

Nuclear Power for the Oil Sands: A Regulatory Framework

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The exploitation of Alberta's oil sands reserves is an enormous undertaking. One method of recovering in-situ bitumen, which is located too far below the surface to make surface mining practicable, is by pumping steam into the reservoir to heat the thick, tar-like sands. This separates the bitumen from the sand and renders the bitumen fluid enough to be pumped to the surface. Vast quantities of natural gas are burned to provide steam for in-situ bitumen recovery.¹ Recently, the possibility of using nuclear power to generate steam has been raised in the media.

Proponents of potential nuclear plants in Alberta describe nuclear energy as a "green" alternative to the use of natural gas for steam production, stating that there are no greenhouse gas emissions. Some commentators dispute that position and note that each stage of the nuclear energy production process generates large amounts of wastes that will require long-term management and can impose long-term risks.² This discussion has been moved out of the realm of academic debate by recent suggestions by Alberta Energy Corporation that it is interested in seeking regulatory approval to construct and operate a nuclear power facility in the Fort McMurray region.³

This article briefly discusses the constitutional jurisdiction to legislate with respect to nuclear energy and identifies key legislation governing the approval of applications for a nuclear power plant. In addition, the regulatory bodies and general processes involved in reviewing and approving an application to construct and operate a nuclear power plant in Alberta are identified, as are opportunities for public participation in such reviews. At the time of writing this article, no such application has been put before regulators; accordingly, this article is general in nature.

Constitutional jurisdiction over nuclear energy

Sections 91 and 92 of the *Constitution Act, 1867* describe the powers of the federal Parliament and provincial Legislatures and specifically identify classes of subjects within the exclusive jurisdiction of each level of government.⁴ Nuclear energy is not expressly included in either section 91 or 92.⁵

In addition to its power to legislate over matters specifically listed in section 91, the federal Parliament can legislate in relation to matters not coming within the classes of subjects assigned exclusively to the provinces. This "peace, order and good government" power enables the federal Parliament to legislate where there is a matter of "national concern".⁶ This power has been used to uphold the constitutionality of federal legislation over nuclear power generation.⁷

Consistent with paragraph 92(10)(c) and subsection 91(29) of the *Constitution Act, 1867*, which provide the federal government with declaratory power to legislate in

relation to works wholly within the province, the federal Parliament has declared that all works and undertakings constructed for the production, use and application of nuclear energy are, collectively and individually, works for the general advantage of Canada.⁸ The effect of this declaration is that the federal Parliament has legislative authority over nuclear power plants as if they were specifically listed in section 91.⁹

Because the federal Parliament has exclusive jurisdiction over nuclear energy and its uses, provinces cannot seek to directly govern nuclear energy. However, provincial governments can enact laws that come within their constitutional powers and indirectly affect federal matters, as long as the provincial laws do not contradict the federal laws. Provincial environmental assessment legislation operates to require assessments relating to nuclear facilities refurbishment or nuclear waste management in Quebec and New Brunswick. Provincial approvals for sewage works are issued in respect of nuclear facilities in Ontario.

The application of the *Environmental Protection and Enhancement Act*¹⁰ (*EPEA*) or other provincial legislation or regulations that might affect a nuclear power plant in Alberta may raise constitutional questions in the event that an application is filed. For example, the *Activities Designation Regulation* identifies the construction, operation or reclamation of a "power plant" as an activity that requires an approval from Alberta Environment.¹¹ A "power plant" for the purposes of that regulation means a plant that produces steam or thermal electrical power and has a rated production output of greater than one megawatt under peak load. This definition is not source-specific and does not create an exception for nuclear-powered electrical generation facilities. The constitutional limits of the Energy and Utilities Board's jurisdiction to issue permits and licences under the *Hydro and Electric Energy Act*,¹² the *Pipeline Act*¹³ and the *Oil Sands Conservation Act*¹⁴ could also be raised.

