of radioactive waste management. They include background papers prepared for roundtable discussions.
3. **Health and Safety** – provide information on the status of relevant research, technologies, standards and procedures to reduce radiation and security risk associated with radioactive waste management.
4. **Science and Environment** – provide information on the current status of relevant research on ecosystem processes and environmental management issues. They include descriptions of the current efforts, as well as the status of research into our understanding of the biosphere and geosphere.
5. **Economic Factors** - provide insight into the economic factors and financial requirements for the long-term management of used nuclear fuel.
6. **Technical Methods** - provide general descriptions of the three methods for the long-term management of used nuclear fuel as defined in the NFWA, as well as other possible methods and related system requirements.
7. **Institutions and Governance** - outline the current relevant legal, administrative and institutional requirements that may be applicable to the long-term management of spent nuclear fuel in Canada, including legislation, regulations, guidelines, protocols, directives, policies and procedures of various jurisdictions.

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1.0. Executive Summary

This paper surveys Canada's rights and obligations under the North American Free Trade Agreement (NAFTA) in an effort to better understand what they imply for transboundary movement of radioactive waste and, by implication, to the choices Canada will have to make in selecting or approving a management approach for such waste. It was commissioned by the Nuclear Waste Management Organization (NWMO) as part of a broad-based effort to inform the public and other stakeholders about the current status of Canada's legal and administrative arrangements for radioactive waste.

It begins by analyzing those elements of NAFTA law applicable to the outright ban of import or export of radioactive waste, and then turns to the law applicable to the broader exercise of establishing a regulatory regime. It then briefly looks ahead to the future of trade law at the hemispheric level as embodied in the proposed Free Trade Area of the Americas, and projects what this might mean to the conclusions reached in the preceding analysis.

The first question to address is whether NAFTA in fact covers trade in radioactive waste and, if so, what specific provisions might be relevant. Radioactive waste is treated as a good under NAFTA law, and is thus covered under Chapter three (National Treatment and Market Access for Goods). Some types of radioactive waste may also be treated as a specialized category of goods: energy and basic petrochemical goods, meaning parts of Chapter six may be relevant.

A second question is what NAFTA says about import and export bans. Such bans are prohibited under articles 309 and 603(1), which basically incorporate GATT law on import and export restrictions. This is not the end of the story, however, since these articles must be read together with other NAFTA law and other international agreements.

The key elements of NAFTA in this context are the general exceptions (Article 2101) and the national security exceptions (Articles 2102 and 607). If they are found to apply, these exceptions are able to "save" a measure—such as an import or export ban—that would otherwise be illegal under NAFTA rules. Under certain conditions, the general exception for the protection of human, animal or plant life or health (the environmental exception) might apply to import or export bans on radioactive waste. The ban would need to be aimed at achieving a clearly defined environmental objective, and would need to be defendable as the least trade-restrictive reasonably available option to achieve that objective. The measure should, in addition, not be implemented so as to constitute

protectionism: promoting Canadian economic interests at the expense of those of the NAFTA partners.

There is also some scope for the successful use of the national security exceptions to justify an import or export ban. The relevant exceptions relate to non-proliferation, which is also addressed by the *Convention on the Physical Protection of Nuclear Material*, to which both Canada and the US are parties but Mexico is not. The security exceptions for energy and basic petrochemical goods are more restrictive than those for goods in general, demanding that any measure taken be "necessary" – a term that means "least-trade-restrictive" in WTO case law. But any dispute settlement body would probably be inclined to grant governments the use of this type of exception unless the measure in question was blatantly obvious protectionism.

Another piece of international law might be relevant to import or export bans: the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*, to which Canada and the US are parties. The Joint Convention asserts that any state has the right to ban import of spent fuel and nuclear waste, and that it is preferable to manage such material in the country where it was produced. The Convention also references standards, in terms of administrative, regulatory and technical capacity, for disposal and storage, and obliges exporters to not authorize shipments to countries who do not meet the standards. Neither should they authorize imports if they themselves do not meet the standards. As the Convention was signed after the NAFTA, and as it is more specifically related to radioactive waste management, it would prevail in the event of any inconsistency between the agreements, though every attempt would be made to read the two agreements as mutually supportive.

Export and import bans are only one regulatory instrument for managing the safe storage and disposal of radioactive materials. With or without the existence of such bans, Canada will need to develop a broader regulatory management framework dealing with, among other things, the issues raised by transboundary movement of such materials.

Inasmuch as that framework will involve standards-related restrictions on the transboundary movement of radioactive waste, the provisions of NAFTA Chapter nine (Standards-Related Measures) will apply, as may parts of Chapter six. By "standards," NAFTA means any mandatory or voluntary criteria to be met in the handling of radioactive waste, such as transport safety standards, standards for safe disposal, etc. The aim of NAFTA's Chapter nine is to prevent such standards from being used to unfairly protect Canadian economic interests at the expense of our NAFTA partners. To that end, the basic rights and obligations in Chapter nine demand that any standards be used to achieve an explicit legitimate aim, such as environmental protection. They specify that if a

risk assessment is carried out (and it probably should be), that the results be reflected in the final standard, and that the standard-related measure not result in protectionism – the favouring of Canadian goods or services that are in like circumstances with those of our NAFTA partners.

Chapter nine also obliges Canada to use international standards, where they exist, as a basis for any standards-related measures. Canada has scope under NAFTA law to exceed international standards where it can justify doing so by the need to fulfill legitimate objectives. But any such higher standards may have to be defended as necessary and non-discriminatory, while standards based on international standards are automatically presumed to be so. While Canada and the other NAFTA Parties are signatories to a number of treaties that lay down standards for handling of radioactive waste, these would not be considered international standards within the meaning of Article 905.

Though NWMO is not currently set up as a monopoly provider of radioactive waste management services, such a scenario might eventually be considered as an option, and so it is worth noting what that would imply from a NAFTA law perspective. The relevant provisions are found in Article 1502 (Monopolies and State Enterprises). Among the results would be that NWMO would be obliged to provide non-discriminatory treatment to Mexican or US investors wanting to buy its services – for example, importers of radioactive waste for the purposes of disposal in Canada. Such a scenario is unlikely given the current industry structure in the US and Mexico, but the legal obligation is worth noting.

NAFTA's Chapter eleven, on investor protections, might also have implications for the final shape of Canada's regulatory approach to radioactive waste management. Based on NAFTA case law, two scenarios (both rather unlikely) are worth noting, assuming that NWMO is established not as a monopoly or state enterprise, but rather as a private firm. In the first, Canada would be forced to grant equal treatment to US or Mexican firms that decided to invest in Canada as competitors to NWMO, offering their services to Canadian producers of radioactive waste. This might even involve granting equal funding. In the second, Canada would be forced to allow the export of radioactive waste by a US or Mexican investor that set up a subsidiary in Canada in order to export to its parent firm for disposal or processing.

As we consider NAFTA's implications for a regulatory structure for the management of radioactive waste, it is also worth looking ahead to the possible developments under the Free Trade Area of the Americas (FTAA). This agreement, covering all the states of the Western Hemisphere save Cuba, is under negotiation and scheduled to wrap up by 2005 (though many now question the realism of this deadline). Though predictions at this point are difficult, in general the issues raised by the prospective FTAA are not much

different than those raised by NAFTA. Of course the probability of unforeseen or unlikely trade law challenges will increase with the number of parties (34 in the FTAA). One point of difference might be a scenario under which AECL's customers for CANDU reactors in the hemisphere (currently there is only one) requested that Canada take back the resulting radioactive waste for disposal in Canada.

In the final analysis, none of the legal issues noted above are necessarily problematic for the achievement of Canada's legitimate objectives in managing radioactive waste. But in order to construct a regulatory framework that will be robust to trade law challenges and unexpected developments, it is important to understand what steps need to be taken to respect Canada's rights and obligations under NAFTA.

