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Offshore Oil and Gas Facility Decommissioning in Nova Scotia and Newfoundland

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While planning for the ultimate decommissioning of Atlantic Canada offshore oil and gas facilities is a necessary requirement of project approval, this issue has not yet graduated to the level of attention it receives in other parts of the world with more mature offshore petroleum industries. In this article, the author reviews some decommissioning methods and examines the international and domestic law applicable to the decommissioning of oil and gas facilities on the continental shelf offshore Atlantic Canada.

Les dispositions prévoyant le démantèlement éventuel des installations pétrolières et gazières en mer le long des côtes du Canada Atlantique constituent une condition préalable à l'approbation de tout projet. Cependant, on n'accorde pas à la question le degré d'attention qu'il mérite par rapport à d'autres parties du monde où les installations pétrolières offshore achèvent leur vie utile. Dans cet article, l'auteur passe en revue les méthodes de déclassement et examine le droit interne et international applicable au démantèlement des installations pétrolières et gazières sur le plateau continental du Canada Atlantique.

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Introduction

Canada's offshore oil and gas industry is still in its infancy. Production has only been carried out since the early 1990s, and projects are only now starting to come to an end.¹ Offshore facility decommissioning in Canada is largely an unknown field, and while it has been addressed in legislation and early in project lives, it has not received the same attention given to other more timely issues associated with these projects.

If global experience is any indicator, decommissioning² will eventually become a live issue in Canada. Probably the most famous (or infamous) example of an offshore facility decommissioning regime failing (from the public perception) is the story of the Brent Spar, an oil storage buoy located in the North Sea on the United Kingdom continental shelf.³ This public relations disaster for Shell U.K., the operator of the Brent Spar, is now entering its final chapter. First commissioned in 1976, this 14,500 ton oil storage buoy in 140 metres of water was originally slated to be disposed of in the deep sea under about 2,300 metres of water. This decision followed over two years of decommissioning studies and a determination, along with local regulatory authorities, that this was the best practical environmental option for disposal. Following occupation by Greenpeace and intense international consumer pressure, Shell eventually and at great cost abandoned its plans of deep sea disposal and initiated a plan to dispose of the structure on land.

1. For example, production on Canada's first offshore project, PanCanadian's Cohasset project off the coast of Nova Scotia, which began producing on June 2, 1992, reached the end of its economic life on December 16, 1999. See "Canada's First Offshore Oil Project Coming To An End" *Daily Oil Bulletin* (13 December 1999).

2. Many prefer to use "decommissioning" to "abandonment" when dealing with the issue of offshore facilities that fall into disuse. Legally, the term abandonment tends to imply walking away from liability, while the term decommissioning tends to imply responsible removal or disposal. See A.D.M. Forte, "Legal Aspects of Decommissioning Offshore Structures" in D.G. Gorman & J. Neilson, eds., *Decommissioning Offshore Structures* (London: Springer-Verlag London Limited, 1998).

3. See the following for more information: "Dismantling of Brent Spar Oil Rig Begins" *Environment News Service* (27 November 1998) online: <<http://www.end.lycos.com/ens/nov98/1998L-11-27-03.html>>; A.G. Jordan & L.G. Bennie, "Political Aspects of Decommissioning" in Gorman & Neilson, *supra* note 2, 14; P. Holt, "The Impact of Legislation on Decommissioning: Recent International Developments" (1996) 50:591 *Petrol. Rev.* 157; A.L. Rice, "Does Science Have a Role in Risk Analysis? The Case of the Brent Spar and Other Cautionary Tales" (Annual Meeting of the Society for Risk Analysis-Europe, 1996), online: <<http://www.riskworld.com/Abstract/1996/sraeurop/ab6ad138.htm>>; Shell U.K. Limited, Brent Spar Home Page <<http://www.shellpro.brentspar.com>> (last modified: 2 September 1999); Shell U.K. Limited, "The Final Chapter for Brent Spar" <http://www.shell.co.uk/news/focus/winter98/first_cut.htm> (date accessed: 1 March 2000); G. Simpson, "The Environmental Management Aspects of Decommissioning Offshore Structures" in Gorman & Neilson, eds., *supra* note 2; H. Wallace, "Brent Spar The Scientific Debate", online: <<http://www.greenpeace.org/~comms/brent/bp01.htm>> (date accessed: 6 February 2000).

This article will first briefly review some of the techniques and issues associated with decommissioning around the world. Second, it will examine the international law associated with decommissioning on the Canadian continental shelf. Finally, it will review the decision-making regimes in place relating to decommissioning on the Canadian continental shelf off the coasts of Newfoundland and Nova Scotia.

I. *Methods and Issues*

The uniqueness of each structure and its surrounding environment have led worldwide to the development of numerous decommissioning methods. This section will briefly introduce some of these techniques related issues, even though many of these methods may not be applicable to the unique marine environment found off the East Coast of Canada. Many methods are controversial, and their applicability varies considerably across different physical, ecological, cultural, political and economic environments.

1. Reuse

One method of decommissioning an offshore structure is to reuse it either in its current form or with an alternative use in mind. Suggestions have included using the facilities as prisons, military outposts, fish farms, casinos, luxury hotels, waste disposal facilities, marine research facilities, electricity generation plants using the power of wind and wave action, chemical plants, nuclear power plants, communications facilities, navigation sites and meteorological centres.⁴ The unique location of the facilities in international waters, well away from land, would make some of these suggestions quite appealing.

Reusing all or a portion of facilities in future offshore oil and gas developments might be a more feasible alternative than finding alternative uses for aging platforms.⁵ Each platform is unique and reuse may not always be a practical alternative. Other issues that arise include whether a reused platform or component has sufficient structural integrity to be reused⁶ and whether an international market can be developed for used facilities.⁷

4. See D. Buckman, "Abandonment – the North Sea's Newest Industry" (1994) 48:572 *Petrol. Rev.* 413 at 415; D.A. Meenan, "Technical Aspects of Decommissioning Offshore Structures" in Gorman & Neilson, eds., *supra* note 2 at 23; R. Twachtman, "Offshore-Platform Decommissioning Perceptions Change" (1997) 95:49 *Oil & Gas J.* 38 at 41.

5. See P. E. O'Connor, "Case Studies of Platform Re-Use in the Gulf of Mexico" (International Conference: The Reuse of Offshore Production Facilities: The Netherlands, October 13-14, 1999), online <<http://www.tbsoffshore.com/articles.html>>; Twachtman, *ibid.* at 41.

6. W. S. Griffin, "Decommissioning Around the World" (1996) 50:591 *Petrol. Rev.* 160 at 161.

7. O'Connor, *supra* note 5.

2. *Partial or Complete Removal*

Offshore oil and gas facilities can be partially or completely removed. There are a variety of engineering techniques used to remove topsides, jackets and concrete bases, some of which raise concerns and issues.⁸ One of the easiest methods of removal, the use of explosives, has been controversial. While many persons support the use of explosives,⁹ others are more cautionary. Explosives have been known to kill and scatter turtles and fish. The negative effect of explosives on fish, and its corresponding effect on fisheries, has been the focus of attention for both government¹⁰ and fishing groups.¹¹

An argument frequently raised against total removal of offshore structures is the adverse effect removal has on the health and safety of workers. Hazards include exposure to toxic and dangerous materials such as asbestos, methane and radioactive materials, and the risk of fatalities and injuries which may arise from dangerous work such as diving and the use of explosives in the cleaning and dismantling of an offshore structure.¹²

There are also environmental risks and consequences of bringing sections of offshore facilities to land for disposal, such as the possibility of a sinking near to shore or the air pollution resulting from transporting the facility. Such risks and possible consequences may be greater than the certain environmental consequences of leaving all or a portion of a facility on the ocean floor. A related issue is the balance achieved in energy consumption related to a removal, as the energy involved in cutting, dismantling and transporting the material may outweigh the energy savings from recycling less replacement by new materials.¹³

8. For a discussion of the technical processes, see A. Culwell, "Removal and Disposal of Deck and Jacket Structures" in F. Manago & B. Williamson, eds., *Proceedings: Public Workshop, Decommissioning and Removal of Oil and Gas Facilities Offshore California: Recent Experiences and Future Deepwater Challenges, September 1997* (Santa Barbara: Marine Science Institute, University of California, 1997) 48; Meenan, *supra* note 4; and P. Prasthofer, "Offshore Production Facilities: Decommissioning of Topside Production Equipment" in Manago & Williamson, eds., *ibid.*, 38.