Key legislation

The key piece of legislation governing the approval and regulation of nuclear facilities is the federal *Nuclear Safety and Control Act (NSCA)*,¹⁵ which established the Canadian Nuclear Safety Commission (CNSC). One purpose of the *NSCA* is, generally, to provide for the limitation of risks to national security, health and the safety of persons and the environment that are associated with nuclear energy, nuclear substances and certain equipment and information related to nuclear energy.¹⁶ Licences are issued under this Act for site preparation, construction, operation, decommissioning and abandonment of nuclear facilities, as described below.

The Canadian Nuclear Safety Commission

In 1946 the *Atomic Energy Control Act (AECA)* established the Atomic Energy Control Board (AECB), which reviewed applications for and issued licences in respect of all existing nuclear-powered generation facilities in Ontario, Quebec and New Brunswick. In May 2000, the *NSCA* came into force, replacing the *AECA*. At that time, the CNSC became the successor to the AECB.¹⁷

The objects of the CNSC are set out in section 9 of the *NSCA* and include the regulation of the development, production and use of nuclear energy and the production, possession and use of nuclear substances, prescribed equipment and prescribed information.

The CNSC is an independent federal regulatory agency and quasi-judicial administrative tribunal comprised of two components: (1) a Commission tribunal, and (2) a staff organization. The Commission component establishes regulatory policy on matters related to health, safety, security and the environment. It also makes legally binding regulations and makes licencing decisions based on laws and regulations. CNSC staff review applications for licences against regulatory requirements, make recommendations to the Commission and enforce compliance with the *NSCA*, regulations and licence conditions imposed by the Commission.¹⁸

Licensing requirements under the *NSCA*

The *NSCA* specifically prohibits any person from preparing a site, or constructing, operating, decommissioning or abandoning a “nuclear facility” without a licence issued by the Commission.¹⁹ The *NSCA* defines “nuclear facility” to mean, among other things, a nuclear fission or fusion reactor.²⁰ All of the nuclear power plants currently in operation in Canada are nuclear fission reactors.²¹ Section 24(4) of the *NSCA* provides that an applicant must, in a manner satisfactory to the Commission, address the issues of safety and environmental protection, among others, prior to being issued a licence in respect of a nuclear facility.

The *Class I Nuclear Facilities Regulations* identify the different licences required for a nuclear power plant.²² Separate licences are required for each of: site preparation, construction, operation, decommissioning and abandonment of the nuclear facility. The *NSCA* does not allow for combined licences; each licence requires a separate application and the licences are issued in sequence. Applications for licences to prepare a site, construct a nuclear facility and operate a nuclear facility would be assessed in parallel.²³

Public hearings

The Commission holds public hearings in accordance with its *Rules of Procedure*.²⁴ The Commission is required to issue a notice of hearing to parties and to the public at least 60 days before the start of the hearing.²⁵ Notice to the public may be in any manner that the Commission considers most likely to come to the attention of interested persons.²⁶

A person seeking to intervene at a public hearing must file a request with the Commission under section 19 of the *Rules of Procedure*. The Rules specify deadlines for filing requests to intervene in hearings and identify information that must be included in a request.²⁷

At the hearing, the Commission has discretion to permit participants to present information and submissions orally or in writing and may permit participants to question one another and any witnesses.²⁸ Participants do not directly cross-examine each other or witnesses; rather, questions are posed to other participants through the Board.²⁹ Typically, intervenors are given 10 minutes each for their oral presentations.³⁰ Intervenor funding is not available to assist intervenors with expenses related to attendance at hearings. However, the Commission is able to accommodate participation in its proceedings through teleconference or videoconference.

As noted above, all of the existing nuclear-powered electricity generation projects were approved decades ago by the AECB under the *AECA*. Those projects were reviewed and approved in a manner that allowed for very little public participation. The CNSC has yet

to hold a hearing to review an application for a new nuclear facility. Accordingly, no CNSC decisions exist to illustrate the analysis that the Commission would undertake in reviewing an application for a new nuclear facility. However, decisions of the CNSC on applications for licences to refurbish existing nuclear facilities may be helpful in this respect and are available on the CNSC website.