2.0. Introduction

This paper surveys Canada's rights and obligations under the North American Free Trade Agreement (NAFTA) in an effort to better understand what they imply with respect to transboundary movement of radioactive waste and, by implication, to the choices Canada will have to make in selecting or approving a management approach for such waste.[1] It was commissioned by the Nuclear Waste Management Organization (NWMO) as part of a broad-based effort to inform the public and other stakeholders abut the current status of Canada's legal and administrative arrangements for radioactive waste.

It begins by analyzing those elements of NAFTA law applicable to the outright ban of import or export of radioactive waste, and then turns to the law applicable to the broader exercise of establishing a regulatory regime. It then turns briefly to a look ahead to the future of trade law at the hemispheric level as embodied in the proposed Free Trade Area of the Americas, and projects what this might mean to the conclusions reached in the preceding analysis.

3.0. Key Elements

3.1. Scope and Coverage of NAFTA

This section begins the analysis at a fundamental level, asking whether NAFTA covers trade in radioactive waste, and asking further what provisions in NAFTA are relevant. It finds that radioactive materials are treated as goods under NAFTA law, and may also be treated as a specialized category of goods: energy and basic petrochemical goods.

Chapter three is the first Chapter of NAFTA's Part Two (Trade in Goods), covering national treatment and market access issues including, importantly, import and export restrictions. These provisions are examined in greater detail in the following section, but first it is necessary to determine whether radioactive material is in fact a "good" as defined by NAFTA (and thus covered by Chapter three's provisions).

This question is treated in Article 300 (Scope and Coverage), which states: "This Chapter applies to trade in goods of a Party…." "Goods of a party" is defined in Article 201, Definitions of General Application, as: "Domestic products as these

[1] Section 15 and subsection 20(5) of the *Nuclear Fuel Waste Act* describe the choices to be made with respect to this management approach.

are understood in the General Agreement on Tariffs and Trade …." There is in fact no definition of goods or products in the GATT, but the general understanding is that anything that enters into commerce is either a good or a service (or both), and thus is covered under some aspect of WTO law. Absent some explicit carve-out or exemption, which does not exist, this implies that radioactive material can be considered a good for the purposes of NAFTA law.

Within NAFTA Part Two there are several Chapters dealing with trade in goods of a specific type. One of these is Chapter six (Energy and Basic Petrochemicals). Does radioactive waste fall under the scope of this Chapter?

Article 602(2) lists the types of energy and basic petrochemical goods covered under Chapter six. These include, as per 602(2)(i), sub-headings 2844.10 through 2844.50 of the Harmonized System of classification (with respect to uranium compounds only). This class of goods includes depleted uranium, and uranium as fuel. It also includes "spent (irradiated) fuel elements (cartridges) of nuclear reactors." In other words, Chapter six covers nuclear fuel, both used and unused, but not other types of radioactive wastes.

3.2. NAFTA and Import and Export Restrictions on Radioactive Materials

This section asks what specific provisions in NAFTA cover import and export restrictions on radioactive materials. It looks specifically at the case of import and export bans, finding that Chapters three and six of NAFTA contain specific rights and obligations that will impact the use of these types of regulatory measures. It leaves until the next section the analysis of other trade-related policy options and the broader regulatory regime for management of radioactive waste.

3.2.1. Chapters Three and Six

This section establishes that under both Chapters three and six of the NAFTA, there is a prohibition on outright import and export bans. It goes on to note, however, that this prohibition is subject to two sorts of exceptions, examined in greater detail in the subsequent sections: general exceptions, and national security exceptions.

The key provisions relevant to import or export restrictions under NAFTA are under Chapter three (National Treatment and Market Access for Goods). Within that Chapter, the provisions of interest are contained in Article 309 (Import and Export Restrictions). This Article basically confers on the Parties the rights and obligations found in Article XI of the GATT (General Elimination of

Quantitative Restrictions), but provides that these shall only prevail "except as otherwise provided in this Agreement [NAFTA]."[2] The equivalent language in Chapter six, in Article 603(1), incorporates the provisions of the GATT with respect to prohibitions or restrictions on trade in energy and basic petrochemical goods, with the caveat that these are "subject to the further rights and obligations of [the NAFTA]."

Given Chapter three's incorporation of GATT's Article XI, understanding NAFTA's provisions means analyzing the relevant GATT provisions. GATT Article XI sets out the following obligation:

> *"No prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licences or other measures, shall be instituted or maintained by any contracting party on the importation of any product of the territory of any other contracting party or on the exportation or sale for export of any product destined for the territory of any other contracting party."*

In effect this obliges WTO Members and, by reference, NAFTA Parties, not to impose quantity-based import or export restrictions on trade in goods. The only allowable restrictions would be based on duties, taxes and charges. This would of course imply a prohibition on outright bans on import and export.

As in the WTO context, this obligation in the NAFTA is subject to other applicable provisions within the agreement. The relevant provisions in the NAFTA are Article 2101 (General Exceptions), Article 2102 (National Security) and Article 607 (National Security Measures).

3.2.2. Article 2101 (General Exceptions)

This section considers NAFTA's provisions for general exceptions to the rules, and asks whether these exceptions might "save" a ban on imports or exports of radioactive materials that was, as per the analysis above, prohibited under Articles 309 and 603(1). It finds that such a measure might be allowed for the purposes of protecting human, animal or plant life or health (the environmental exception). The analysis of case law on this exception shows the importance of establishing a clear environmental objective as a basis for any measure, and the need to ensure that the measure in question is the least trade-restrictive alternative reasonably available to achieve that objective. The measure

[2] This sort of "importing" of GATT law into NAFTA is a common feature throughout the Agreement, and is done by simply stating that the relevant GATT law provisions are incorporated into and made part of the NAFTA.

should, in addition, not be implemented so as to serve the purposes of protectionism: promoting Canadian economic interests at the expense of those of the NAFTA partners.

Article 2101(1) applies to trade in goods (but not to trade in services or to investment– an exception that will be discussed in Section 3.2.2., below). It also applies to NAFTA's provisions on technical barriers to trade. Article 2101(1) basically incorporates GATT Article XX (General Exceptions) into the NAFTA. GATT Article XX reads in part as follows:

> *"Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:*
> *…*
> *(b) necessary to protect human, animal or plant life or health;*
> *…*
> *(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption; …"*

Article 2101(1) makes it clear that the Parties see environmental measures being covered under Article XX(b), and that they consider exhaustible natural resources to include living natural resources. Both of these understandings have been confirmed by WTO jurisprudence,[3] but have been the subject of some controversy among the Members.

If successfully invoked, Article 2101(1) could save import and export bans from a challenge brought under Chapters three and six. Success in this area would involve first establishing that the conditions are met for justification under the relevant paragraph(s), where the burden of proof would be on the Party defending its measures. Once it is established that the paragraphs apply, the burden of proof is then on the complaining Party to show that the measures are being applied in such a way as to violate the "chapeau," – the introductory paragraph.[4]

As to the first step in this two-step procedure, Canada would have to show, were it invoking GATT Article XX(b), that it was pursuing a legitimate environmental goal in banning import or export of radioactive material. Under such a challenge, it would be important to be able to demonstrate that the measures in question were in pursuit of a clearly defined environmental objective. If the true

[3] See inter alia, Tuna Dolphin, 1982; Shrimp-Turtle, 1998.
[4] This two-step procedure was first established in Reformulated Gas, 1996.

underlying objective was in some way protectionist, the measure could be challenged as a disguised restriction, or if bore no relation to the espoused objective it could be challenged as arbitrary. If the objective itself is found to be properly served by the measure, the measure would then have to be shown to be "necessary" to achieving that objective, meaning it should be Canada's least trade-restrictive reasonably available policy option for fulfilling that objective. In other words, if the objective were environmental protection, Canada would have to show both that trade in radioactive materials posed an environmental threat to human, plant or animal life or health, and that the ban was the least trade-restrictive alternative reasonably available for addressing the problem. Article XX(g) is arguably less applicable to a ban of the sort considered here; it aims at conservation of natural resource stocks, whether in the form of commercial resources such as minerals, forests and fish, or in the form of non-commercial stocks of wildlife.