9. See e.g., E. Danenberger, "Update on Decommissioning Issues" in Manago & Williamson, eds., *ibid.*, 14.

10. A. S. Bull, "Fisheries Impacts of Explosives Used in Platform Salvage" in Manago & Williamson, eds., *ibid.*, 104.

11. Southern California Trawlers Association, "Position Paper" in Manago & Williamson, eds., *ibid.*, 182.

12. See M. J. Baker, "Safety and Reliability Issues of Decommissioning Offshore Structures" in Gorman & Neilson, eds., *supra* note 2 at 57; Simpson, *supra* note 3 at 14-15; G. Dunlop, "Why is the Brent Spar Unique?" (1996) 50:591 *Petrol. Rev.* 164.

13. See e.g. G. Precious, "Decommissioning of Offshore Installations – The Challenge of the Millennium" (ICHEME Environment97Online Conference, 1997), online: <<http://www.environment97.org>> (date accessed: 26 July 2001).

3. *Deposit on the Ocean Floor*

Those supporting deep sea disposal — *i.e.*, disposal beyond the continental shelf — argue that the contaminants that remain on a properly cleaned structure are minimal and would have only small and localized impacts on deep sea marine environments, and no effect on coastal or onshore environments. Those opposing deep sea disposal (such as Greenpeace in opposing the disposal of the Brent Spar) base their arguments on the lack of present understanding of the deep sea environment and the cumulative environmental effects of such dumping.¹⁴

Leaving remains on the continental shelf (such as jackets or bases, either upright or toppled onto the ocean floor) also poses many questions. The issue that has historically raised the most attention has been the effect such disposal may have on safety of navigation, which has been the primary concern of international guidelines set up to deal with offshore facility decommissioning.¹⁵ Orphaned facilities on the high seas (either whole or in part if remains jut out of the ocean floor) could affect the safety of travelling ships. While perhaps not as important a concern after the end of the cold war, jackets and bases could also affect the navigational safety of submarines, and abandoned jackets may even provide a convenient place for enemy submarines to lurk, hidden from the probing eyes of military sonar.¹⁶

Leaving abandoned offshore oil and gas facilities on the ocean floor is also fraught with environmental concerns. Hazardous wastes such as LSA scale, heavy metal sludge, PCB fluids and halon gases are all potentially located on these industrial facilities.¹⁷ Facilities are also potentially contaminated with petrochemicals. Facilities are painted and are constructed of many different components, all of which decompose at different rates, with varying effects on marine species, environments and ecosystems.

Jackets on offshore facilities do, however, tend to create new ecosystems of their own during the years that they sit in production. The artificial substrates of structures located in the Santa Barbara Channel have been shown to support a myriad of sea life, from mussels and barnacles in the upper regions to anemone, soft corals, hydroids and mollusks in the bottom regions. The “mounds” that exist on the ocean

14. See Wallace, *supra* note 3.

15. Z. Gao, “International Law of Offshore Abandonment: Recent Developments, Current Issues and Future Directions” in Z. Gao, ed., *Environmental Regulation of Oil and Gas* (London: Kluwer Law International, 1998) 143 at 163.

16. The American concern about soviet submarines hiding in abandoned jackets is expressed by J. Gurney, “Abandonment of Offshore Rigs: Experience in the Gulf of Mexico” (1992) 46:544 *Petrol. Rev.* 237.

17. Meenan, *supra* note 4 at 42.

floor, containing drill cuttings¹⁸ and discarded mussel shells up to 40 feet deep, have been known to support a flourishing community of crabs, shrimp, sea stars, sea cucumbers, anemones and other organisms not usually found in the area. Any removal will have a profound impact on this new community.¹⁹

Despite the ability of structures to support increased sea life, there has been significant opposition from fishing interests to partial removal. Shrimpers in the Gulf of Mexico, for example, fear remains that are left on the ocean floor since they significantly affect the trawlable waters available to them.²⁰ This opposition extends to leaving shell mounds (and presumably drill cuttings) in place after removal, even though such mounds tend to attract a variety of crab and crustacean life. Fishing near the mounds can result in the possibility of damaging or losing gear, damage to fishing boats and endangering fishing crews.²¹

18. Drill cuttings (*i.e.*, the rock, sand and other material which is removed from the ground during the drilling of the well and placed on the ocean floor) have significant environmental impacts as well. Drill cuttings can contain a number of toxic substances, including petrochemicals, and can be difficult if not impossible using present technology to remove. For a recent detailed discussion of the technological, ecological, health, safety, energy and emissions effects relating to drill cuttings piles during offshore facility decommissioning, see S. Gerrard *et al.*, *Drill Cuttings Piles in the North Sea: Management Options During Platform Decommissioning: Research Report No. 31* (East Anglia: University of East Anglia, Centre for Environmental Risk, October 1999). For a discussion of site clearance methods, including removal strategies of drill cuttings, shell debris and other materials which fall to the ocean floor during operations which may exceed thirty years, see J. McCarthy, "Site Clearance and Verification" in Manago & Williamson, eds., *supra* note 8, 74.

19. L. A. De Wit, "Effects of Decommissioning Activities on Marine Benthos" in Manago & Williamson, eds., *supra* note 8, 105. For the effects on rock crab, see H. M. Page & J. E. Dugan, "Effect of Offshore Oil Platform Structures on the Distribution Pattern of Commercially Important Benthic Crustaceans, with Emphasis on the Rock Crab" in Manago & Williamson, eds., *supra* note 8, 119.

20. G. Moritis, "Industry Tackles Offshore Decommissioning" (1997) 95:49 Oil & Gas J. 33 at 36 and J. Richards, "Commercial Fisheries Long-Term Effects of Offshore Oil and Gas Facilities Decommissioning" in Manago & Williamson, eds., *supra* note 8, 111 at 112.

21. Southern California Trawlers Association, *supra* note 11.

4. Artificial Reefs

Using decommissioned offshore facilities to create artificial reefs has been popular in the Gulf of Mexico since 1984.²² Reef creation benefits fish life because

[t]he size, shape, design, profile, density and openness of offshore oil and gas rigs in the Gulf of Mexico provide a basis for the development of an interactive food web for marine life. Their underwater frames attract the attachment of sessile invertebrates such as barnacles, oysters, mussels, bryozoans, hydroids, sponges and corals. (The species composition of these sessile invertebrate assemblages depends on water depth.) These encrusting organisms, in turn, serve as shelter for free-living invertebrates, such as lobsters, crabs, snails, and shrimp which then, in turn, serve as a source of food for large communities of fish. The rigs also provide a habitat for fish which feed on the seabed and return to the rig for cover. In addition, the rigs attract transient species for periods of a few hours to a few days, including predator fish which prey on their residents.²³

Using decommissioned offshore facilities to create artificial reefs in the Gulf of Mexico have benefited recreational fishermen,²⁴ commercial fishermen²⁵ and recreational divers.²⁶

Sinking decommissioned facilities in the ocean for use as artificial reefs can also be considerably cheaper for the industry than removing them for onshore disposal or recycling.²⁷ Despite industry support for the creation of artificial reefs, not all commentators agree on their suitability

22. Griffin, *supra* note 6 at 161. Reef creation, while popular, is not the dominant method of decommissioning in the U.S.. By August 1997, only 6.8 percent of decommissioned platforms on the outer continental shelf of the United States had been converted to reefs. See Danenberger, *supra* note 9 at 14.

23. Gurney, *supra* note 16 at 238.

24. "The main driving force for artificial reefs in the Gulf of Mexico was the sports-fishing industry who were keen to see the marine habitat which had developed around the offshore installations during their producing life maintained after commercial production of hydrocarbons had ceased." Precious, *supra* note 13.