Environmental assessment process

An environmental assessment must be conducted under the *Canadian Environmental Assessment Act*³¹ (*CEAA*) and its associated regulations before the Commission can issue or amend a licence for a Class I nuclear facility project.³² While the CNSC must issue separate and sequential licenses to site, construct and operate a Class I nuclear facility prior to the facility becoming operational, a single assessment would take place prior to licensing.

The *Comprehensive Study List Regulations* identify the proposed construction, decommissioning or abandonment of a Class IA nuclear facility that is a nuclear fission reactor with a production capacity of more than 25 megawatts (MW) as a project requiring environmental assessment through a comprehensive study.³³ It is likely that any proposed nuclear power plant in Alberta would exceed that capacity.³⁴

The CNSC must ensure public consultation occurs with respect to the project's scope, the factors to be considered and their scope, and the ability of the comprehensive report to address issues relating to the project.³⁵ After this public consultation occurs, the federal Minister of Environment must refer the project either back to the CNSC to continue the comprehensive study or to a mediator or review panel. The CNSC is required to ensure that the public is provided with an opportunity to participate in the comprehensive study.³⁶

Section 17 of *CEAA* enables the CNSC, as the responsible authority, to delegate any part of the comprehensive study or the preparation of the comprehensive study report, as well as any part of the design or implementation of a follow-up program. The CNSC has, in previous cases, delegated the preparation of technical assessment studies for screening reports and comprehensive studies to applicants.

An environmental assessment may also be required under *EPEA*, depending on the nature of the project. According to Schedule 1 of the *Environmental Assessment (Mandatory and Exempted Activities) Regulation*, a thermal electrical power generating plant that uses non-gaseous fuel and has a capacity of 100 MW or greater would require an assessment.³⁷ However, the Director has discretion to require an assessment for a project that produces steam, rather than electricity.

The federal government and the government of Alberta have entered into the *Canada-Alberta Agreement for Environmental Assessment Cooperation*.³⁸ This agreement is applicable in cases where both jurisdictions require environmental assessments in respect of a project and provides that a single assessment may be undertaken to satisfy the requirements of both jurisdictions.

¹ Dan Woynillowicz, Chris Severson-Baker & Marlo Reynolds, *Oil Sands Fever: The Environmental Implications of Canada's Oil Sands Rush* (Drayton Valley, AB: Pembina Institute, 2005) at 15-16.

² Mark Winfield, PhD. *et al*, *Nuclear Power in Canada: An Examination of Risks, Impacts and Sustainability* (N.p., Pembina Institute, 2006) at 4, 108-109, 111-112.

³ Shaun Polczer, "Nuclear plan for oilsands 'imminent'" *National Post* (11 January 2007) FP3.

⁴ *Constitution Act, 1867* (U.K.) 30 & 31 Vict., c.3, reprinted in R.S.C. 1985, App. II, No. 5.

⁵ Section 92A(1)(c) provides the provincial Legislature with the exclusive power to legislate over "the development, conservation and management of sites and facilities in the province for the generation and production of electrical energy." However, for the reasons identified in this article, nuclear power plants fall within the legislative jurisdiction of the federal Parliament, not the provincial Legislatures.

⁶ Peter Hogg, *Constitutional Law of Canada*, 5th ed. supplemented, looseleaf (Toronto: Thompson Canada, 2005) at 17-5.