The second step in the procedure, should the measure itself be provisionally justified under the sub-paragraphs, asks whether the measure is being properly applied. A "disguised restriction" would be one that purported to serve some non-economic goal but was in fact aimed at protection of Canada's commercial interests. Arbitrary or unjustified discrimination between Canada and the other NAFTA Parties would be discrimination not justified by the objective toward which the measure is ostensibly aimed. The final aim of both tests is to prevent protectionism, or the promotion of Canadian economic interests at the expense of US or Mexican interests. Were there, for example, a functioning commercial US site for the disposal of radioactive materials, and the ban diverted the export of Canadian materials from this destination to a Canadian destination in a manner that afforded the latter some economic benefit, this would be an important consideration.

Similarly, in the context of an import ban, were there a Canadian facility that could handle radioactive waste more cheaply than its US competitors, banning imports of such materials would force up the price of nuclear-generated electricity on the US side—electricity that competes directly with such providers as Ontario Power Generation and Bruce Power. This again would be an important consideration.

3.2.3. Article 2102 (National Security)

This section considers NAFTA's Chapter two provisions for national security exceptions, and asks whether these exceptions might "save" a ban on imports or exports of radioactive materials that was, as per the analysis above, prohibited under Articles 309 and 603(1). The relevant national security exceptions are related to non-proliferation

goals, which are also addressed by the Convention on the Physical Protection of Nuclear Material*, to which both Canada and the US are parties. The likelihood is that any legislation aimed at non-proliferation would be given a fairly easy ride by any dispute settlement body unless it was blatantly obvious protectionism.*

NAFTA Article 2102 sets out a number of exceptions to the rules of NAFTA on the grounds of national security. It provides in part that nothing in the NAFTA shall be construed:

> *"(b) to prevent any Party from taking any actions that it considers necessary for the protection of its essential security interests*
>
> *…*
>
> *(iii) relating to the implementation of national policies or international agreements respecting the non-proliferation of nuclear weapons or other nuclear explosive devices."*

Canada and the US are Parties to an international agreement respecting non-proliferation, the *Convention on the Physical Protection of Nuclear Material*, which is primarily aimed at ensuring high security standards in the transport and storage of radioactive materials. The Convention binds the Parties not to export nuclear material unless they have received assurances from the importer that during transport the material will be protected at certain levels.[5] It also binds Parties not to import nuclear material from non-Parties unless they have received similar assurances.[6] And it prohibits transit through the Parties' territories between non-Party States unless the State Parties have again received such assurances.[7]

Alternatively, if the case could be made that the import or export of Canada's waste in some manner increased the risks of proliferation, then Canada might propound regulations banning the types of trade in question. Such a regulation would be justified under NAFTA Article 2102, which exempts measures "relating to the implementation of national policies" on non-proliferation. The question is whether such a regulation could in fact be justified on non-proliferation grounds. It would be pointed out in any dispute that the key agreement signed by Canada and the US in this context envisions no need for such a ban. The likelihood, however, is that any panel would accord the Parties a great deal of leeway on such questions, deferring to national regulations unless they were blatantly obvious protectionism.

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3.2.4. Article 607 (National Security Measures)

[5] Article 4(1).
[6] Article 4(2).
[7] Article 4(3).

This section considers NAFTA's Chapter six provisions for national security exceptions, and asks whether these exceptions might "save" a ban on imports or exports of radioactive materials that was, as per the analysis above, prohibited under Articles 309 and 603(1). The provisions in this chapter are much like those found in Chapter two, and thus the analysis from the previous section applies here as well. The exceptions under this Chapter are more restrictive – having an obligation to prove that they are least-trade-restrictive – but would again probably benefit from a lenient judgement by any dispute settlement body.

Article 607 circumscribes the exceptions provided for by GATT Article XXI (Security Exceptions), and NAFTA Article 2102 (National Security) as they apply to energy and basic petrochemical goods. For such goods, Parties may only adopt or maintain restrictive trade measures to the extent necessary to:

> "a) supply a military establishment of a Party or enable fulfillment of a critical defense contract of a Party;
>
> b) respond to a situation of armed conflict involving the Party taking the measure;
>
> c) implement national policies or international agreements relating to the non-proliferation of nuclear weapons or other nuclear explosive devices; or
>
> d) respond to direct threats of disruption in the supply of nuclear materials for defense purposes."

This is a narrow set of exceptions in comparison to the broader security exceptions allowed in GATT Article XXI and NAFTA Article 2102. But the key exception relating to non-proliferation is present here as it is in Article 2102. As such, the discussion of that provision above also applies in the event that radioactive waste is considered an energy or basic petrochemical good.

Note that the measures in question must be "necessary" for the achievement of the various goals set out. In the context of the GATT Article XX exceptions, "necessary measures" have come to be interpreted as "least trade-restrictive measures." That is, there should be no reasonably available alternative measure that achieves the objective, but that is less trade-restrictive. The term "necessary" is also used in Article 2102, but there it is up to the party taking the measure to decide that the measure is necessary. In the context of energy and basic petrochemical goods, the exception is considerably more restricted. Again, though, it is likely that any dispute settlement body would be less demanding in the context of non-proliferation as it related to national security.

3.2.5. The Joint Convention

This section considers an international convention to which Canada and the US are parties: the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management. *It finds that some of the provisions of the Joint Convention seem to conflict with the NAFTA prohibition on import and export bans. Provided that such a conflict indeed exists (and it is unlikely that it would be found to exist), the key question is: which body of law would take precedent? The conclusion is that the provisions of the Joint Convention would prevail to the extent of any inconsistency.*

There is another piece of international law that has relevance to the question of Canadian import and export bans for radioactive wastes: the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management* (hereinafter, "the Joint Convention"). This Convention, to which the US and Canada are Parties (Mexico is not) entered into force in September 1997 (after the entry into force of the NAFTA).

The Convention covers nuclear waste, and has provisions for prior informed consent (Art. 27(1)(i)), and an obligation on exporters to ensure that importers have the administrative, regulatory and technical capacity to manage waste in accordance with its provisions (Art. 27(1)(iv)). As well, Parties may not authorize imports absent the same types of capacity at the domestic level (Art. 27(1)(iii)).

It notes in its preamble that the Parties will pursue their objectives under the treaty,

> *"…*
> *(xi) Convinced that radioactive waste should, as far as is compatible with the safety of the management of such material, be disposed of in the State in which it was generated, whilst recognizing that, in certain circumstances, safe and efficient management of spent fuel and radioactive waste might be fostered through agreements among Contracting Parties to use facilities in one of them for the benefit of the other Parties, particularly where waste originates from joint projects;*
>
> *(xii) Recognizing that any State has the right to ban import into its territory of foreign spent fuel and radioactive waste; …"*

The first of these preambular assertions might provide some justification for import and export bans under NAFTA's general exceptions, recognizing as it does the value of treating waste in the state in which it was generated. It could be argued that this understanding, with which both Canada and the US are in accord, underpins the objectives of any banning legislation.

The second assertion is even clearer in its support for the right of states to impose bans, at least on imports.