25. Gurney, *supra* note 16 at 239. Commercial fishermen may not be as supportive of artificial reefs as recreational fishermen and divers. In an interview of commercial fishermen in California, over 90 percent of commercial fishermen saw toppling in place to form an artificial reef as an "undesirable and risky option" and that moving a jacket to an artificial reef site was a "possible option" that should be considered on "a case-by-case basis with well defined goals for the project, careful study of potential reef sites, and development of site criteria considering both ecological and fisheries aspects." See Richards, *supra* note 20 at 113.

26. T. R. Kebodeaux, "Death of a Platform: Artificial Reef Programs Provide a Rebirth to Decommissioning Structures" *UnderWater Magazine* (Spring 1995). Article reprint available at <<http://www.diveweb.com/uw.archives.arch/uw-sp95.04.htm>> (last updated 14 July 2001).

27. Even though companies in Louisiana and Texas must still contribute 50 percent of their realized savings into a trust fund in order to maintain the reef, Chevron, which donated ten structures to the artificial reef program in 1994, realized a saving in that year of U.S. \$1.5 million. Artificial reef creation may not be the most cost efficient method of disposal in all situations. If the cost to tow a structure to the nearest designated site is more expensive than salvaging the structure, companies may choose to salvage it instead. See Kebodeaux, *ibid.*

in all circumstances. It has been said that artificial reefs are not appropriate in shrimp-harvesting areas (as they interfere with shrimp trawlers) and where wave conditions and water depths would affect stability.²⁸ Lobster trappers see artificial reef creation as being biased towards sports fishermen.²⁹ Other legal issues relating to liability also remain.³⁰ Lucia Susani warns that U.K. fishing organizations are openly opposed to offshore reefs, fearing that such structures will curtail trawling areas and that loose debris would be a significant safety issue for fishermen.

Perhaps the greatest opposition to artificial reef creation comes from environmentalists, especially those who see the creation of artificial reefs as just another form of dumping garbage on the ocean floor driven by the economics of doing so. John M. MacDonald, in an article analyzing the acceptability of creation of artificial reefs under international law, may echo the sentiments of many environmentalists when he states in his conclusions that,

[a]s we continue to dump material into our oceanic waters, we are creating a seafloor consisting of waste. The need for artificial reef projects is often a valid reason to place environmentally safe waste material, such as tiers or concrete rubble, in the oceanic environment, but it must be on a limited scale. We cannot allow ourselves to return to the mentality that the ocean has an infinite capacity to absorb our waste — even if the waste is “environmentally friendly”. The [U.S. government regulator] must play a greater role in reviewing [permits for the construction of artificial reefs] or continue to risk the likelihood that many waste-to-reef projects are nothing more than disguised ocean dumping.³¹

A stronger opposition comes from Linda Krop from the Environmental Defense Center in Santa Barbara. She stated that “there is no evidence that platforms function as reef habitat. Although fish may congregate at the platforms, there is no evidence that the fish would not exist without

28. Gurney, *supra* note 16 at 239.

29. C. Miller, “Santa Barbara Lobster Trappers Perspective Rigs-to-Reefs Position Paper” in Manago & Williamson, eds., *supra* note 8, 181.

30. For example, the question of whether or not artificial reefs will continue to attract residual liability in perpetuity would influence any decision to make one instead of completely removing a facility. For a discussion of ownership of the rig and liability in the U.S., see Gurney, *supra* note 16 at 239 and L. Susani, “Rigs-to-Reefs – Not the Ultimate Solution” (1996) 50:591 Petrol. Rev. 168 at 170. Liability is tied to the need to continuously and in perpetuity mark the location of artificial reefs with floating buoys to avoid hazards to navigation and fishing. See also Southern California Trawlers Association, *supra* note 11.

31. J. M. MacDonald, “Artificial Reef Debate: Habitat Enhancement or Waste Disposal” (1994) 25 Ocean Dev. & Int’l. L. 87 at 108.

the platforms, either elsewhere in the ocean or at natural reefs . . . an artificial reef program must be based on science, not the economic whim of the oil companies.”³²

II. *International Law*

1. *Introduction*

The law of the sea has for centuries been known to sailors, but has only recently been codified into treaty. From its written beginnings in 1958, the international law of the sea has expanded into the current body of law that encompasses many aspects of the human use of oceans. This part provides some background to the international law of the sea as it relates to the continental shelf. Discussion of the various regions of the coastal sea, such as the territorial sea, the exclusive economic zone and the continental shelf, is beyond the scope of this article. This part deals with decommissioning in the international context specifically, and canvasses the various international conventions that deal with the subject.

2. *Convention on the Continental Shelf*

In 1958, the first United Nations Conference on the Law of the Sea led to the drafting of the *Convention on the Continental Shelf*.³³ Unlike the proclamations that preceded it,³⁴ the *Convention on the Continental Shelf* considered that installations placed on the continental shelf might eventually fall into disuse. Article 5 of the *Convention on the Continental Shelf* reads in part: “[a]ny installations which are abandoned or disused must be entirely removed.” This section was primarily concerned with the “unjustifiable interference with navigation and other marine uses and did not envisage that there would be a practical need for exceptional partial removal in the future.”³⁵

32. L. Krop, “Position Paper: Environmental User Group Representative, Disposition Panel”, in Manago & Williamson, eds., *supra* note 8, 172.

33. *Convention on the Continental Shelf*, done at Geneva, on 29 April 1958. Reproduced at S. H. Lay *et al.*, eds., *New Direction in the Law of the Sea*, vol. 1 (London: The British Institute of International and Comparative Law, 1973) at 101. Canada is a party to this convention.

34. *The Truman Proclamations*, White House Release of 29 September 1945, 13 Dept. of State Bull. 485-86 (July-December 1945). Reprinted in Lay *et al.*, *ibid.* at 106. These proclamations generally began the movement of coastal states to claim control over their continental shelves.

35. Gao, *supra*, note 15 at 146.

3. *Law of the Sea Convention*

In 1982, the *United Nations Convention on the Law of the Sea*³⁶ was introduced. It better defined the principles of the various regions of the ocean bordering on a state, including its territorial sea, exclusive economic zone and continental shelf. While Canada has not yet ratified the *LOS Convention*, it has signed it and many of the provisions that outline the regions of the sea are widely seen as being recognized as customary international law.³⁷

The *LOS Convention* resulted in a significant deviation from the removal requirements set out in the *Convention on the Continental Shelf*. The *LOS Convention* states that

[a]ny installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organization. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other States. Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.³⁸

36. *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, U.N. Doc. A/CONF.62/122, reprinted in (1982) 21 I.L.M. 1261 (entered into force 16 November 1994) [hereinafter the *LOS Convention*]. Full text available at United Nations, Division for Ocean Affairs and the Law of the Sea, online: <<http://www.un.org/Depts/los/unclos/closindx.htm>> (date accessed: 5 April 2000).

37. "It is contended, and generally recognised, that parts of the *LOS Convention* such as the [exclusive economic zone] regime have become customary international law even before the [*LOS Convention*] came into force." Gao, *supra* note 15 at 156. Recognition that certain treaties could become customary law was made by International Court of Justice in the *North Seas Continental Shelf Cases*, [1969] I.C.J. 3. Further evidence that Canada recognizes these zoning regimes as customary law can be found in Part I of the federal *Oceans Act*, R.S.C. 1985, c. O-2.4, where Canada largely adopted this same zoning regime in domestic law. Further, the Government of Canada has indicated that it "is committed to the ratification of the United Nations Convention on Law of the Sea (UNCLOS), however, the exact timing of Canadian ratification remains to be determined." See Government Response to Standing Committee on Foreign Affairs and International Trade Report "Canada and the Circumpolar World: Meeting the Challenges of Cooperation Into the Twenty-First Century", online: <<http://www.dfait-maeci.gc.ca/dfait/response-e.asp?>> (last modified: 24 March 2000). Canada's failure to ratify the treaty has led to the potential problem relating to the conflicting obligations between the *Convention on the Continental Shelf* and the *LOS Convention*. It might be argued that the full removal requirements under the *Convention on the Continental Shelf* may still take precedence over the partial removal requirements under the unratified *LOS Convention*. A discussion of these arguments is beyond the scope of this article.

