Canada possesses the second largest oil sands reserves in the world. The main oil sands areas are situated in Northern Alberta in the Peace River, the Athabasca and the Cold Lake Oil Sands Area. Alberta’s oil sands deposits are estimated to contain 1.71 trillion barrels of bitumen. The oil sands represent forty percent of Canada’s oil production. Oil sands production requires large amounts of energy and water. The energy demand for the oil extraction is mainly generated from natural gas. Natural gas is comparably costly and, most notably in a carbon constrained world, the burning of gas emits unwanted carbon dioxide (CO₂). The recognition of the reality of climate change has led to a drive to reduce greenhouse gas emissions, and especially CO₂. As a seemingly logical consequence the world is currently rediscovering an interest in energy generated from nuclear fission as an arguably “clean” alternative to fossil fuels. Obviously, nuclear energy brings with it its own very significant concerns — as demonstrated vividly by the consequences of the March 2011 earthquake in Japan for the Fukushima Daiichi nuclear power plant. However, it is striking that in the immediate aftermath of that disaster, Nobuo Tanaka, the Executive Director of the International Energy Agency (and a Japanese national) was reported as warning that combating global warming would be “very difficult, even impossible without using nuclear power.”

Faced with such a choice, Alberta, a province without any commercial nuclear facilities, will have to decide whether it will jump on the train of nuclear renaissance and become the first province in Western Canada with its own nuclear power plant. Why might Alberta have to decide this in the near future? In March 2008 Bruce Power filed an application to prepare a site for the future construction and operation of the first nuclear power plant at Lac Cardinal in the Peace River area, 500 km northwest of Edmonton. To date, Bruce Power has not presented a detailed final concept for its prospective plant. Only some basic elements of the project, such as the proposed nuclear capacity of up to 4,000 MW and an envisioned start of operation in 2017, are known. However, on 6 January 2009 Bruce Power withdrew its application for the preparation of a plant site at Lac Cardinal because it identified another site at Whitemud, also situated in the Peace River area, which is currently being assessed for its suitability. In other words the plan to construct the first nuclear power plant in Alberta is not yet dead.

The application to site, construct and operate a nuclear power plant is subject to several approvals issued by the Canadian Nuclear and Safety Commission (CNSC). Before approvals are issued an environmental impact assessment must be carried out. Legal difficulties with the approval of nuclear power plants arise from the fact that no nuclear power plants have been built in Canada in the last 25 years. Moreover, Canadian law has changed over this period, thus creating some uncertainty, both generally about the regulatory process and specifically about the respective jurisdictions of the federal and provincial governments. Alberta has neither experience with nuclear technology nor specific
provincial legislation regarding nuclear facilities. The major part of the licensing process falls within the exclusive authority of the federal government. Before the actual licensing process takes place, a federal environmental assessment of the prospective project has to be carried out. But can Alberta carry out its own environmental assessment process of a proposed nuclear power plant which is exclusively regulated by the federal government?

This article summarizes the outcomes from a broader legal inquiry that the author is conducting with respect to the division of powers over environmental assessments of nuclear power plants in Alberta. That inquiry addresses a range of complex legal issues in some detail. Consequently, given the obvious space limitations of this forum, this article can only highlight some of the key considerations that are raised in the broader work. Similarly, neither can the article provide the introduction to the nuclear technology used in Canada which is necessary for a full legal appreciation of the regulatory regime. Finally, the focus here is only on environmental assessments with respect to the construction, including site preparation, and the operation of a nuclear power plant, and thus excludes other important stages such as nuclear fuel waste management or decommissioning.

Currently the Electricity Resources Branch of Natural Resources Canada is in charge of the development of Canadian energy policies. In particular the Nuclear Energy Division, within the Electricity Resources Branch, determines and implements Canada’s nuclear energy policy. The Department of Natural Resources Act (DNRA) in sections 5 and 6 assigns to the Minister of Natural Resources responsibilities with regard to energy and natural resources policies. Section 2 of the DNRA defines natural resources as mines, minerals and non-renewable resources, energy, including energy developed from water, and forest resources.