What is the relationship between the Joint Convention and NAFTA? NAFTA Article 103 (Relationship to Other Agreements) states:

> *"1. The Parties affirm their existing rights and obligations with respect to each other under the* General Agreement on Tariffs and Trade *and other agreements to which such Parties are party.*
>
> *2. In the event of any inconsistency between this Agreement and such other agreements, this Agreement shall prevail to the extent of the inconsistency, except as otherwise provided in this Agreement."*

As the Joint Convention is not one of the several international agreements to which the NAFTA gives explicit deference (in Article 104), this text seems to indicate that where there is an inconsistency the NAFTA should prevail. However, paragraph 1 makes it clear that the agreements in question are those in existence at the time of the signing of the NAFTA (*existing* rights and obligations). The Joint Convention being signed thereafter, it is not one of the other agreements referred to in paragraph 2, and there is therefore no guidance in the NAFTA as to the handling of inconsistencies.

In any case, there is not necessarily an inconsistency between the assertions of the Joint Convention in its preamble and the NAFTA provisions on import and export bans, and every attempt would be made to read the two agreements so as not to find one. NAFTA does in fact allow such bans, where they fall under one of the several exceptions surveyed above. As well, the statement in the Convention would, in this context, be useful to help interpret the intent and obligations of NAFTA as it relates to a ban.

Finally, the *Vienna Convention on the Law of Treaties* (Articles 30(3), 30(4)(b)) states that where two treaties relate to the same subject matter, and two States are Party to both treaties, then between those two states "the earlier treaty applies only to the extent that its provisions are compatible with those of the latter treaty." In other words, provided it is admitted that the NAFTA and the Joint Convention relate to the same subject matter, the 1997 declaration in the Joint Convention that states have the right to ban the import of spent fuel and radioactive waste is the proper expression of the intentions of the US and Canada, any NAFTA provisions to the contrary notwithstanding. The conflict is thus resolved in favour of the right to ban.

3.2.6. Conclusions

The provisions of NAFTA's Article 3 are straightforward: Parties are prohibited from imposing quantitative import or export restrictions, including bans.

However, this does not mean that a ban on import or export of radioactive materials would necessarily contravene NAFTA obligations, as Article 3 must be read together with other relevant provisions, including the key exceptions. There is some possibility that the general exceptions might be successfully invoked, there being three important requirements:

1. An environmental objective justifying the ban;
2. An argument that the ban is the least trade restrictive measure reasonably available to Canada for achieving this objective, and;
3. Implementation of the measure in a way that does not unfairly privilege Canadian economic interests to the detriment of the interests of the other Parties.

It is also possible that either of the security exceptions might justify a ban on imports or exports. The ban would have to be in pursuit of non-proliferation goals and, in the case of the exceptions for energy and basic petrochemical goods, would have to be "necessary" to fulfill those goals—a term from WTO law that means "least-trade-restrictive." If a legitimate non-proliferation issue were involved it is likely that any dispute settlement body would allow governments the use of these exceptions.

A ban might also be justified by the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*, which asserts that any state has the right to ban import of spent fuel and nuclear waste, and that it is preferable to manage such material in the country where it was produced. The Convention also references standards, in terms of administrative, regulatory and technical capacity, for disposal and storage, and obliges exporters not to authorize shipments to countries who do not meet the standards, as well as not to authorize imports if they themselves do not meet the standards. These provisions may strengthen any case for an Article 2101(1) general exception.

3.3. NAFTA Implications for a Broader Regulatory Regime for the Management of Radioactive Materials

Export and import bans are only one regulatory instrument for managing the safe storage and disposal of radioactive materials. With or without the existence of such bans, Canada will need to develop a broader regulatory management

framework dealing with, *inter alia*, the issues raised by transboundary movement of such materials.

Inasmuch as that regime will involve restrictions on the transboundary movement of radioactive waste, the provisions of NAFTA Chapter nine (Standards-Related Measures) will apply, as may parts of Chapter six.

3.3.1. Article 904 (Basic Rights and Obligations)

This section considers what the NAFTA has to say about the use of trade-related standards in any management approach that Canada might adopt for radioactive waste. By "standards," NAFTA means any mandatory or voluntary criteria to be met in the handling of radioactive waste, such as transport safety standards, standards for safe disposal, etc. The aim of NAFTA's Chapter nine is to prevent such standards from being used to unfairly protect Canadian economic interests at the expense of our NAFTA partners and vice versa. To that end, the basic rights and obligations in Chapter nine ask that any standards be used to achieve an explicit legitimate aim, such as environmental protection. They ask that if a risk assessment is carried out (and it probably should be), that the results be reflected in the final standard, and that the standard-related measure not result in protectionism – the favouring of Canadian goods or services that are in like circumstances with those of our NAFTA partners.

Chapter nine deals with standards-related measures—measures that will necessarily be part of any regulatory regime for managing the transboundary movement of radioactive waste.[8] Examples of standards-related measures include technical regulations for safety/security in transport,[9] technical regulations for safe disposal in country of destination, technical regulations for safe disposal as a condition of import, liability regulations and so on. The basic rights and obligations under this Chapter are set out in Article 904, which contains four elements.

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[8] Standards-related measures as defined in Article 915 include technical regulations (mandatory specifications) and standards (voluntary specifications).

[9] These already exist as part of Canada's regulatory framework for radioactive materials. The relevant domestic and international regulations and obligations are described in the NWMO background study: "Background Paper on the Status of the Legal and Administrative Arrangements for High Level Radioactive Waste Management in Canada." The US also has a well-developed regulatory framework for transport, disposal and storage of nuclear waste, based on the *Nuclear Waste Policy Act* of 1982. Mexico's system is based on the *Ley Reglamentaria en Materia de Energía Nuclear*. All three regimes are in large part based on the standards for transportation of nuclear materials developed through the IAEA.

1. The right to take standards-related measures. 904(1) establishes that:

> *"Each Party may, in accordance with this Agreement, adopt, maintain or apply any standards-related measure, including any such measure relating to safety, the protection of human, animal or plant life or health, the environment or consumers, and any measure to ensure its enforcement or implementation. Such measures include those to prohibit the importation of a good of another Party… that fails to comply with the applicable requirements of those measures or to complete the Party's approval procedures."*

Note the important caveat "in accordance with this agreement." In effect this passage simply confirms that NAFTA applies to any standards-related measures adopted by the Parties after NAFTA came into force, or adopted before it came into force and maintained afterwards.

2. The right to establish levels of protection. 904(2) provides that:

> *"Notwithstanding any other provision of this Chapter, each Party may, in pursuing its legitimate objectives of safety or the protection of human, animal or plant life or health, the environment or consumers, establish the levels of protection that it considers appropriate in accordance with Article 907(2)."*

There are two elements here of interest to the prospect of a Canadian regulatory regime. First, the *objective* of the regime must be clearly enunciated. This is the keystone in building environmental regulations that are not inconsistent with trade law obligations.[10] The objective would need to be "legitimate," and the illustrative list of legitimate objectives offered in Article 915 is broad, including "protection of human, animal or plant life or health, the environment or consumers," and "sustainable development." Non-proliferation, while not specifically mentioned here, would almost certainly not be questioned.

Second, the *means* by which a country pursues its legitimate objective will also be the subject of scrutiny. In that respect, the second element of 904(2) is important: the levels of protection targeted by the standards-related measures must be set in accordance with Article 907(2).

Article 907 deals with risk assessment. 907(2) provides that where a Party establishes a level of appropriate protection, and it conducts a risk assessment, it should ensure that the final level of protection does not:

> *"(a) result in arbitrary or unjustifiable discrimination against goods or service providers of another Party;*

[10] See Mann, 2000.

(b) constitute a disguised restriction on trade between the Parties; or

(c) discriminate between similar goods or services for the same use under the same conditions that pose the same level of risk and provide similar benefits."