38. *LOS Convention*, *supra* note 36, art. 60(3).

In regard to the exclusive economic zone, the *LOS Convention* states that “[i]n exercising its rights and performing its duties under this Convention . . . the coastal State shall have due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.”³⁹ In regard to the continental shelf, which overlaps the exclusive economic zone, “[t]he exercise of the rights of the coastal State must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention.”⁴⁰

4. *Dumping Laws*

“Dumping” under the *LOS Convention* is defined in part as “any deliberate disposal of . . . platforms or other man-made structures at sea.”⁴¹ States are obligated under the *LOS Convention* to “adopt laws and regulations to prevent, reduce and control pollution of the marine environment by dumping.”⁴² “Pollution of the marine environment” is defined as meaning,

the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities.⁴³

Nevertheless, dumping *per se* is still permitted, but states are obliged to ensure that “dumping is not carried out without the permission of the competent authorities of States.”⁴⁴

Dumping within the territorial sea and the exclusive economic zone or onto the continental shelf shall not be carried out without the express prior approval of the coastal state, which has the right to permit, regulate and control such dumping after due consideration of the matter with other states which by reason of their geographical situation may be adversely affected thereby.⁴⁵

39. *Ibid.*, art. 56(2).

40. *Ibid.*, art. 78(3).

41. *Ibid.*, art. 1(5). Dumping under the *LOS Convention* does not include the “placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this convention.” This might contemplate the permitted placement of decommissioned platforms for the alternative use as an artificial reef.

42. *Ibid.*, art. 210(1)(5).

43. *Ibid.*, art. 1(1)(4).

44. *Ibid.*, art. 210(3).

45. *Ibid.*, art. 210(5).

While the *LOS Convention* permits the dumping of offshore facilities into the sea as long as it is properly permitted and regulated, Canada is also party to the *Intergovernmental Conference on the Convention on the Dumping of Wastes at Sea*.⁴⁶ Dumping under the *London Convention* means in part “any deliberate disposal at sea of vessels . . . platforms or other man-made structures at sea.”⁴⁷ The *London Convention* creates a regime that, generally, prohibits the dumping of certain enumerated substances and allows the dumping of other substances with a permit. The dumping of “clean”⁴⁸ offshore facilities, as a “bulky waste liable to sink to the sea bottom which may present a serious obstacle to fishing or navigation,”⁴⁹ requires a prior special permit. When issuing a permit, a state is required to carefully weigh a variety of considerations,⁵⁰ including the characteristics and composition of the matter and the characteristics of the dumping site.⁵¹

The *London Convention* is being replaced by a new protocol, namely the *1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972*.⁵² Generally, the *Protocol to the Convention* introduces a new regime that creates a general prohibition of dumping unless the substance is included in a list of permitted substances. (This is the reverse of the *London Convention* that restricted certain substances and permitted the rest.) Dumping is defined to include “any abandonment or toppling at site of platforms or other man-made structures at sea, for the sole purpose of deliberate

46. Reprinted at 11 I.L.M. 1291 (1972) (entered into force 13 November 1972) [hereinafter *London Convention*]. For a discussion of the amendments of the *London Convention* since its adoption, see E. J. Molenaar, “London Convention” (1997), 12 Int’l J. of Marine & Coast. L. 396.

47. *London Convention*, *ibid.*, art. III(1)(a). Like the *LOS Convention*, dumping does not include the “placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this convention.” Presumably, this would permit the placement of decommissioned offshore facilities as artificial reefs.

48. Oil, for example, is a prohibited substance under Annex I of the *London Convention*, *ibid.*, and cannot be dumped. An offshore facility is required to be cleaned of any prohibited materials (such as oil, mercury and radioactive materials) prior to being disposed in the sea.

49. *London Convention*, *ibid.*, Annex II(C).

50. *Ibid.*, art. IV(2).

51. These considerations are set out in Annex III of the *London Convention*, *ibid.*.

52. Reproduced at 36 I.L.M. 1 (1996) [hereinafter *Protocol to the Convention*]. The environment ministers of the eight major industrial countries comprising the G-8 (including Canada) have indicated publicly that they “will make efforts towards the early entry into force of the . . . [Protocol to the Convention].” See, G-8 Environment Ministers, Press Release, “G-8 Environment Ministers Meeting in Ottawa, 7-9 April 2000”, online: <http://www.ec.gc.ca/press/000410_n_e.htm> (last updated: April 10, 2000).

disposal.”⁵³ “Platforms or other man-made structures at sea” are included on the list of wastes or other matter that may be considered for dumping,⁵⁴ provided that “material capable of creating floating debris or otherwise contributing to pollution of the marine environment has been removed to the maximum extent” and that it poses “no serious obstacle to fishing or navigation.”⁵⁵ Platforms may be permitted to be dumped with a prior permit considered on a case-by-case basis, although “particular attention shall be paid to opportunities to avoid dumping in favour of environmentally preferable alternatives.”⁵⁶ Like the *London Convention*, the *Protocol to the Convention* lists a number of assessment criteria to consider when deciding whether to issue a permit. These include a waste prevention audit; considerations of waste management options; considerations of the chemical, physical and biological properties of the waste; assessment of potential effects of the dumping; and appropriate dump site selection.⁵⁷

Substantively this protocol does not greatly restrict the dumping of offshore facilities. “Proposals to include activities related to offshore oil and gas exploration and exploitation were ultimately rejected. . . . Moreover, the disposal at sea of derelict offshore installations remains under the scope of the 1996 Protocol through its inclusion in the definition of “dumping”. Platforms are also included in the reverse list in Annex 1 and will therefore need a prior permit on a case-by-case basis. Concern for the environmental risks posed by the toppling of oil rigs, highlighted by the Brent Spar controversy in 1995, were expressed particularly by European states.”⁵⁸ However, “[t]he upheaval surrounding the aborted dumping of the Brent Spar in 1995 was apparently unable to secure global support for its exclusion from [the list of wastes or other matter that may be considered for dumping].”⁵⁹

Under the various international dumping laws, the dumping of offshore facilities into the sea is generally allowed, provided that appropriate permits are obtained after considering all that is required under the various conventions. The conventions collectively require a great deal of material to be considered, and any regional decommissioning regime that Canada adopts will need to consider all of these considerations prior to allowing any partial removal of an offshore facility.

53. *Protocol to the Convention*, *ibid.*, art. 1(4)(4). Like the *London Convention* and the *LOS Convention*, placement for a purpose other than the mere disposal thereof (e.g. the creation of an artificial reef) is not included in the definition of “dumping”

54. *Ibid.*, Annex 1.

55. *Ibid.*, Annex 1(2).

56. *Ibid.*, art. 4.

57. *Ibid.*, Annex 2.

58. Molenaar, *supra* note 46 at 399.

59. *Ibid.* at 400.

5. *The International Maritime Organization*

The International Maritime Organization's (IMO) 1989 *Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone*⁶⁰ are widely seen as the "generally accepted international standards" and the IMO is viewed as the "competent international organization" referred to in the *LOS Convention*.⁶¹ The *IMO Guidelines and Standards* can be classified as "soft law," as states party to the *LOS Convention* are only required to take them into account when making decommissioning decisions. The *IMO Guidelines and Standards* are not binding on states, as they do not have the status of international law.

Zhiguo Gao has succinctly summarized the major points of the *IMO Guidelines and Standards*. Gao states that the major points are:

- (a) the general principle is that all disused installations are required to be removed;
- (b) installations in water depths of less than 75 metres, or 100 metres after 1 January 1998, and weighing less than 4,000 tonnes should be removed unless:
 - i. not technically feasible;
 - ii. involving extreme cost; or
 - iii. constituting unacceptable risk to personnel or the marine environment;
- (c) an unobstructed water column of 55 metres must be left in the event of a partial removal;
- (d) all installations after 1 January 1998 are to be designed and built so that their entire removal is feasible.⁶²

These are minimum standards, which can be made more stringent by member states.⁶³ A decision to allow an installation to be partially removed should be done on a "case by case evaluation" based on a number of factors,⁶⁴ including potential effect on the safety of navigation or other uses of the sea,⁶⁵ the present, potential and possible effect on the

60. Resolution A.672(16) of the Assembly of the International Maritime Organisation adopted on 19 October 1989; text in (1989) 4 Int'l J. Est. & Coast. L. 76 and A. D. G. Hill, ed., *Daintith and Willoughby United Kingdom Oil and Gas Law*, vol. 2 (London: Sweet & Maxwell, 1996) at paras. 7-020 to 7-023 [hereinafter *IMO Guidelines and Standards*].