⁷ The majority of the Supreme Court of Canada in *Ontario Hydro v. Ontario (Labour Relations Board)*, [1993] 3 S.C.R. 327, [1993] S.C.J. No. 99 (QL), [*Ontario Hydro* cited to QL] held, at para. 84, that "the production, use and application of atomic energy constitute a matter of national concern", and noted that "it is predominantly extra-provincial and international in character and implications, and possesses sufficiently distinct and separate characteristics to make it subject to Parliament's residual power." LaForest J. also noted, at para. 84, that the "strategic and security aspects of nuclear power in relation to national defence and the catastrophe and near catastrophe associated with its peaceful use and development at Chernobyl and Three Mile Island bespeak its national character and uniqueness."

⁸ *Nuclear Energy Act*, R.S.C. 1985, c. A-16, s. 18. A similar declaration is made in section 71 of the *Nuclear Safety and Control Act*, S.C. 1997, c. 9.

⁹ *Ontario Hydro*, *supra* note 7 at para. 74. The exact application of provincial laws to facilities designated as being for the general advantage of Canada is still in dispute. See Dianne Saxe, *Ontario Environmental Protection Act Annotated*, looseleaf (Ontario: Cartwright Law Group, 2006) at IN-6.

¹⁰ R.S.A. 2000, c. E-12.

¹¹ Alta. Reg. 273/2003.

¹² R.S.A. 2000, c. H-16.

¹³ R.S.A. 2000, c. P-15.

¹⁴ R.S.A. 2000, c. O-7.

¹⁵ S.C. 1997, c. 9.

¹⁶ *Ibid.*, s. 3(a).

¹⁷ Canadian Nuclear Safety Commission, *Licensing Process for New Nuclear Power Plants in Canada*, INFO-0756 (Ottawa: Canadian Nuclear Safety Commission, 2006), at 1.

¹⁸ *Ibid.*

¹⁹ *Supra* note 15, s. 26.

²⁰ *Ibid.*, s. 2.

²¹ Canadian Nuclear Safety Commission, "About Us – Nuclear Power Plants", online: Canadian Nuclear Safety Commission <http://www.nuclearsafety.gc.ca/eng/about_us/regulate/NPP.cfm>.

²² S.O.R./2000-204, s.1.

²³ *Supra* note 17 at 14.

²⁴ *Canadian Nuclear Safety Commission Rules of Procedure*, S.O.R./2000-211, s. 16 ["the Rules"]. The CNSC's website sets out timelines and procedures for one-day hearings and two-day hearings <http://www.nuclearsafety.gc.ca/eng/commission_hearings/>.

²⁵ "Party" is defined in s. 1 of the Rules, *ibid.*, to mean, in the context of a licence application, an applicant.

²⁶ *Ibid.*, ss. 17(2) and 17(3).

²⁷ See also Canadian Nuclear Safety Commission, "Getting Involved!-The Public Hearing Process", online, Canadian Nuclear Safety Commission <http://www.nuclearsafety.gc.ca/eng/publications/CNSC_0747/CNSC_0747_03.cfm>.

²⁸ *Supra* note 24, s. 21(1).

²⁹ Telephone interview, Paul Hough, Senior Policy Advisor, Regulatory Affairs Division, CNSC (15 February, 2007).

³⁰ Canadian Nuclear Safety Commission, "Public Commission Hearings: How do I Participate in Commission Hearings", online, Canadian Nuclear Safety Commission <http://www.nuclearsafety.gc.ca/eng/commission_hearings/participation>.

³¹ S.C. 1992, c. 37.

³² *Law List Regulations*, S.O.R./94-636, s. 12.1.

³³ S.O.R./94-638, s. 19(d).

³⁴ *Supra* note 21; all of the nuclear power plants in eastern Canada utilize multiple nuclear reactors to generate electricity. The nuclear generators used for this purpose range in production capacity from 500 MW to 850 MW.

³⁵ *Supra* note 31, s.21(1).

³⁶ *Ibid.*, s. 21.2.

³⁷ Alta Reg. 111/93.

³⁸ The Agreement can be accessed online from the Canadian Environmental Assessment Agency's website at <http://www.ceaa-acee.gc.ca/013/agreements_e.htm>.