These are fairly straightforward requirements, but the last implies a level of sophistication to environmental regulatory exercise that is not always present. That is, it requires a comparison of levels of risk across the spectrum of similar goods with similar benefits (an assessment in its own right), and a harmonizing of the levels of protection afforded. Or, in the case of dissimilar levels of protection in like circumstances, they require some element of non-arbitrariness or justifiability to the resulting discrimination. There being little in the way of case law on which to rely, it is not clear whether public sentiment might offer some acceptable justification for such discrimination. Radioactive materials being a somewhat atypical "good," it might in any case be difficult to find other goods with "the same use under the same conditions," and providing "similar benefits." But other forms of hazardous waste might fit this bill, in which case the final management approach should not result in significantly varying levels of protection.

Note that nowhere in Article 907 is there a requirement to perform a risk assessment in support of standards-related measures. Indeed, neither in 907(2) nor 907(1) (which describes factors that might be taken into account in the conduct of a risk assessment) is it made clear what relationship such an assessment should have to the levels of protection established by the Parties. But case law from the WTO's SPS Agreement[11] makes it clear that if risk assessment is carried out, the resulting level of protection must be based on its results.[12]

The definition of a risk assessment, from NAFTA's Article 915, is anything but specific: "evaluation of the potential for adverse effects."[13] Article 907 notes that it might include such factors as:

- Available scientific evidence or technical information;
- Intended end uses;
- Processes of production, operating, inspection, sampling or testing methods;

[11] The SPS Agreement is the Agreement on the Application of Sanitary and PhytoSanitary Measures. Of course case law from the WTO is not even, strictly speaking, binding on WTO panels, much less NAFTA panels. But any NAFTA panel will in fact be guided by important rulings of trade law relevant to the questions at hand.

[12] See Beef Hormones, 1998. There seems to be, in fact, a disincentive to conducting a risk assessment, since only after doing so would the provisions of 907(2) actually apply. See DFAIT (1992), F(iii) & (iv).

[13] The language here refers to adverse effects of the activity to be regulated. The risk assessment called for here is not an assessment of the impacts of the regulations themselves.

- Environmental conditions.

But none of these is actually required – they are listed as illustrative examples. While a dispute panel would probably flesh out this requirement to demand certain standard qualities of the assessment exercise, the plain reading of the text is vague enough to include non-empirical exercises such as consultation exercises and experts' discussions.

While the exercise of risk assessment is not a legal obligation in the setting of levels of protection, it is advisable, particularly where there exists some possibility of conflict with the provisions of Chapter nine. If it can be shown that a risk assessment was conducted, and that it informed the final chosen level of protection, the resulting regulatory measures will be much stronger in any Chapter nine-related challenge. The legitimacy of the objective will be demonstrable, and there will presumably be some justification for the chosen level of protection, should charges of discrimination or disguised restriction (as per Article 907(2)) be raised.

There need not, and in fact *can* not, be an automatic link between a risk assessment and the setting of levels of protection. A risk assessment only yields data on risk levels, but does not tell regulators what levels of risk are acceptable. This last task, often delineated from risk assessment with the title risk management, is a political one. The exercise of risk management, provided it is supported by an adequate risk assessment, and provided that it does not result in substantially different levels of protection for similar goods with similar risks and benefits, is not likely to be successfully challenged.

3. Non-Discriminatory Treatment: Article 904(3) binds the Parties to provide national treatment and most-favoured nation treatment to goods of other NAFTA Parties, where like circumstances prevail. In other words, in establishing the regulatory regime, Canada should in principle refrain from discriminating in its treatment of radioactive materials based on the country of origin; safety, security and other standards should apply equally to radioactive waste no matter what the country of origin (in the case of imports) or destination (in the case of exports). That said, nothing in this Article prevents Canada from establishing different levels of standards-related measures related to different types of materials (e.g., differentiating between spent fuel from fast breeder reactors and that from Candu reactors) where a risk assessment has shown justification; this is the point of the "like circumstances" caveat. Nor does this Article prevent Canada from adopting technical regulations on exports related to the administrative, regulatory and technical capacity of the country of destination (as per its obligations under the Joint Convention)—regulations which would discriminate against certain countries that lack the needed infrastructure.

4. Unnecessary Obstacles: Article 904(4) provides that:

> *"No Party may prepare, adopt, maintain or apply any standards-related measure with a view to or with the effect of creating an unnecessary obstacle to trade between the Parties. An unnecessary obstacle to trade shall not be deemed to be created where:*
>
> *(a) the demonstrable purpose of the measure is to achieve a legitimate objective; and*
>
> *(b) the measure does not operate to exclude goods of another Party that meet that legitimate objective."*

This provision has two requirements. First, a measure must be aimed at achieving a legitimate objective, and it must be demonstrably so. Again, the importance of clearly enunciating the regulatory objective, and of supporting the resulting measures by means of risk assessment, is clear. Second, regardless of the aim, the *effect* of the measure should not be to discriminate against the goods of other NAFTA Parties where those goods meet the objective. For example, while a standard that mandates the use of Canadian containment technology during transport may be legitimately aimed at environmental protection, it might have the effect of discriminating against US or Mexican exporters of radioactive waste to Canada who have their own proprietary technologies. In such a case it is better to specify the objectives to be achieved than to specify the technology to be used.

3.3.2. Article 905 (Use of International Standards)

This section considers Canada's NAFTA obligations to use international standards, where they exist, as a basis for any standards-related measures. The chosen approach to managing radioactive waste will involve propounding a number of standards, as noted in the previous section. Canada has scope under NAFTA law to exceed international standards where it can justify doing so by the need to fulfill legitimate objectives. But such higher standards may have to be justified as necessary and non-discriminatory, while standards based on international standards are automatically presumed to be so. While Canada and the other NAFTA Parties are signatories to a number of treaties that lay down standards for handling of radioactive waste, these would not be considered international standards within the meaning of Article 905 (though they would probably carry a great deal of weight in demonstrating the legitimacy of domestic standards based on them).

Article 905(1) mandates that the Parties shall use, as a basis for their standards-related measures,

> *"… relevant international standards or international standards whose completion is imminent, except where such standards would be an ineffective or inappropriate means to fulfill its legitimate objectives, for example because of fundamental climatic, geographical, technological or infrastructural factors, scientific justification or the level of protection that the Party considers appropriate."*

It is important to note that there is ample scope to deviate from international standards according to the demands of the context, but if challenged for doing so, a Party would have to justify its action. The key drawback to exceeding international standards is elaborated in Article 905(2):

> *"A Party's standards-related measure that conforms to an international standard shall be presumed to be consistent with Article 904(3) and (4)."*

That is, while Parties are free to set standards-related measures higher than relevant international standards, there is incentive not to do so. Measures conforming to international standards are presumed not to be unnecessary obstacles to international trade (as per Article 904(4)), though they may in fact be obstacles, and are presumed not to be discriminatory (as per Article 904(3)), though they may in effect discriminate.

Where international standards of procedure exist for the storage, transport and disposal of radioactive material, and where those standards are appropriate to the Canadian context, Canada should base its standards-related measures on them, as per its NAFTA obligations. As stressed above, Canada is free to deviate from any international standards as appropriate, but may have to justify its decision to do so if challenged.

Canada is party (along with other NAFTA partners) to a number of international agreements that lay down standards of conduct with respect to the transport, storage and disposal of radioactive materials. Two key agreements were referenced in the preceding analysis: the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*, and the *Convention on the Physical Protection of Nuclear Material*. These agreements would not be considered international standards for the purposes of Chapter nine. Article 915 defines standards as being set by standard-setting bodies, and defines standard-setting bodies as standardizing bodies whose membership is open to the relevant bodies (that is, national level standard-setting bodies such as the Canadian Standards Association) of at least all WTO members. But the use of international law by the WTO Appellate Body raises the possibility that such

agreements might be used in determining whether measures were arbitrary, disguised protection, unjustifiably discriminatory, etc.[14]

3.3.3. Article 1502 (Monopolies and State Enterprises)

This section asks what NAFTA says about monopolies and state enterprises. Though NWMO is not currently set up as a monopoly provider of radioactive waste management services, such a scenario might eventually be considered as an option, and so it is worth noting what that would imply from a NAFTA law perspective. Among the results would be that NWMO would be obliged to provide non-discriminatory treatment to Mexican or US investors wanting to buy its services – importers of radioactive waste for the purposes of disposal in Canada. Such a scenario is unlikely given the current industry structure in the US and Mexico, but the legal obligation is worth noting.