61. See Forte, *supra* note 2; Gao, *supra* note 15 and J. Woodliffe, "Decommissioning of Offshore Oil and Gas Installations in European Waters: The End of a Decade of Indecision" (1999) 14 Int'l J. of Marine and Coast. L. 101. Resolution A.672(16), *ibid.*, states that "the [IMO] is the competent Organisation to deal with [art. 60 of the *LOS Convention*]."

62. Gao, *ibid.* at 151.

63. *IMO Guidelines and Standards*, *supra* note 60 at para. 1(4).

64. *Ibid.* at para. 2(1).

65. *Ibid.* at para. 2(1) and (2).

marine environment,⁶⁶ the risk that the material may shift position at a future time,⁶⁷ costs, technical feasibility, risk of injury to personnel involved in the decommissioning⁶⁸ and the determination of a new use of the facility.⁶⁹

As Canada has not yet ratified the *LOS Convention*, it technically need not even consider the *IMO Guidelines and Standards* at all. Still, as "soft law" it has the potential to become customary international law, and presumably at some point Canada will follow the lead of the 133 other countries around the world⁷⁰ that have already become parties to the *LOS Convention*.⁷¹ Canada ought to at least consider the guidelines when deciding on a decommissioning regime of its own.

III. *Regulatory Regimes in Newfoundland and Nova Scotia*

1. *Introduction*

The regulatory regimes governing the offshore of Newfoundland and Nova Scotia are generally quite new. The constitutional framework was put in place by a series of court battles fought from the late 1960s to the 1980s, followed by political negotiation that created the two boards that now regulate offshore production off the coasts of the two provinces. The regulatory regimes of both provinces are similar, and generally share the management of and revenues from the offshore between the federal and provincial governments. Both boards are granted a certain degree of autonomy in their decisions, even though neither is completely free from potential political influence in their decision-making by the federal or provincial governments.⁷²

66. *Ibid.* at paras. 2(1)(2), 2(1)(3), 3(3).

67. *Ibid.* at para. 2(1)(4).

68. *Ibid.* at para. 2(1)(5).

69. *Ibid.* at para. 2(1)(6). This presumably would include the use of a facility as an artificial reef. See also para. 3(4).

70. United Nations, Division for Ocean Affairs and the Law of the Sea, online: <<http://www.un.org/Depts/los/los94st.htm>> (date accessed: 10 August 2000).

71. For the Government of Canada indication that it intends to ratify the *LOS Convention*, see note 37.

72. The federal government and the governments of both Newfoundland and Labrador and Nova Scotia reached accords respecting their respective offshores, which have been put into legislation through nearly identical "mirror legislation." As the provincial and federal acts are nearly identical, the federal acts will be referenced throughout. For a discussion of the differences between the federal and provincial acts, see C. D. Hunt, *The Offshore Petroleum Regimes of Canada and Australia* (Calgary: Canadian Institute of Resources Law, 1989) at 19ff, 35ff. The constitutional history and the general regimes that are now in place to regulate the Canadian offshore are beyond the scope of this article.

Decommissioning under these regimes is generally adequately addressed, even though the subject in the Canadian offshore is a phenomenon that has not really been tested in practice. In issuing an authorization to produce in the offshore, an operator is required to provide a certain amount of documentation evidencing its plans for the project from exploration to decommissioning. This documentation includes environmental plans, statements and assessments, a general development plan and evidence of financial responsibility.

Decommissioning of facilities is addressed throughout, and the proponent of a project, when planning for eventual decommissioning, is required to consider topics that include navigation, fisheries and the marine environment. These requirements are not always consistent between the two regimes, and the requirements are mostly set out in guidelines that may give the boards a great deal of discretion and freedom in deciding what level of planning is required before an authorization to produce is issued. The regimes likely would require a further assessment to be conducted prior to decommissioning, although the proponent is largely restricted to the plans submitted to the boards at the beginning of the project.

As a starting point, no person may carry on any work or activity related to the exploration or drilling for or the production, conservation, processing or transportation of petroleum in an offshore area⁷³ unless that person is, among other things, authorized by either the Canada- Newfoundland Offshore Petroleum Board (CNOPB) or the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) to do the work or activity that is proposed (a Production Operations Authorization).⁷⁴ This Production Operations Authorization is subject to the board's requirements and regulations as the board may determine or prescribe, including requirements for the carrying out of environmental programs or studies and requirements relating to liability for expenses.⁷⁵

73. "Offshore area" will refer in this article to areas in the Newfoundland and Nova Scotia offshore area regulated by the *Canada-Newfoundland Atlantic Accord Implementation Act*, S.C. 1987, c. 3, as am. [hereinafter the *Newfoundland Accord Act*] and the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, S.C. 1988, c. 28, as am. [hereinafter the *Nova Scotia Accord Act*]. This is but one small area of the entire potential area that oil and gas may be produced in Canada's offshore. This article does not address production off the coasts of any of the other provinces (including Quebec and British Columbia) or the territories. In addition, a certain area of the Canadian continental shelf falls under the jurisdiction of the French islands of St. Pierre et Miquelon.

74. *Newfoundland Accord Act*, *ibid.*, s. 137 and *Nova Scotia Accord Act*, *ibid.*, s. 140.

75. *Newfoundland Accord Act*, *ibid.*, s. 138(4)(b) and *Nova Scotia Accord Act*, *ibid.*, s. 142(4)(b).

These requirements may include a development plan, an environmental protection plan, an environmental impact statement, an environmental assessment, an abandonment program authorization and proof of financial responsibility. Requirements relating to the ultimate decommissioning of offshore facilities or structures are included within. Further to requirements relating to the facilities, there are also more specific requirements dealing with the abandonment of the well itself.⁷⁶ These will be discussed in turn.

2. *Development Plan*

The Production Operations Authorization is subject to the board's approval of a development plan.⁷⁷ Development of a pool or field shall not be done except in accordance with an approved development plan.⁷⁸ A development plan is in two parts. Part I is a description of the general approach of developing the pool or field, and includes certain specific information including the environmental factors in connection with the proposed development. Part II is to contain all prescribed technical or other information and proposals necessary for a comprehensive review and evaluation of the proposed development.⁷⁹ Approval of Part I of the development plan is a "fundamental decision," subject to certain potential political intervention.⁸⁰

The CNOPB in Newfoundland is required to conduct a public review (subject to a potential ministerial override) in relation to a potential development of a pool or field, unless the board is of the opinion that a public hearing is, in the public's interest, not required.⁸¹ This differs

76. Well abandonment is beyond the scope of this article. Generally, the abandonment of wells is regulated by the *Newfoundland Offshore Petroleum Drilling Regulations*, S.O.R./93-23 and *Nova Scotia Offshore Petroleum Drilling Regulations*, S.O.R./92-676, as am. by S.O.R./95-188.

77. *Newfoundland Accord Act*, *supra* note 73, s. 139 and *Nova Scotia Accord Act*, *supra* note 73, s. 143. As was mentioned earlier, a development plan is not required if both the federal and provincial ministers give their approval, allowing for the possibility of political intervention in the approval process.

78. *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, S.O.R./95-103, s. 5(2) and *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, S.O.R./95-190, s. 5(2).

79. *Newfoundland Accord Act*, *supra* note 73, s. 139(3) and *Nova Scotia Accord Act*, *supra* note 73, s. 143(3). See also CNOPB, *Development Application Guidelines: Newfoundland Offshore Area* (December 1988), s. 1.2.1 [hereinafter the *Newfoundland Development Guidelines*] and CNSOPB, *Guidelines on Plans and Authorizations Required for Development Projects* (16 August 1995), s. 2.1 and Appendix A [hereinafter *Nova Scotia Development Guidelines*].