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Calls for Public Input on Oil Sands Development

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Alberta has in place a process for gathering the public's views on how oil sands development should proceed. The second round of public hearings begins in March 2007. If you have an opinion on how or if the oil sands should be developed, now is your chance to let the Alberta government know what you think.

Background

The Oil Sands Multi-Stakeholder Committee (the "MSC") was formed in 2006 and given the responsibility for making recommendations to the Alberta government on how the development of the oil sands should proceed. The MSC was formed in response to the Alberta government's draft *Mineable Oil Sands Strategy* (the "MOSS").¹ The MOSS drew heavy criticism from environmental groups because it was developed without stakeholder input and was premised upon giving oil sands mining top priority over all other land uses and environmental protection in the Fort McMurray region. As a result, the Alberta government cancelled the feedback sessions on the MOSS and instead created the Oil Sands Consultation Group, which was mandated to develop a plan for consultation.

The Oil Sands Consultation Group was focused solely on developing the process in which an oil sands policy could be developed. It recommended that a hybrid model be used involving both a MSC and a Panel. The MSC would be accountable for the overall consultation process, while the Panel, which is a sub-committee of the MSC, would hold public hearings and information sessions in order to collect public input on oil sands development.²

The MSC and Panel were established in June 2006 with members appointed by government to ensure representation and participation from industry, environmental groups, First Nations, Métis and various levels of government. The consultation is being conducted in two phases:

- Phase one (June 2006 – January 2007) was focused on developing a vision and principles to guide future policy directions for oil sands development. As part of this process, the Panel held hearings where members of the public could present their ideas through oral or written submissions. You can view the Environmental Law Centre's submission to the Panel at <http://www.elc.ab.ca/ims/client/upload/Submissions%20to%20Oil%20Sands%20Panel%20-%20Sept%2026.pdf>. Phase one was completed with the release of the MSC's interim report in January 2007.³
- Phase two (February 2007 – June 2007) is now underway. In this phase, the MSC will develop strategies and actions to implement the vision. The end product of this process will be a consensus based report by the MSC setting out recommendations to the Alberta government.⁴ If consensus cannot be reached

on certain actions or strategies, these non-consensus items will be referred to the Panel to resolve. The Panel may produce its own non-consensus report setting out differing views on actions and strategies for oil sands development.

Interim oil sands report

The MSC's interim report is a very high level document. It was aimed at developing the "big picture" for oil sands development by setting out a general vision and principles. The document touches on a potpourri of ideas ranging from First Nations involvement to environmental protection to royalty and fiscal reform. Specifically, the vision for oil sands development is based on a future for Alberta that:

- honours the rights of First Nations and Métis;
- provides a high quality of life;
- ensures a healthy environment;
- maximizes value-added in Alberta;
- builds healthy communities;
- sees Alberta benefit from the oil economy and lead in the post-oil economy;
- sees Alberta as a world leader in education, technology and a skilled workforce;
- provides high quality infrastructure and services for all Albertans; and,
- demonstrates leadership through world-class governance.

As with any government policy, the devil is in the details and the real work for the MSC lies ahead in trying to develop concrete strategies and actions for guiding how oil sands development will proceed.

Next steps for public input

The MSC will develop a "wish list" of actions and strategies which will be released to the public in March 2007. The Panel will then return to the same communities it visited in 2006 for another round of public hearings in March and April 2007. Albertans and others will have the chance to provide written and oral submissions to the Panel on actions and strategies for oil sands development. Public hearings are scheduled for the following locations:

- **Fort McMurray**
Merit Hotel, 8200 Franklin Avenue
March 28, 2007, 10:00 a.m. to 9:00 p.m.
- **Edmonton**
Holiday Inn Express, 10010-104 Street
April 3-4, 2007, 10:00 a.m. to 9:00 p.m.