Generally the constitutional authority over energy is specified in sections 91 and 92 of the Constitution Act, 1867 and section 92A of the Constitution Act, 1982. The generation and distribution of electrical power from hydro, oil, gas, coal or other non-nuclear sources, are considered to be “local works and undertakings” under section 92(10) of the Constitution Act, 1867. Exemptions from that rule apply for water power pursuant to sections 91(10) and (12) of the Constitution Act, 1867 and for nuclear power.

Pursuant to section 92A(1) of the Constitution Act, 1982, each province may exclusively make laws in relation to (a) exploration for non-renewable natural resources in the province; (b) development, conservation and management of non-renewable natural resources […] and (c) development, conservation and management of sites and facilities in the province for the generation and production of electrical energy. Thus, electricity generated from non-renewable resources such as oil, gas and coal is subject to provincial powers pursuant to section 92A(1)(c) of the Constitution Act, 1982.

When the Constitution was amended in 1982 and the new section 92A introduced, it shifted the legislative authority over non-renewable resources more towards the provinces. However, the wording of section 92A did not intend to carve out any special exception relating to nuclear energy from the grant of federal power. The Supreme Court of Canada, for example, in Society of Ontario Hydro Professional & Administrative Employees v. Ontario Hydro has subsequently ruled that section 92A did not affect the division of powers, and that the federal government therefore retains exclusive jurisdiction over the operation and management of all nuclear plants.

In summary then, the legislative jurisdiction over nuclear energy, its development and application, is exclusively assigned to the federal Parliament.

In Ontario Hydro the Court stated that the federal authority derives on the one hand from the federal power to legislate for the peace, order and good government of Canada under section 91 of the Constitution Act, 1867 and the declaratory power under sections 91(29) and 92(10)(c). According to section 92(10)(c) the Parliament of Canada may, before or after execution of works and undertakings, declare them to be for the general advantage of Canada. As a consequence of such a declaration, any work subject to the declaration then falls within the legislative authority of the federal government, as if it were expressly listed in section 91. Such a declaration was also made for uranium. In principle, the provinces have, pursuant to section 92A(1) of the Constitution Act, 1982, jurisdiction over the exploration, development, conservation, management
of non-renewable natural resources. Uranium is a non-renewable natural resource. In sections 18 and 2 of the Nuclear Energy Act\textsuperscript{17} (NEA) in conjunction with section 2 of the Nuclear Safety and Control Act\textsuperscript{18} (NSCA), uranium was declared a nuclear substance, and all works and undertakings associated with its treatment are for the general advantage of Canada.\textsuperscript{19} In other words, the federal government has jurisdiction over uranium despite the general rule of provincial power over natural resources.\textsuperscript{20}

The constitutional framework in Canada does not explicitly assign jurisdiction over the environment sui generis to either the federal government or the provinces.\textsuperscript{21} Instead, different aspects associated with the broad term environment fall within federal and/or provincial jurisdiction. As Justice La Forest pointed out in the Friends of Oldman River Society v. Canada:\textsuperscript{22}

“The environment, as understood in its generic sense, encompasses the physical, economic and social environment touching several of the heads of power assigned to the respective levels of government. […] It must be recognized that the environment is not an independent matter of legislation under the Constitution Act, 1867 and that it is a constitutionally abstruse matter which does not comfortably fit within the existing division of powers without considerable overlap and uncertainty.”\textsuperscript{23}

The decision of the Supreme Court of Canada in Oldman River is a landmark in environmental law with respect to the division of powers, but also with respect to the authority to conduct an environmental assessment.\textsuperscript{24} The decision dealt with the constitutional and statutory validity, and the nature and applicability, of the Environmental Assessment and Review Process Guideline Order\textsuperscript{25} (Guideline Order).\textsuperscript{26} One important outcome of the Oldman River decision is that federal environmental assessment processes are linked to the respective heads of federal constitutional authority.\textsuperscript{27} Justice La Forest pointed out that an environmental impact assessment is auxiliary in its nature and therefore can only affect matters that fall within the (federal) legislative jurisdiction.\textsuperscript{28}