Article 1502 (3) spells out the obligations Parties undertake with respect to government-created monopolies, privately-owned monopolies granted governmental authority and state enterprises. The *Nuclear Fuel Waste Act*, which mandates the establishment of the NWMO, sets out as one of its purposes the implementation of the approach decided as a result of the mandated study of options. While the shape of the final regulatory structure is not yet clear, one possibility is the establishment of NWMO as the sole provider of nuclear fuel waste management services in Canada. Article 7 of the *Nuclear Fuel Waste Act* provides as follows:

> *"The waste management organization shall offer, without discrimination and at a fee that is reasonable in relation to its costs of managing the nuclear fuel waste of its members or shareholders, to*
>
> *(a) Atomic Energy of Canada Limited, and*
> *(b) all owners of nuclear fuel waste produced in Canada that are neither members nor shareholders of the waste management organization*
>
> *its nuclear fuel waste management services that are set out in the approach that the Governor in Council selects under section 15 or approves under subsection 20(5)."*

It is not clear that Article 1502 presently applies, or would apply in future, to NWMO. But it is worth laying out the conditions under which the final regulatory regime might bring the NWMO under the scope of the Article.

[14] Shrimp-Turtle, 1998.

It should be noted at the outset that nothing in the wording of the Nuclear Fuel Waste Act suggests that NWMO would be designated the sole seller of nuclear fuel waste management services in Canada; NWMO is obliged to offer its services, but those to whom it offers are not obliged to accept.[15] Neither is the NWMO obliged to offer its nuclear fuel waste management services to the shareholders (rather, only to AECL and non-shareholders), who are at present the only producers of nuclear waste in Canada. But if the approach adopted under section 15 or approved under subsection 20(5) of the *Nuclear Fuel Waste Act* included such obligations, this would make NWMO a privately-owned monopoly within the meaning of NAFTA Chapter fifteen.

Even the status quo might be argued to create a monopoly *in effect*. The *Nuclear Fuel Waste Act* mandates that the shareholders (all the major nuclear waste producers in Canada) pay between 10 and 500 million dollars to establish NWMO, and thereafter pay annual fees of between 2 and 100 million dollars. While NWMO will eventually offer services to these shareholders at "reasonable" rates, it is doubtful that dealing with a competing firm would make economic sense given the investment the shareholders will have already made in NWMO and the lower fees it will thereby be obliged to charge.[16] However, the definition of monopoly in NAFTA's Article 1505 is clear: such an entity must be "designated as the sole provider or purchaser of a good or service." So under the current legislation NWMO is not a monopoly under NAFTA rules.

If it *were* to be established as a monopoly, however, what would be the implications? Article 1502(3) provides that:

> *"Each Party shall ensure, through regulatory control, administrative supervision or the application of other measures, that any privately owned monopoly that it designates and any government monopoly that it maintains or designates:*
>
> *(a) acts in a manner that is not inconsistent with the Party's obligations under this Agreement wherever such a monopoly exercises any regulatory, administrative or other governmental authority that the Party has delegated to it in connection with the monopoly good or service, such as the power to grant import or export licenses, approve commercial transactions or impose quotas, fees or other charges;*
>
> *(b) except to comply with any terms of its designation that are not inconsistent with subparagraph (c) or (d), acts solely in accordance with*

[15] Of course, if the offer has attached to it a ban on any exports, then acceptance of the service effectively becomes mandatory.

[16] The issue of whether this mandated payment constitutes a subsidy under trade law is dealt with in Section 4.2, which looks at WTO law. There are no applicable provisions in NAFTA covering subsidies.

> *commercial considerations in its purchase or sale of the monopoly good or service in the relevant market, including with regard to price, quality, availability, marketability, transportation and other terms and conditions of purchase or sale;*
>
> *(c) provides non-discriminatory treatment to investments of investors, to goods and to service providers of another Party in its purchase or sale of the monopoly good or service in the relevant market; …"*

These obligations obviously would have significant impacts on the discharge of NWMO's mandate. For example, the obligations in 1502(c) would oblige NWMO to provide non-discriminatory treatment to US or Mexican investors operating in Canada in the sale of waste management services, should they decide to import radioactive waste for treatment (See more on this in the discussion of Chapter eleven, below.). There is at present no possibility for private investors in either country to have need of such services in the context of high-level radioactive waste, but it is impossible to predict with certainty the structure of the industry in the future. On the other hand, the scenario is perfectly feasible in the context of low-level radioactive waste.

Three considerations modify these observations. First, the structure of the final approach is not yet set, and may look nothing like the scenario portrayed here. In particular, there may be no requirement that producers of nuclear waste purchase waste management services from the NWMO; as noted above, no such requirement is set out in the *Nuclear Fuel Waste Act*, and in any event it is possible that a de facto monopoly could be maintained without the need to explicitly designate NWMO as such. Second, the dispute mechanism applicable to Chapter fifteen would involve a government challenging another government, and the likelihood of the US or Mexico aggressively mounting a challenge pursuant to this Chapter in order to receive non-discriminatory treatment is slim (which, however, would not be cause for Canada to ignore its international legal obligations). Finally, even in the event of such a challenge, Canada might still be able to attempt to justify any discriminatory measures by resort to the general and security exceptions discussed above.

3.3.4. Chapter Eleven (Investment)

This section asks what NAFTA's Chapter eleven, on investor protections, might imply for the final shape of Canada's regulatory approach to radioactive waste management. Based on NAFTA case law, two scenarios (both rather unlikely) are worth noting, assuming that NWMO is established not as a monopoly or state enterprise, but rather as a private firm. In the first, Canada would be forced to grant equal treatment to US or Mexican firms that decided to invest in Canada as competitors to NWMO, offering their

services to Canadian producers of radioactive waste. In the second, Canada would be forced to allow the export of radioactive waste by a US or Mexican investor that set up a subsidiary in Canada in order to export to its parent firm for disposal.

NAFTA's Chapter eleven defines a broad set of rights for investors of the NAFTA Parties and their investments in other Parties. As well, it sets out a dispute settlement procedure that, unique in the NAFTA structure, allows investors redress through binding arbitration directly with host governments. Unlike the previously discussed elements of NAFTA where there have been no government-to-government disputes and we needed to rely for jurisprudence on WTO case law,[17] there have been a number of Chapter eleven investor-state cases—almost thirty in the eight years since NAFTA came into force.

For the purposes of this analysis, the key obligations established under Chapter eleven are the obligation for national treatment (Article 1102) and the obligation not to impose performance requirements (Article 1106). A number of other obligations might also be important, including the obligation to accord NAFTA Party investors minimum international standards of treatment (Article 1105) and the obligations associated with expropriation and compensation (Article 1110). It is important to note that the NAFTA General Exceptions, including the environmental exception, are not applicable to Chapter 11. That is, NAFTA parties can not justify breaches of Chapter 11 by resort to the general exceptions in the way that they could with import or export restrictions, or standards-related measures.

The national treatment obligations basically oblige NAFTA Parties to accord to investors and investments of other Parties treatment no worse than that accorded to domestic investors in like circumstances. In order for the national treatment provisions to be relevant, the NWMO would have to be considered a private investor, rather than a monopoly established by the government. The provisions on performance requirements bar Parties from imposing requirements on investors or investments of another NAFTA Party designed to foster domestic economic development, such as local content purchasing, requirements to export a certain percentage of goods or services, technology transfer requirements, etc., as a condition of entry or operation.