- **Bonnyville**
Bonnyville Agriplex, 50 Avenue and Highway 28
April 10, 2007 10:00 a.m. to 9:00 p.m.
- **Wabasca**
Wabasca Community Hall
April 11, 2007, 10:00 a.m. to 9:00 p.m.
- **Fort Chipewyan**
Mamawi Community Hall
April 12, 2007 10:00 a.m. to 9:00 p.m.
- **Peace River**
Peace Valley Inns Hotel, 9609 – 101 Street
April 16, 2007, 10:00 a.m. to 9:00 p.m.
- **Calgary**
The Telus Convention Centre, 120 - 9 Avenue SE
April 23-24, 2007, 10:00 a.m. to 9:00 p.m.

The Alberta Government established an Oil Sands Consultation website which provides information on this process at <<http://www.oilsandsconsultations.gov.ab.ca/>>. Please consult this website to confirm the dates and times for Panel hearings.

Persons wishing to present a submission in any of the locations must register at least 48 hours prior to the start of meetings at that location. You can register by e-mail at oilsandsconsultation@gov.ab.ca or by calling toll-free 1-877-644-4695 (within North America). Only one presentation per organization is permitted at any venue, and presentation times are limited to a maximum of 15 minutes. Submissions from the floor will be allowed if there is sufficient time and will be conducted on a "first-registered upon arrival" basis.

If you cannot appear in person, you can send your written submission by mail or e-mail to:

Oil Sands Consultations
Alberta Department of Energy
North Petroleum Plaza
7th floor, 9945-108 Street
Edmonton, Alberta, Canada T5K 2G6
E-mail: oilsandsconsultations@gov.ab.ca

Written submissions will be accepted by the Panel until April 24, 2007.

Why get involved?

Phase one of the public hearings resulted in over 170 oral submissions and over 300 written submissions being made to the Panel. This presented a strong message to government that the public is generally concerned about the current pace and scale of oil sands development and the lack of planning that has been done thus far with respect to this development.

It is even more critical to voice your ideas on what concrete actions and strategies should be taken to shape the way in which the oil sands are developed.⁵ Public concern about the way in which the oil sands are developed is the only way to change the *status quo*. We strongly encourage all members of the public from across Alberta, Canada and internationally who have an opinion on the oil sands to participate in phase two of this important process.

¹ Government of Alberta, *Mineable Oil Sands Strategy* (Edmonton: Government of Alberta, 2005), online: Alberta Energy <http://www.energy.gov.ab.ca/docs/oilsands/pdfs/MOSS_Policy2005.pdf>.

² Oil Sands Consultation Group, *Final Report and Recommendations*, online: Alberta Environment <<http://www.environment.gov.ab.ca/info/library/7645.pdf>>.

³ Government of Alberta, *Oil Sands Consultation Multi-stakeholder Committee Interim Report*, online: Oil Sands Consultations <http://www.oilsandsconsultations.gov.ab.ca/docs/Interim_Report.pdf>.

⁴ The recommendations will not be binding on government; they are only advisory recommendations and the government will ultimately decide whether or not to implement some or all of the MSC's recommendations.

⁵ For examples of strategies and actions that the Alberta environmental community would like implemented see e.g. *Managing Oil Sands Development For the Long Term: A Declaration By Canada's Environmental Community*, online: Sierra Club of Canada <<http://www.sierraclub.ca/national/media/item.shtml?x=904>>.

Comments on this article may be sent to the editor at elc@elc.ab.ca.

Adding a "Shed" to Water: Alberta's Initial Steps Toward Watershed Management Planning

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Water management policy in Alberta continues to evolve under *Water for Life: Alberta's Strategy for Sustainability*¹ (*Water for Life*) and the ensuing policy and consultative framework. Alberta's approach includes a shift away from merely managing waterways and aquifers to managing the "watershed". Pursuing watershed management is not novel in North America, nor is it a guarantee that Alberta will manage water issues successfully. Nevertheless managing water quality and quantity requires that consideration be given to the land from which the bulk of the water comes. Approaching water management on a watershed level makes sense intuitively, hydrologically, and ecologically.