It is beyond any doubt that the federal government has the necessary jurisdiction with respect to nuclear power, and thus may carry out an environmental assessment in accordance with the provisions of the Canadian Environmental Assessment Act\textsuperscript{29} (CEAA). The federal authority for the application to build a nuclear power plant is the CNSC, pursuant to section 24, in conjunction with section 8 of the NSCA.\textsuperscript{30} Other federal authorities which are likely to be involved in such an assessment are Fisheries and Oceans Canada, Transport Canada, Health Canada and Environment Canada.\textsuperscript{31} The CNSC will have lead responsibility pursuant to sections 11(1) and 5 of the CEAA in conjunction with sections 8 and 9 of the NSCA. Accordingly, the CNSC will have to determine the type of environmental assessment to be undertaken. The Comprehensive Study in Part VI of the schedule, in section 19 of the Comprehensive Study List refers to “Nuclear and Related Facilities”. Apart from the miscellaneous technical options associated with the nuclear power plant, it can confidently be predicted that the application to prepare a site and to construct and operate a nuclear power plant is at least subject to a comprehensive study.\textsuperscript{32}

Whether Alberta indeed wishes to carry out its own environmental assessment remains to be seen. The key question in this respect is: What is the legal basis for the provincial assessment process and, more particularly, what would be the scope of such a process? In Alberta the Environmental Protection and Enhancement Act\textsuperscript{33} (EPEA) in part 2, division 1 sets out provisions for an environmental assessment process. Briefly summarized, section 44 of the EPEA provides several triggers for such an assessment (not all of them relevant for this article). Under section 44 of the EPEA an environmental assessment must be carried out if the proposed activity is a mandatory activity. The Environmental Assessment (Mandatory and Exempted Activities) Regulation\textsuperscript{34} lists activities which are mandatory, but also lists activities which are exempted from an environmental assessment. However, even exempted activities can trigger an environmental assessment process under EPEA at the discretion of the Director.\textsuperscript{35} Activities which are not specifically listed in the Regulation are discretionary and may also trigger an environmental assessment.\textsuperscript{36}

If the proposed nuclear power plant or parts of it qualify as a mandatory activity then a provincial environmental assessment must be carried out. Several options under the Regulation could qualify the activity as mandatory. Schedule 1(k) enumerates...
as a mandatory activity the construction of a thermal electrical power generating plant that uses non-gaseous fuel and has a capacity of 100 MW or greater. A nuclear power plant is a thermal electrical power generating plant because it produces steam and then electricity. According to Bruce Power’s plan, the proposed capacity of ca. 4,000 MW would exceed the threshold set out in Schedule 1(k). Nuclear power plants burn uranium pallets (yellowcake), which constitute a non-gaseous substance. Although Schedule 1(k) of the Regulation can be read so that a nuclear power plant qualifies as a mandatory activity, this result would prima facie be inconsistent with the constitutional division of legislative powers between the federal and the provincial governments. As explained above, the federal government has the exclusive jurisdiction over uranium and nuclear power pursuant to section 92(10)(c) of the Constitution Act, 1867.

Another option under which parts of the operation of a nuclear power plant could qualify as a mandatory activity arises under sections 16 and 49 of the Alberta Water Act, when taken in conjunction with Schedule 1(d) of the Environmental Assessment (Mandatory and Exempted Activities) Regulation. A nuclear power plant uses water which will be taken from a water body. After the water is used, for example in the primary coolant and steam generator, it will be discharged into a water body provided the power plant uses the once-through water cycle. Under Schedule 1(d) of the Regulation, the construction or operation of a water diversion structure and canals with a capacity greater than fifteen cubic metres per second are mandatory activities. The water intake structure could qualify as a water diversion structure and thus trigger a mandatory environmental assessment process. However, it should be noted that the provincial environmental assessment would be limited to the water use, in particular the water intake.