There are two scenarios under which these rules might raise concerns for Canada. First, a US or Mexican investor might want to establish a facility in Canada to compete with NWMO in providing nuclear fuel waste management services to Canadian producers, establishing at the same time a treatment facility within Canada. Under such a scenario (which, admittedly, is unlikely), the

[17] Note that there is in fact no jurisprudence as such in the WTO, though previous rulings are strongly influential.

government of Canada would arguably be obliged to provide national treatment to the investor. As such, any sort of preferential treatment, including special regulatory status, extended to NWMO as compared to the new investor, would be challengeable under Chapter eleven. It was noted above that NWMO is financed by mandatory contributions from the major Canadian producers of nuclear waste. Again, provided NWMO is established as a private firm, rather than as a private monopoly, this funding arrangement could be challenged as a violation of national treatment.

The second scenario, also unlikely but slightly more realistic, is for the same investor to set up shop in Canada for the purposes of exporting waste to a facility in the US or Mexico for storage or disposal. Here again the national treatment provisions might come into play, and the investor might be able to claim treatment from the Canadian government no worse than that accorded to NWMO, provided it complied with the applicable laws and regulations. There is, of course, a fundamental difference between a broker of waste destined for export and a provider of waste management services, and it could be argued that the two are not in like circumstances (and therefore do not merit like treatment). However, in the *S.D. Meyers* case (described below) the tribunal disagreed. In a ruling that seemed to mangle the notion of national treatment, the Tribunal ruled that a broker of PCBs for export to a US processor was "like" a Canadian processor.

In the event that Canada decided to impose a ban on the export of radioactive material (whether in response to the plans of our hypothetical investor, or as a general policy), the investor might be able to argue that Canada was violating the NAFTA prohibition on performance requirements. This was the argument used by S.D. Myers in its Chapter eleven challenge to Canada's ban on the export of PCBs, which denied Myers' Canadian broker office the opportunity to export to its PCB disposal facilities in the US.[18] Myers argued (unsuccessfully, though a minority opinion dissented with the ruling on this point) that the ban amounted to a requirement that it establish a processing facility in Canada to treat the waste brokered by its Canadian office. Similar arguments were made in the *Ethyl* case and will apparently be made in the *Crompton* case.[19] And, following arguments made successfully in the *Pope & Talbot* case, the investor might be able to argue that the ban amounted to an expropriation – a "taking" of its US market share.[20]

In such a case, in defending the ban Canada would not have recourse to the NAFTA general exceptions, though it could still appeal to the national security

[18] S.D. Myers, 2000. The measure challenged was a comprehensive temporary export ban enacted in 1995. A permanent less comprehensive export ban was subsequently enacted in 1997 and remains in force.
[19] Ethyl, 1997; Crompton 2001.
[20] Pope & Talbot, 2000.

exceptions. Canada would also have the right to ban export to any country whose facilities were not up to the standards of the *Joint Convention* (and the US would, under the same treaty, have the right to ban imports). As noted above, the *Joint Convention* would probably be found to prevail over the NAFTA rules in such cases.

If, however, the final shape of the government's chosen approach does set up NWMO as a monopoly supplier of nuclear fuel waste management services, the rights and obligations described under Article 1502 above would seem to apply. Article 1502 provides that Parties shall be allowed to create monopolies, and imposes certain conditions of conduct. First, the other Parties should receive prior written notification. Second, Article 1502(3) sets out a number of conditions that basically oblige the Party to ensure that the conduct of the monopoly is not inconsistent with the Party's other NAFTA obligations (particularly non-discrimination). Those obligations are, however, *not* due to potential competitors to the monopoly (which would render meaningless the right to create a monopoly), but rather to those businesses with whom the monopoly deals, whether through commercial transactions or through the exercise of any granted regulatory authority. As such, were NWMO a monopoly, it is likely that the type of Chapter eleven challenge described above would be unsuccessful.

However, if NWMO is a monopoly it is possible that the scenario described in the previous section might give rise to a NAFTA challenge. A US or Mexican private investor, having imported nuclear fuel waste into Canada, might request that NWMO provide nuclear fuel waste management services to it on a non-discriminatory basis. Provided that the final regulatory structure in fact designated NWMO as a monopoly, this right would be guaranteed under Article 1502(c), and under the national treatment provisions of Chapter eleven. It was previously noted that the current industry structure in the US and Mexico make such a scenario unlikely (at least in the context of high-level radioactive waste), but it is not impossible in the future.

Note, though, that the NWMO is likely to be set up to deal with a limited range of fuel types (although there might have to be some flexibility for some of AECL's experimental fuel wastes). The NWMO might not be equipped to deal with light water reactor fuel wastes such as those generated in the US and Mexico. Should this be the case, the scenario outlined above would not materialize.

An important concern with respect to Chapter eleven challenges is that they are brought by private investors, rather than by governments. Thus, while it was noted above that the likelihood of the other NAFTA Parties aggressively pursuing their rights in this context are not high, the same does not apply with

respect to challenges under Chapter eleven. Further, as there is no permanent roster of panelists, and relatively little in the way of case law, it is not possible to say with any certainty what types of judgements are likely to come out of a Chapter eleven challenge. Neither is there an effective mechanism by which to appeal the rulings.

3.3.5. Conclusions

While the body of trade law that bears on transboundary movement of radioactive waste might seem imposing and restrictive, it should be possible to craft a regulatory regime that serves Canada's needs and also abides by Canada's NAFTA obligations. NAFTA's law as applicable to standards-related measures, investment and monopolies allows a fair amount of flexibility for the Parties in achieving their legitimate objectives. That said, in designing the regime Canada should be cognizant of its obligations under those areas of law, and should deliberately incorporate those features and procedures that will minimize identified potential conflicts with NAFTA law.

With respect to standards-related measures, it will be important to first identify and articulate the objectives of the approach that is selected. It is unlikely that, having done so, Canada would be subject to challenge of the objectives as illegitimate, given the illustrative list of objectives found in Article 915. Next, it will be important to conduct a risk assessment. Though there is no explicit requirement to do so under law, this exercise will serve to strengthen any resulting regime, and the measures it propounds, from challenge. Note that the interpretation of risk assessment can arguably be broad enough to include consultations and non-empirical analysis. Any measures undertaken should then be based on this assessment in some meaningful way. If an assessment is undertaken, it will be important not to assign levels of acceptable risk in the context of radioactive waste management that are significantly different than are accepted in other policy areas with similar risks.

As a general principle, the resulting regime should not discriminate in its treatment of radioactive materials based on the country of origin. That is not to say that justifiable criteria for discrimination can not result in *effective* discrimination against certain countries' waste streams, which is not a problem under trade law. It should also be recalled that the general obligation for national treatment is modified by Canada's obligations under the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management* to restrict imports or exports in cases where the administrative, regulatory or technical capacity to handle them is not present. Again, this would probably constitute demonstrably justifiable discrimination.

Where Canada seeks to establish standards-related measures, such as standards or technical regulations, relating to radioactive materials management, it would be best to base them on international standards where these exist. Doing so creates a presumption that the resulting measures are not unnecessary obstacles to trade, and that they are not unjustifiably discriminatory. It is, of course, permitted for Canada to develop standards which exceed international norms, but if challenged it would have to demonstrate why the existing standards would be inappropriate. The standards set out in various international agreements to which Canada is a Party would be strongly persuasive as justification in such a defence, should they support the higher standard.