80. *Newfoundland Accord Act*, *supra* note 73, s. 139(4)(a) and *Nova Scotia Accord Act*, *supra* note 73, s. 143(4)(a). A discussion of the fundamental decision process, which differs in Newfoundland and Nova Scotia, is beyond the scope of this article.

81. *Newfoundland Accord Act*, *ibid.*, s. 44.

slightly in Nova Scotia where the requirement is discretionary. The CNSOPB may conduct a public review (subject to a potential ministerial override) in relation to the exercise of any of its powers or the performance of any of its duties where the board is of the opinion that it is in the public interest to do so.⁸² The board may require that a preliminary development plan be made available at this public review.⁸³ The CNOPB has indicated that it expects, for the foreseeable future, all development applications will be subject to a public review.⁸⁴ The CNSOPB has indicated that its policy is to conduct a public review for major development projects.⁸⁵

The required information to process a development plan application is generally not set out in the legislation or regulations.⁸⁶ Rather, the CNOPB and the CNSOPB have chosen to use their broad authority to issue and publish general guidelines.⁸⁷ In Newfoundland, chapter 4 of the *Newfoundland Development Guidelines* governs the development plan.⁸⁸ In Nova Scotia, Appendix A of the *Nova Scotia Development Guidelines* governs the development plan.⁸⁹

82. *Nova Scotia Accord Act*, *supra* note 73, s. 44.

83. *Newfoundland Accord Act*, *supra* note 73, s. 44(2)(c) and *Nova Scotia Accord Act*, *ibid.*, s. 44(2)(d). The CNOPB has indicated that certain proprietary information found in the development plan — such as portions of Part II of the development plan — will not be made available to the public. In addition, the CNOPB has indicated that it — regardless of whether a public review is called — expects the proponent to also hold public information sessions in communities expected to be affected by the project. If a public review is not held, the CNOPB has indicated that it will invite publicly available written submissions from interested parties. See *Newfoundland Development Guidelines*, *supra* note 79, ss. 2.1, 2.2, 2.3. The CNSOPB has indicated that its policy is that, as a general rule, all materials considered by the CNSOPB along with a development application will be available to the public. Exceptions may be granted in regards to specific information where the applicant can demonstrate that the reasons for keeping the information confidential outweigh the public interest for full disclosure. See *Nova Scotia Development Guidelines*, *supra* note 79, s. 3.

84. *Newfoundland Development Guidelines*, *ibid.*, s. 2.0.

85. *Nova Scotia Development Guidelines*, *supra* note 79, s. 2.4.

86. The public review process is, however, set out in *Newfoundland Accord Act*, *supra* note 73, s. 44 and *Nova Scotia Accord Act*, *supra* note 73, s. 44. See also the *Newfoundland Development Guidelines*, *supra* note 79, ss. 2.4ff and *Nova Scotia Development Guidelines*, *ibid.*, s. 2.4.

87. This authority is given in *Newfoundland Accord Act*, *ibid.*, s. 151.1 and *Nova Scotia Accord Act*, *ibid.*, s. 156. Using guidelines allows the board to sidestep the formal process used in the creation of regulations.

88. *Newfoundland Development Guidelines*, *supra* note 79. The CNOPB has also, perhaps redundantly, declared the *Newfoundland Development Guidelines* to be subordinate to its creating legislation and regulations. See *Newfoundland Development Guidelines*, *ibid.* s. 1.0.

89. *Nova Scotia Development Guidelines*, *supra* note 79.

Decommissioning is explicitly referenced and is to be included in Part I of the development plan. Besides specific requirements relating to geotechnical data in the discussion of facility design criteria,⁹⁰ decommissioning must also be discussed explicitly in its own section of the development plan. The *Newfoundland Development Guidelines* state:

This section of the Development Plan should describe the provisions included in the design to facilitate decommissioning and abandonment of the installation at the end of its production life. An overview plan of the decommissioning and abandonment program and a discussion of the feasibility of the proposed procedures should be provided. A description of the measures that would have to be taken to leave the site in a fishable and navigable state should be included.⁹¹

The *Nova Scotia Development Guidelines* similarly state:

This section should describe the provisions included in the design to facilitate decommissioning and abandonment of the installation at the end of its production life. An overview plan of the decommissioning and abandonment program and a discussion of the feasibility of the proposed procedures should be included. The suspension and abandonment of wells should also be briefly discussed.⁹²

This latter section addresses four distinct elements. First, it addresses the design of the facility to facilitate eventual decommissioning. Thus, a development plan, by deciding early on in a project's life what shall be done on its decommissioning, influences how an installation is designed in the first place. Where a development plan requires the removal of a fixed production installation,⁹³ the operator is required to incorporate into its design such measures as are necessary to facilitate its removal from the site without causing a significant effect on navigation or the marine environment.⁹⁴

Second and third, it addresses as an overview the decommissioning and abandonment program and also the feasibility of the proposed procedures. Doing so early in the project may result in a disincentive to apply new technologies or processes to abandonment or decommission-

90. *Newfoundland Development Guidelines*, *supra* note 79, s. 4.8.3 and *Nova Scotia Development Guidelines*, *ibid.*, App. A, s. 5.3

91. *Newfoundland Development Guidelines*, *ibid.*, s. 4.13.

92. *Nova Scotia Development Guidelines*, *supra* note 79, App. A, s. 5.8.

93. A "production installation" is defined as meaning, generally, equipment for the production of oil or gas located at a production site and any associated platform, artificial island, subsea production system, offshore loading system, drilling equipment, facilities related to marine activities and depended diving system. *Newfoundland Offshore Petroleum Installation Regulations*, S.O.R./95-104, s. 2(1) and *Nova Scotia Offshore Petroleum Installations Regulations*, S.O.R./95-191, s. 2(1).

94. *Newfoundland Offshore Petroleum Installation Regulations*, *ibid.*, s. 42 and *Nova Scotia Offshore Petroleum Installations Regulations*, *ibid.*, s. 42.

ing at the end of the project's life, a time many years after the initial approval is given.⁹⁵ Likewise, predicting feasibility so far ahead of the actual decommissioning may be difficult given changing technologies. There is a general prohibition against decommissioning other than in accordance with an approved development plan or other requirement of a Production Operations Authorization.⁹⁶

Fourth, the CNOPB requires a description of measures which would have to be taken to leave the site in a fishable and navigable state. Curiously, this requirement is absent in the CNSOPB guidelines respecting the development plan.⁹⁷ While this addresses two very important issues, it does not explicitly require the addressing of other issues, such as those related to the environment, the sustainability of ecosystems, endangered species or cumulative environmental impacts.⁹⁸ Notably, the CNOPB's use of the term "fishable" is narrower and different than the term "marine environment" used in the regulations describing how a facility is to be designed.⁹⁹

3. *Environmental Protection Plan*

A Production Operations Authorization is subject to such requirements for the carrying out of environmental programs or studies as the board determines or as may be prescribed.¹⁰⁰ Issuance of a Production Operations Authorization is subject to an environmental protection plan existing and the operator conducting the production operations in accordance

95. Amendments of a development plan at a later date are permissible, but must be approved by the board. See *Newfoundland Accord Act*, *supra* note 73, s. 139(5) and *Nova Scotia Accord Act*, *supra* note 73, s. 143(5).

96. *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, *supra* note 78, s. 50 and *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, *supra* note 78, s. 50.

97. The CNSOPB also requires a brief discussion of suspension and abandonment of wells, a topic fairly extensively covered by the *Nova Scotia Offshore Petroleum Drilling Regulations*, *supra* note 76, and the *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, *ibid.*, discussed below.

98. It should be noted that the environment is addressed in the environmental protection plan discussed below.

99. *Newfoundland Offshore Petroleum Installation Regulations*, *supra* note 93, s. 42 and *Nova Scotia Offshore Petroleum Installations Regulations*, *supra* note 93, s. 42.