The impetus behind the "water-to-watershed" shift arises from Alberta Environment and groups such as the Alberta Water Council and Watershed Planning and Advisory Councils (WPACs). The Water Council, tasked with making recommendations to government on water management priorities, is logically and quite reasonably drawn to the impacts of land and land use on water in the province.² The WPACs, as part of their described role in water management, are responsible for making recommendations in "watershed management plan[s]".³ Alberta Environment, tasked with the legislative mandate to

manage water within the province, recently began the transition from the legislatively required *Framework for Water Management Planning*⁴ to a newer framework for watershed management planning.⁵

The question that everyone must struggle with is “what makes an effective watershed management plan?” Admittedly, this question does not have a single right answer; nevertheless, failure to even consider the question may result in Alberta adding a straw “shed” to water rather than one made of brick and mortar.

A variety of issues must be resolved in pursuing watershed management planning if the resulting plans are to be effective tools for watershed protection.⁶ These issues involve:

1. Clarifying the implementation strategy and enforceability of watershed plans;
2. Framing participation in the watershed planning process;
3. Producing specific numeric objectives;
4. Integrating plans across political and government agency boundaries;
5. Planning with science and precaution; and
6. Ensuring plans are dynamic and iterative.

By tackling these issues the architecture for effective watershed planning will be in place.

1. Clarifying the implementation strategy and enforceability of watershed plans

There is the need to have clarity around the binding nature of watershed plans and what this enforceability (or lack thereof) means for implementation of a plan. It has been noted of effective watershed management planning processes:⁷

Participants make decisions collectively and where possible by consensus, but ultimate program goals and objectives remain paramount. Binding, enforceable commitments to implementation are essential.

Planning at a watershed scale will require planners to deal with many contentious issues and may result in significant resistance from specific stakeholders in the planning process. Clarity and assurances of implementation on a watershed level are central to the efficacy of the planning process and assure the participants of the importance and validity of the planning process. The process will also involve analysis of the policy and legislative framework that currently exists and how implementation and enforcement of watershed plans may be frustrated.

2. Framing participation in the watershed planning process

Watershed management planning is typically undertaken through collective decision-making, where interested parties in a watershed decide on common goals and collectively produce a watershed management plan. Knowing the “rules of the participation” is essential to effective, informed and honest participation in the

planning process. Consensus decision-making should be the primary goal. Further, decision-making should be framed around specific, concrete objectives, as discussed below.

Alberta's process for water management planning does not appear to adequately address either the issue of consensus or objectives based decision-making. The Water Council is governed by specific (yet evolving) procedures while the WPACs do not appear to have standardized processes around participation. Consensus decision-making has yet to be broadly adopted across the existing WPACs and the paramountcy of set goals and objectives in the decision-making process has yet to be established.

The combined effect of the lack of standardized "collective decision-making" and the lack of enforceable implementation of planning outcomes could prove to be a major stumbling block in the construction of watershed plans and continued participation of parties in the planning process.

3. Producing specific numeric objectives

Specific goals and objectives should be established to guide and frame the planning process. These goals and objectives should be numeric, performance-based standards where possible.⁸ Ideally, the goals and objectives should focus on environmental results as opposed to bureaucratic criteria, such as uptake of best management practices in a basin or the number of *Water Act* licences issued.⁹

Establishing goals and objectives early in the process provides a measure of security against the co-opting of the planning process to suit specific parties' agendas. The ability to measure plans and planning decisions against specific objectives also provides accountability in the process.

Currently, under *Water for Life*, the three main goals are so broad and general as to render them inadequate as accountability measures.¹⁰ Creating specific and measurable goals and objectives acknowledges that the planning process alone (in the absence of substantive targets) does not guarantee success. Planners can also use these objectives as a frame of reference with which planning successes can be measured.