The next issue is: How does the possible trigger of the environmental assessment process under EPEA relate to the exclusive federal jurisdiction over nuclear power? Does the exclusive federal power prevent any provincial laws — here, EPEA's environmental assessment provisions — from applying to nuclear power plants? This issue can be approached from two perspectives: the specific constitutional principles applicable to nuclear facilities, and the more general principles relating to the doctrine of interjurisdictional immunity.

With respect to the first of the two perspectives referred to above, the landmark decision of the Supreme Court of Canada in Society of Ontario Hydro Professional & Administrative Employees v. Ontario Hydro may provide important insights. In that case, the Court had to decide whether labour relations in a nuclear power plant fell under federal or provincial jurisdiction. In a split decision (4:3) the Court found that labour relations in such a situation are partly covered by the exclusive federal jurisdiction relating to nuclear energy. For example, in the preamble of the Atomic Energy Control Act (the AECA, the predecessor statute to the now-applicable NSCA), the federal government indicates its belief that it is in the national interest that consistent national and international standards be applied to the development, production and use of nuclear energy. The Court found that the control and supervision of the application and use of nuclear energy includes labour relations at nuclear facilities. Chief Justice Lamer noted, however, that Parliament’s jurisdiction over a declared work must be limited in order to maintain the constitutional division of powers, while also accepting that the federal interests involved also have to be appropriately recognized. The Court makes an interesting distinction in this respect:

“[t]he affidavit makes it clear that, once the steam is produced, there is no difference between thermal (i.e., fossil-fuel) and nuclear electrical generation. […] The former employees are employed in the production of nuclear (heat) energy, and come under federal jurisdiction under both the declaratory and p.o.g.g. powers; the latter employees are employed in the production of electricity, and the management of their activities falls to the provinces under s. 92A(1)(c).”

The Court effectively then separates a nuclear power plant into two plants: one for the production of nuclear (heat) energy, and the other for the generation of electricity (which uses this heat energy). Accordingly, the moment at which the heat energy is produced marks the point where the jurisdiction shifts from the federal to the provincial sphere of interest. It should be noted, however, that
this case dealt with labour relations. It is questionable whether the distinction drawn by the Court is useful in addressing other issues — in particular, the implications of the exclusive federal power over nuclear energy in the context of the authority to conduct environmental assessments. In this latter respect, it is suggested that a preferable reading of the appropriate division of powers would lead to a result where the federal environmental assessment of a nuclear power plant would cover all aspects of water use in the power plant. This view is preferable because it rejects the assumption that the water use can be arbitrarily and artificially separated into stages which attach to different constitutional powers. The above analysis suggests that, to the extent that they purport to regulate nuclear facilities, the EPEA and its Environmental Assessment (Mandatory and Exempted Activities) Regulation are potentially regulating, in part, matters which fall within federal jurisdiction.

What are the implications of this for the validity of the environmental assessment provisions under EPEA and the Regulation? An analysis of the doctrine of interjurisdictional immunity suggests that the concept of exclusiveness does not necessarily mean that the other level of government may not regulate the issue at stake. As Justice Beetz stated in Bell Canada v. Quebec:

“Works, such as federal railways, things, such as land reserved for Indians, and persons, such as Indians, who are within the special and exclusive jurisdiction of Parliament, are still subject to provincial statutes that are general in their application, … provided however that the application of these provincial laws does not bear upon those subjects in what makes them specifically or federal jurisdiction.”

In other words, the provincial law has to affect the core of the federal interest in order to be constitutionally offensive. Then, under the doctrine of interjurisdictional immunity, the provincial law will be read down so that the federal subject is deferred to. However if the core of the federal subject is not affected, the pith and substance doctrine comes to the fore which may result in the valid application of the provincial law.