100. *Newfoundland Accord Act*, *supra* note 73, s. 138(4)(b) and *Nova Scotia Accord Act*, *supra* note 73, s. 142(4)(b)

with the environmental protection plan.¹⁰¹ The environmental protection plan must be developed by the operator and provide for the protection of the natural environment, including plans for environmental restoration of the production site following termination of production.¹⁰² The board may require the environmental protection plan to be made available to the public at a public review.¹⁰³

The environmental protection plan is a life-of-project reference document for environmental protection matters.¹⁰⁴ The board's Chief Conservation Officer shall approve the environmental protection plan when adherence to the plan will provide for the "protection of the natural environment."¹⁰⁵ Approval, then, is for environmental purposes only, and not, directly at least, for protection of other uses of the sea, such as navigation or fishing. The approver is not, however, given any direction in how to address specific issues related to the "natural environment" such as cumulative impacts or the protection of endangered species or ecosystems.

101. *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, *supra* note 78, s. 8(2) and *Nova Scotia Offshore Petroleum Production and Conservation Regulations*, *supra* note 78, s. 8(2). The CNOPB may require submission of (or at least preliminary information related to) the environmental protection plan at the time the proponent applies for development plan approval. See *Newfoundland Development Guidelines*, *supra* note 79, ss. 1.1 and 1.5. The CNSOPB requires a "discussion in regards to the Environmental Protection Plan" as part of a development plan. See *Nova Scotia Development Guidelines*, *supra* note 79, App. A., s. 10.

102. *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, *ibid.*, s. 51(2) and *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, *ibid.*, s. 51(2).

103. *Newfoundland Accord Act*, *supra* note 73, s. 44(2)(c) and *Nova Scotia Accord Act*, *supra* note 73, s. 44(2)(d).

104. *Newfoundland Development Guidelines*, *supra*, note 79, s. 9.0 and *Nova Scotia Development Guidelines*, *supra* note 79, App. A, s. 10.

105. *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, *supra* note 78, s. 51(5) and *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, *supra* note 78, s. 51(5). Delegation is provided under the *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, *ibid.*, s. 9, *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, *ibid.*, s. 9, *Newfoundland Accord Act*, *supra* note 73, s. 137.1 and *Nova Scotia Accord Act*, *supra* note 73, s. 141.1.

4. *Environmental Impact Statement*

The board may also require the submission of an environmental impact statement as part of the environmental studies prior to issuing a Production Operations Authorization.¹⁰⁶ The environmental impact statement may be required to be made available to the public at a public review.¹⁰⁷

The CNOBP has indicated that the purpose of the environmental impact statement is to describe in detail the environmental setting of the proposed development; to identify the interactions between the development and the environment as well as the effects that the development is anticipated to have on the environment, and to state the policies and procedures the proponent intends to follow to eliminate or reduce any possible harmful effects.¹⁰⁸

The CNSOPB has taken a different approach and indicated that the environmental impact statement will satisfy the requirements of a comprehensive study under the *Canadian Environmental Assessment Act*.¹⁰⁹

While comprehensive, the specific requirements set out by both the CNOBP and the CNSOPB for the environmental impact statement do not directly address decommissioning.¹¹⁰ Nevertheless, the information that it does address, such as the environmental effects of the project, would be very valuable in making a decision regarding decommissioning.

106. *Newfoundland Accord Act*, *ibid.*, s. 138(4)(b), *Nova Scotia Accord Act*, *ibid.*, s. 142(4)(b), *Newfoundland Development Guidelines*, *supra* note 79, s. 1.1, and *Nova Scotia Development Guidelines*, *supra* note 79, s. 2.4. The CNSOPB has indicated in its guidelines that the environmental impact statement "shall" be prepared, unlike the discretionary requirement in the legislation.

107. *Newfoundland Accord Act*, *ibid.*, s. 44(2)(c) and *Nova Scotia Accord Act*, *ibid.*, s. 44(2)(d).

108. *Newfoundland Development Guidelines*, *supra* note 79, s. 1.3.2.

109. S.C. 1992, c. 37 [hereinafter CEAA]. See *Nova Scotia Development Guidelines*, s. 2.3. The requirements of a comprehensive study are set out in s. 16 of the CEAA, *ibid.* It appears that the CNSOPB intends that the environmental impact statement should form part of the environmental assessment process, which is briefly explored in the next section. See also CNSOPB, *CNSOPB Policy and Procedure, Environmental Assessment Policy* (27 June 1996).

110. *Newfoundland Development Guidelines*, *supra* note 79, c. 6 and CEAA, *ibid.*, s. 16. It should be noted that the requirements are quite general and that the CNOBP guidelines specifically state that the requirements are neither restrictive nor exhaustive.

5. Environmental Assessment

The CEAA requires an environmental assessment of a project¹¹¹ where a federal authority is responsible for the administration of federal lands¹¹² and disposes of those lands for the purpose of enabling a project to be carried out.¹¹³ The CNSOPB is designated as a federal authority under the CEAA.¹¹⁴ This designation enables the triggers found in the CEAA for the mandatory environmental assessment of projects in the Newfoundland offshore.¹¹⁵ The CNSOPB is not designated as a federal authority, probably because of the constitutional uncertainty surrounding the jurisdiction of the Nova Scotia offshore.¹¹⁶ Nevertheless, the CNSOPB has indicated that an environmental assessment, from construction to abandonment, will be undertaken when a development plan is considered.¹¹⁷ While perhaps not legally binding on the CNSOPB, the CNSOPB has indicated that it has as a policy adopted CEAA criteria for the purpose of assessing the environmental effects of a proposed project in the Nova Scotia offshore area.¹¹⁸

111. "Project" is defined as meaning, in part and in relation to a physical work, any proposed construction operation, modification, decommissioning, abandonment or other undertaking. See CEAA, *ibid.*, s. 2.

112. "Federal lands" explicitly includes the territorial sea, exclusive economic zone and the continental shelf of Canada. See CEAA, *ibid.*, s. 2.

113. CEAA, *ibid.*, s. 5(1)(c). There are other triggering events for an environmental assessment as well that are not discussed in this article.

114. *Federal Authorities Regulations*, S.O.R./96-280.

115. Although perhaps not in the Newfoundland territorial sea, which may be within the jurisdiction of the province, given the constitutional uncertainty of this area. This topic is beyond the scope of this article. Provincial assessment requirements, not addressed in this article, may still apply.

116. A discussion of this is beyond the scope of this article.

117. CNSOPB, "Activity Authorizations (CNSOPB's Approval Process)", online: <<http://www.cnsopb.ns.ca/Environment/activityauth.htm>> (date accessed: 2 August 2001).

118. *CNSOPB Policy and Procedure, Environmental Assessment Policy*, *supra* note 109, and *Nova Scotia Development Guidelines*, *supra* note 79, s. 2.3. Note that provincial assessment requirements such as those found in the *Nova Scotia Environment Act*, S.N.S. 1994-95, c. 1, not discussed in this article, may apply as well. Note also that certain projects may trigger an assessment by another federal authority under the CEAA, *supra* note 109, even if not by the CNSOPB. In cases such as this, the federal authority may work together with the CNSOPB on the environmental assessment so as not to duplicate efforts. See CEAA, *ibid.*, s. 12 for this authority. This is what happened in the environmental assessment of the Sable Gas Projects. See *The Joint Public Review Panel Reports, Sable Gas Projects* (October 1997), a joint publication of the Canadian Environmental Assessment Agency, the Nova Scotia Department of Environment, the National Energy Board, Natural Resources Canada, the Nova Scotia Department of Natural Resources and the CNSOPB.

The *CEAA* requires an environmental assessment to be conducted in respect of *every* construction, decommissioning, abandonment or other undertaking in relation to a physical work,¹¹⁹ and the proposed construction, decommissioning or abandonment of a platform, artificial island or any other physical work for the production of oil or gas that is located offshore is a project that requires a comprehensive study under the *CEAA*.