4. Integrating plans across political and government agency jurisdictions

Watershed planning has broad, cross-jurisdictional implications. Effective implementation of plans requires that the mandates and positions of government agencies and of different levels of government be integrated. In the absence of integration of mandates it is likely that governments, and agencies within them, will approach plan implementation and management differently. This may lead to significant frustrations in the planning process. The role and responsibilities of each level of government, federal, provincial and municipal, must be clearly stated.

Internal to a level of government, integration will likely to entail some policy or legislative revisions. This is particularly the case where a government agency's mandate and day-to-day operations prove antithetical to the substantive contents of a watershed management plan.

5. Planning with science and precaution

Decision-making should be based on scientific inventories regarding the status of a watershed. The caveat to this is that watershed managers should not put off decisions in the expectation that the scientific understanding of the watershed will be "perfect or even fully comprehensive".¹¹

In transitioning to watershed planning, the amount of information that must be gathered and synthesized is significantly greater than when planning for a waterbody alone. It is therefore important that there is a consistent and systematic way of gathering information about watershed health and sources of watershed impairment. Guidance should be given to planners in relation to how scientific information should guide the decision-making process and how that science should be referenced to substantiate decisions. Also, a lack of "full" scientific information should not be relied on for a lack of action, as the management process must be iterative and must respond to new information as it becomes available. Failure to take protective actions on the basis of not having full knowledge has the potential to cause irreparable harm to the watershed.

6. Ensuring plans are dynamic and iterative

The watershed management process must be dynamic to account for changes in the environment and accommodate changing goals and values.¹² This requires ongoing monitoring, evaluation and augmentation of plan implementation.

Currently, water management plans are created and subject to government approval but there is little guidance as to how and when plans will be revisited. A framework for watershed management planning should clarify how and when adaptive steps will be taken. Failure to do so may allow the plan to become stagnant, with plans and outcomes focused on outdated information and outdated values and goals for the watershed. Further, a non-government annual report evaluating progress should accompany any yearly government report, in support of collective decision-making and to ensure all perspectives on progress are captured.

Conclusion

A move from water to watershed management planning significantly broadens the scope of planning goals and outcomes, encompassing various land users, government departments and sociological and ecological impacts. This being the case, planning for a watershed will often be infinitely more complex and difficult. Watershed management policy should incorporate the following to ensure continued public participation and accountability in the planning process:

- A thorough description of implementation mechanisms and whether these will be binding or fully voluntary;
- A framework:
 - for collective decision-making;
 - to ensure the planning process is adaptive and dynamic;
 - for substantiating decisions in the planning process with available scientific information;

- for the establishment of numerically based goals and outcomes prior to decision making; and
- of information gathering, evaluation, and canvassing of solutions on a watershed basis.

There are certainly no silver bullets to guarantee watershed planning success, but steps can be taken to build the watershed plans on the most stable footing possible. To do otherwise is to undermine the structural integrity of the “shed”, leaving its inhabitants wary and discontented.

¹ (Edmonton: Alberta Environment, 2003), online: Alberta Environment <<http://www.waterforlife.gov.ab.ca>>.

² *Ibid.*, 15-17.

³ *Ibid.*, 17.

⁴ (Edmonton: Alberta Environment, undated), online: Alberta Environment <<http://environment.gov.ab.ca/info/library/6367.pdf>>.

⁵ This framework for watershed management planning was originally being developed within the Department, but it now appears that a working group under the Alberta Water Council will be tasked with its development.

⁶ See Robert Adler, “Addressing Barriers to Watershed Protection”, 25 *Envtl. L. No. 4* (1995) 973.

⁷ *Ibid.*, 1105. Adler further notes that structures of formalized dispute resolution should be part of the collective decision-making regime.

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ See *Water for Life*, *supra* note 1, 7.

¹¹ *Supra* note 6, footnote 805, at 1105.

¹² *Supra* note 6, 1105.

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