In order to analyze the division of powers, however, it has to be determined to which heads of legislative power the subject matter belongs. Thus, in the case of nuclear energy, at least two different heads of power can be identified. The federal government has jurisdiction over nuclear power. Alberta has jurisdiction over water use based on its ownership rights. The federal environmental assessment process of a nuclear power plant is triggered because of the federal power over nuclear energy. The Alberta environmental assessment process regarding water intake and discharge is linked to the province’s constitutional authority over water use, reflected legislatively in the Water Act and EPEA. Under the double aspect doctrine also, both levels of government may enact laws relating to the same matter without duplication or overlapping.

In conclusion, the provincial laws in Alberta triggering an environmental assessment process for water use do not necessarily collide with the exclusive federal power over nuclear power, even though the latter also includes the power to conduct environmental assessments of nuclear power plants.

In summary, then, the assessment of the environmental effects of the construction and operation of a nuclear power plant triggers the federal environmental assessment process under CEAA and the Alberta environmental assessment process under EPEA. For practical purposes, this means that Alberta and the federal government will have to arrange a joint environmental assessment pursuant to CEAA and EPEA. This can be achieved under existing environmental assessment harmonization and cooperation agreements. While a discussion of these agreements is beyond the scope of this article, their objective in brief is to provide the federal and provincial governments with the flexibility to satisfy their respective legal requirements with a joint assessment process, while the project proponent is required to prepare only one environmental assessment report.

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2. Reuters website: <http://www.reuters.com/article/2011/03/15/us-iaa-tanka interview-idUSTRE72E6K20110315>; accessed 15 March 2011. He added that “nuclear power will definitely come back because it is a necessary technology to achieve sustainability for the future.”
5. CNSC, supra note 3.
7. The Electricity Industry in Canada, ibid. at 2-2, 2-3.
8. Department of Natural Resources Act, S.C. 1994, c. 41 [DNRA].
11. The Electricity Industry in Canada, supra note 6 at 1-1.
14. The Electricity Industry in Canada, supra note 6 at I-1.
15. Ontario Hydro, supra note 13 at para. 84.
16. The Electricity Industry in Canada, supra note 6 at I-5.
22. Oldman River, ibid. at para. 86.
23. Oldman River, ibid. at para. 86.
25. The Environmental Assessment and Review Process Guideline Order, S.O.R./84-467, [Guideline Order] was the predecessor of CEAA and is no longer force.
26. Oldman River, supra note 21 at paras. 2, 3.
27. Oldman River, ibid. at para. 48.
30. NSCA, supra note 18.
31. For the coordination among several responsible authorities note the application of the CEAA Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements, S.O.R./97-181. This paper will not, however, deal with the question whether, in addition to the NSCA, other statutes requiring an environmental assessment are also triggered.
32. There are options to refer the project to a mediator or panel review. See in particular ss. 21, 29, 33 and 40-45 of the CEAA. Based on that the CNSC initiated three panel reviews for nuclear facilities in 2007 which were subject to the Comprehensive Study List Regulations, S.O.R./94-638.
33. Environmental Protection and Enhancement Act, R.S.A. 2000, c. E-12 [EPEA].
35. Sections 44(1)(b) to 46 of the EPEA See also Government of Alberta, Environmental Assessment Program (February 2010) at 2, online: <http://environmental.gov.ab.ca/info/library/6964.pdf> [Government of Alberta, EA Program].
38. So far, Canada uses only a fleet of reactors, namely CANDU (Canada Deuterium Uranium) reactors. CANDU reactors use the once-through cycle for water, as opposed to the closed cycle where the water is returned in the nuclear power plant and reused.
41. Ontario Hydro, supra note 13 at para. 2.
42. Ontario Hydro, ibid. at para. 42.
43. Ontario Hydro, ibid. at para. 43.
45. Hogg, supra note 20 at 15-38.2.
46. The “double aspect” doctrine has its roots in the Privy Council decision in Hodge v. The Queen (1883), 9 App. Cas. 117, 130: “subjects which in one aspect and for one purpose fall within s. 92, may in another aspect and for another aspect purpose fall within s. 91”. In other words, some laws can have both a federal and a provincial matter and thus assign jurisdiction to both the federal and the provincial government.
47. Hogg, supra note 20 at 15-38.4.
50. Kwasniak, ibid. at 10.
NEW PUBLICATIONS