¹²⁰ Presumably — although that is not altogether clear — this would indicate that even if the initial environmental assessment addressed decommissioning or abandonment, another environmental assessment — at the level of a comprehensive study — would be required prior to the decommissioning being carried out. Nonetheless, since decommissioning issues may affect the design of a facility, the initial environmental assessment would have to at least address facility design, since the federal authority is required to conduct an environmental assessment before “irrevocable decisions” are made.¹²¹

This article is not intended to exhaustively review the environmental assessment process. The importance of the process should be noted, however, given that two of the five most extensive reviews completed under the *CEAA* to date have involved offshore energy projects.¹²²

6. *Abandonment Program Authorization*

The CNSOPB also requires the issuance of an abandonment program authorization prior to an abandonment of offshore facilities.¹²³ This program is to follow the abandonment plan set out in the development plan, and is to be submitted at the time of abandonment. The removal of installations from the site is to be planned so as not to cause significant effects to navigation or the marine environment. The impacts on the fisheries (at least directly) are curiously not mentioned. This authorization appears not to be currently required by the CNOPB.

7. *Financial Responsibility*

Since decommissioning happens at the end of a project's life, there may be little incentive for an operator to put aside the required resources to finance a decommissioning. The legal regimes in place in offshore Newfoundland and Nova Scotia have attempted to address this issue, in

119. *CEAA*, *ibid.*, s. 15(3).

120. *Comprehensive Study List Regulations*, S.O.R./99-439, s. 11. A comprehensive study is a middle level of assessment under the *CEAA*, *ibid.*, between a screening and a full review.

121. *CEAA*, *ibid.*, s. 11(1).

122. These are the Sable Gas Project and the Terra Nova Project. See Canadian Environmental Assessment Agency, *Review of the CEAA, A Discussion Paper for Public Discussion* (December 1999).

123. *Nova Scotia Development Guidelines*, *supra* note 79, s. 4.

order to ensure that the natural environment is preserved and restored, and also that the operator properly terminates the work having regard to environmental, safety and other concerns.¹²⁴

A Production Operations Authorization is subject to requirements relating to liability for loss, damage, costs or expenses.¹²⁵ Prior to issuing a Production Operations Authorization, the board is required to ensure that the applicant has provided proof of financial responsibility in a form and amount satisfactory to the board.¹²⁶ Prior to beginning work, the operator is required to submit to the board proof of financial responsibility to ensure that it leaves the site in a state as required by the approved development plan or other requirements as the board determines, or by the board in issuing its Production Operations Authorization.¹²⁷ The operator must also present evidence that it is able to meet any financial liability that might be incurred in connection with the work or activity.¹²⁸ This proof of financial responsibility that the board is required to obtain is a continuing obligation.¹²⁹

The CNOPB and the CNSOPB have indicated that the operator will be required to provide proof of financial responsibility having regard to the following:

- (a) The Board, subject to statutory law, will require as part of either a development plan approval, or work or activity authorizations, that any production installation be designed and installed in such a manner to facilitate its entire removal. In addition, the Board may require, as part of a development plan approval or a subsequent authorization for a work or activity, the removal of all or a portion of any production installation.

124. See the CNOPB and CNSOPB, *Joint Guidelines Respecting Financial Responsibility Requirements for Work or Activity in the Newfoundland and Nova Scotia Offshore Area* (May 1999), c. 3 [hereinafter *Guidelines*].

125. *Newfoundland Accord Act*, *supra* note 73, s. 138(4) and *Nova Scotia Accord Act*, *supra* note 73, s. 142(4).

126. *Newfoundland Accord Act*, *ibid.*, s. 138.3 and *Nova Scotia Accord Act*, *ibid.*, s. 142.3.

127. *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, *supra* note 78, s. 10(a)(ii) and *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, *supra* note 78, s. 10(a)(ii). This would include the other plans and statements discussed in this article.

128. *Newfoundland Offshore Area Petroleum Production and Conservation Regulations*, *ibid.*, s. 10(b) and *Nova Scotia Offshore Area Petroleum Production and Conservation Regulations*, *ibid.*, s. 10(b).

129. *Newfoundland Accord Act*, *supra* note 73, s. 163(1.1) and *Nova Scotia Accord Act*, *supra* note 73, s. 168(1.1).

(b) The operator, on behalf of the participating interest holders and parties, must submit a decommissioning program for Board approval, including its proposed evidence of financial responsibility for such decommissioning, prior to the commencement of production. Subject to the Board's approval, any such decommissioning program may be revised as circumstances may require from time to time.

(c) Since each project and production installation is unique, requirements respecting evidence of financial responsibility will be dealt with on a case by case basis. Therefore in the preparation and submission of the required evidence, the operator should establish and maintain close consultations with the Board regarding the particular requirements.

(d) In providing evidence of financial responsibility, the operator, on behalf of the participating interest holders and parties, must include the following:

- the projected cost associated with the abandonment of the pool or field and the decommissioning of the production installation;
- the manner and form in which the operator will ensure, on behalf of the interest owner, that the abandonment/decommissioning costs will be paid;
- the manner, form and associated costs in which the decommissioned production installation will be maintained (in the event that entire removal is not required);
- the manner and form in which any residual liability will be dealt with by the operator and interest owner, in the event any subsequent claims arise after such abandonment/decommissioning occurs, with respect to damages attributable to the operator's work or activity;
- such other information as the Board may consider necessary.¹³⁰

In addition to these positive obligations, including the submission of a "decommissioning program," an operator is also encouraged to proceed through proper abandonment by a reduction in potential liability. By

130. *Guidelines*, *supra* note 124, s. 5.6. These statements are guideline statements only, and the CNOPB and the CNSOPB have indicated that these do not have the status of a regulation or statutory provision. See *Guidelines*, s. 1.0.

complying with proper abandonment authorizations under the legislation, a person who abandons an offshore installation or structure can avoid certain statutory liabilities impositions in relation to the installation or structure.¹³¹

Conclusion

Offshore facility decommissioning is an issue that has gained a great deal of attention around the world, especially in relation to the North Sea and the Gulf of Mexico. Engineers, environmentalists, scientists and policy makers have for some time been debating the different methods of decommissioning. International law has evolved to address offshore decommissioning of structures in line with these debates.

The Canadian offshore regulatory regime governing decommissioning can be seen to be quite extensive, albeit perhaps confusing in the number of places where it must be addressed and the different if not conflicting considerations that must be addressed in each place. These considerations are often open-ended and include the consideration of the fisheries, navigation and the marine environment. As a generally untested regime, however, it is difficult to say whether these requirements will be ultimately effective in practice. For now, however, it can be said that all new facilities and structures will at least have to, prior to the project beginning, undergo a certain amount of initial scrutiny in determining how they will eventually end their useful lives on the Canadian offshore.

131. Debris is defined in the *Newfoundland Accord Act*, *supra* note 73, s. 160(2) and the *Nova Scotia Accord Act*, *supra* note 73, s. 165(2), in part as installations or structures that are abandoned without the required authorizations. Offshore operators are absolutely liable, without proof of fault or negligence, up to a prescribed limit for all actual loss or damage arising as a result of debris to those who incur it and to costs or expenses the federal or provincial Crown reasonably incur in taking remedial action in relation to it. (See the *Newfoundland Accord Act*, s. 162(2) and the *Nova Scotia Accord Act*, s. 167(2). The prescribed limits are set out in the *Canada-Newfoundland Oil and Gas Spills and Debris Liability Regulations*, S.O.R./88-262 and the *Canada-Nova Scotia Oil and Gas Spills and Debris Liability Regulations*, S.O.R./95-125. The current limit is \$30 million in the Newfoundland and Nova Scotia offshore.) In addition, all persons to whose fault or negligence the debris is attributable, or who are by law responsible for others who are at fault or negligent, are unlimitedly jointly and severally liable for claims respecting actual loss or damage and all costs or expenses related to the debris. (See *Newfoundland Accord Act*, s. 162(2)(b) and *Nova Scotia Accord Act*, s. 167(2)(b).) Access to the financial commitments discussed above may be required where there is liability under these statutory heads. (See *Newfoundland Accord Act*, s. 163(2) and *Nova Scotia Accord Act*, s. 168(2).) Since installations or structures that are abandoned with the required authorizations are not considered to be debris, operators who abandon pursuant to the required authorizations will not find themselves under this additional statutory liability in relation to the properly abandoned facility or structure.