It is not clear whether the government intends to establish NWMO as a monopoly supplier of nuclear fuel waste management services in Canada, but if it does so then the provisions of Article 1502 will apply. These would oblige Canada to ensure that NWMO acts in a manner consistent with Canada's NAFTA obligations. As such, for example, it could not discriminate on the basis of nationality among buyers of its waste management services. If the structure of the industry were to change such that a private US or Mexican investor wanted to set up a brokerage in Canada for imported nuclear fuel waste, NWMO would have to offer services as it would to a Canadian waste producer.

If, on the other hand, NWMO were not a monopoly (that is, if the government does not compel waste producers to buy waste management services from NWMO, as it currently does not under the Nuclear Fuel Waste Act), the provisions of Chapter eleven might compel Canada to offer national treatment to US or Mexican investors in two (rather unlikely) circumstances. The first is the case of a Mexican or US investor that wanted to establish competition to NWMO in Canada, which then might be able to object to NWMO's mandated financing arrangements. The second is a variation of this case, in which an investor established a brokerage in Canada through which it exported nuclear fuel waste for treatment to its parent company in US or Mexico.

These scenarios have implications for the final shape of the arrangements the government establishes with NWMO as it relates to the Canadian waste producers, as well as for the advisability of import and/or export bans as a strategy to prevent these results, should they be seen as undesirable.

4.0. Looking Ahead

4.1. The FTAA

This section looks beyond the NAFTA to ask what the future of Canada's rights and obligations might look like under the pending Free Trade Area of the Americas. Though predictions at this point are difficult, in general the issues raised are not much different than those raised by the NAFTA. Of course the probability of unforeseen or unlikely trade law challenges will increase with the number of parties (34 in the FTAA). One point of difference might be a scenario under which AECL's customers for CANDU reactors in the hemisphere (currently there is only one) requested that Canada take back the resulting radioactive waste for treatment in Canada.

The 34 countries of the Western Hemisphere (minus Cuba) are now engaged in negotiations to complete a Free Trade Area of the Americas – a NAFTA-like arrangement spanning trade in goods, investment, services, intellectual property and other sub-areas in a binding compact of liberalization. The scheduled completion date is 2005, though this seems unlikely. In fact, in spite of years of work to produce the current draft text, some countries are now calling for a scaled back agreement that would leave substantial commitments in a number of areas (including investment) to the negotiators at the multilateral level (i.e., the WTO's current round of negotiations), creating nothing but basic framework agreements within the FTAA.

Assuming the agreement goes ahead as presently conceived, it will contain regulations applicable to each of the areas of law surveyed above in the NAFTA context. Granted some would be changed – it is likely that the final shape of the investment provisions will not look much like those found in the NAFTA, for example.

This eventuality is worth considering in designing Canada's approach to radioactive waste materials management. That is, while many of the trade challenges described above in the NAFTA context may be unlikely, effectively increasing the number of Parties by 30 will change those odds somewhat. This is of course only the case for those countries that have nuclear technology, and most of the 33 do not.[21] But, particularly in those countries where Canada's CANDU technology was being used, there might eventually be a desire to see Canada take back the resulting nuclear fuel waste.[22]

As such, the considerations urged in the previous sections relating to design of the approach may need to take into account the potential for a hemispheric expansion of NAFTA-type rights that would alter the decision-making context.

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[21] The FTAA countries with operating nuclear power plants are: Argentina, Brazil, Canada, Mexico and the United States.

[22] Outside of Canada, Argentina alone among the FTAA countries is using CANDU technology. But AECL may succeed in marketing the technology to others in the future.

As to the specifics of the resulting hemispheric law, the current text being entirely bracketed[23] it is difficult to make meaningful predictions. But it is certain that the basic obligations such as national treatment and most-favoured nation will be found in any resulting deal. It is also probable that the obligations on standards-related measures will occur in the final draft much as they appear in NAFTA. And, finally, it is almost certain that there will be very similar language on general exceptions and security exceptions (though not likely including specific obligations with respect to energy and basic petrochemical goods). The shape of the probable final obligations on investment, on the other hand, is still very much up in the air.

5.0. Conclusion

In the final analysis, none of the legal issues noted above are necessarily problematic for the achievement of Canada's legitimate objectives in managing radioactive waste. But in order to construct a regulatory framework that will be robust to trade law challenges and unexpected developments, it is important to understand what steps need to be taken to respect Canada's rights and obligations under NAFTA, and to deign the chosen approach accordingly.

[23] In negotiations, countries put brackets around text that is not yet agreed. The entire draft FTAA Agreement is in brackets at this point, with numerous conflicting passages inserted by various countries yet to be consolidated into something approaching consensus text.

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Annex I: Table of Legal Provisions and their Implications

Law	Implications for Radioactive Waste Management
NAFTA Article 300 *(Scope and Coverage)*	Radioactive waste is a good under NAFTA
NAFTA Article 309 *(Import and Export Restrictions)*	Import and Export bans are prohibited
NAFTA Article 602(2)(i) *(Scope and Coverage)*	Radioactive waste may be an energy and basic petrochemical good
NAFTA Article 603(1) *(Import and Export Restrictions)*	Import and export bans on energy and basic petrochemical goods are prohibited
NAFTA Article 607 *(National Security Measures)*	Otherwise NAFTA-illegal measures related to non-proliferation might be "saved" by resort to this national security exception.
NAFTA Article 904 *(Standards-Related Measures: Basic Rights and Obligations)*	➢ Standard-related measures need to be in pursuit of legitimate objective ➢ Such measures must not accord better treatment to Canadians or to non-NAFTA countries than to the NAFTA partners. ➢ They must not create unnecessary obstacles to trade. ➢ Where a risk assessment is used, the resulting measure must not unfairly discriminate against other NAFTA parties' goods or services.
NAFTA Article 905 *(Standards-Related Measures: Use of International Standards)*	Parties should use international standards, where these exist, as the basis for their standards-related measures. If they chose to exceed such international standards, the standard-related measure might need to be defended as non-discriminatory and not an unnecessary obstacle to trade.
NAFTA Article 1102 *(Investment: National*	Canada, if it sets up NWMO as a private firm, might have to allow US or Mexican investors to compete with it as waste managers.

treatment)	
NAFTA Article 1106 (Investment: Performance Requirements)	An export ban on radioactive material might be challenged by a subsidiary of a US or Mexican firm that sets up shop in Canada for the purposes of exporting waste to the parent firm for disposal. The investor might claim that the ban constituted a requirement to establish a treatment facility in Canada.
NAFTA Article 1110 (Investment: Expropriation and Compensation)	An export ban on radioactive material might be challenged by a subsidiary of a US or Mexican firm that sets up shop in Canada for the purposes of exporting waste to the parent firm for disposal. The investor might claim that the ban constituted an expropriation of its investment.
NAFTA Article 1502 *(Monopolies and State Enterprises)*	If NWMO is set up as a monopoly seller of waste management services, it will need to accord non-discriminatory treatment to Mexican and US investors wishing to buy its services.
NAFTA Article 2101 *(General Exceptions)*	Otherwise NAFTA-illegal measures (such as bans) might be "saved" by resort to an exception to the rules for measures aimed at protecting human, animal or plant health or the environment.
NAFTA Article 2102 *(National Security Exceptions)*	Otherwise NAFTA-illegal measures related to non-proliferation might be "saved" by resort to this national security exception.
Convention on the Physical Protection of Nuclear Material	➢ No exports unless safety standards (transport & storage) assured by importer. ➢ No imports unless safety standards (transport & storage) assured by exporter.
Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management	➢ Right to prior informed consent before imports ➢ Obligation on exporters to ensure that importers have the administrative, regulatory and technical capacity to manage waste. ➢ Radioactive waste should, as far as is compatible with the safety of the management of such material, be disposed of in the State in which it was generated ➢ Any State has the right to ban import into its territory of foreign spent fuel and radioactive waste.