**Institutional Relationships and Alberta’s Water for Life Strategy**

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When it was introduced by the provincial government in November 2003, the Water for Life strategy represented a potentially bold attempt to mark Alberta as the Canadian leader in modern approaches to water management. Indeed, at the time, the government described the strategy as the “most comprehensive of its kind in Canada.” The strategy came against the backdrop of increasing stresses on the province’s water resources and a recently-completed overhaul of the cornerstone of water management legislation with the introduction in 1996 of a new *Water Act*. The Act has been the subject of extensive comment elsewhere, but, in summary, it attempted to both preserve the essential core of the province’s existing water management regime — which was built on the twin principles of prior allocation and “first-in-time, first-in-right” — and to incorporate modern concepts and tools of water management, as reflected in the foundational concept of ecosystem integrity and protection.

The paper begins with an overview of the Water for Life strategy, as reflected both in its original version and in subsequent refinements in later years. It then describes briefly the institutional context for water management in Alberta, focusing on the provincial agencies that have the primary ongoing responsibilities for water management in the province. The paper then turns to the description of some key planning initiatives undertaken by the province that are relevant to Water for Life, including both broader land-use planning exercises and planning efforts directed at water management more narrowly, together with a discussion of the interrelationship between these exercises and the Water for Life strategy. The final section provides some brief conclusions.

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In 2003, after a period of extended public consultation, the Government of Alberta introduced its Water for Life strategy. The strategy was subsequently updated and refined in 2008 and 2009, and has been the subject of extensive comment elsewhere. While the strategy has received significant attention, this paper addresses one aspect of Water for Life that has not been the subject of comment to date — the intersection of Water for Life with recent trends in international law.

The paper begins with an overview of the Water for Life strategy. This overview addresses both the basic principles of the strategy, as well as the institutions that are created in order to implement it. This overview is followed by a discussion of the potential existence of a right to water under international law. This discussion takes the form of a review of a range of international instruments that address water management, as reflected in the foundational concept of ecosystem integrity and protection.

The paper begins with an overview of the Water for Life strategy, as reflected both in its original version and in subsequent refinements in later years. It then describes briefly the institutional context for water management in Alberta, focusing on the provincial agencies that have the primary ongoing responsibilities for water management in the province. The paper then turns to the description of some key planning initiatives undertaken by the province that are relevant to Water for Life, including both broader land-use planning exercises and planning efforts directed at water management more narrowly, together with a discussion of the interrelationship between these exercises and the Water for Life strategy. The final section provides some brief conclusions.
NEW PUBLICATIONS (CONTINUED)

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by Rebeca Macias. 2010.

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The paper focuses on the theoretical foundations of public participation in environmental decision-making and natural resources management, and develops general criteria to assess the effectiveness of both processes and results of participatory proceedings. The foundations of public participation and the justifications for its application are outlined. Habermas’ theory of communicative action is used to describe an ideal model of public participation. The author’s concepts of fairness and competence are used to shape the notion of effective participation. The study concludes that public participation is an important instrument to improve public policies related to environmental conservation and natural resources management. The proposed criteria incorporate ideas such as previous consensus on the rules of the debate, the increase of citizens’ social and political capital, the enhancement of participants’ autonomy, and the use of traditional and community knowledge. The appendix includes an analysis of the European Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the Aarhus Convention), based on the criteria proposed in the paper.

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