

Letting the People Speak: The Public Consultation Process for Nuclear Power in Alberta and Saskatchewan

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Abstract: This paper compares the Alberta and Saskatchewan governments' public consultation process for the introduction of nuclear power in their provinces. While the goal was the same – to gauge public reaction on a continuous policy issue – the design of their respective consultation process was quite different. The paper analyzes the techniques of public consultation in the nuclear sector, especially the use of public hearings and multiple consultative tools. Finally, it assesses the impact that public consultation has on government decision-making using a typology developed by Archon Fung.

Key Words: nuclear power, public consultations, Archon Fung

Resumé: Cet article compare le processus de consultation publique des gouvernements de l'Alberta et la Saskatchewan pour l'introduction de l'électronucléaire dans leurs provinces. Alors que le but était le même – pour évaluer la réaction du publique sur une question de politique continue – la conception de leurs processus respectifs de consultation était très différente. Le document analyse les techniques de consultation publique dans le secteur nucléaire, en particulier l'utilisation des audiences publiques et plusieurs outils de consultation. Enfin, il évalue l'impact de consultation publique sur le processus décisionnel du gouvernement à l'aide d'une typologie développée par Archon Fung.

Mots-Clés: puissance nucléaire, consultations publiques, Archon Fung

Over the last several years, there have been increased discussions around the building of new nuclear power plants in both Saskatchewan and Alberta. Nuclear power is always politically contentious, but nowhere more so than in geographic areas, like the two prairie provinces, where it has not existed before. Saskatchewan may be the heart of Canada's uranium mining industry, and the Universities of Saskatchewan and Alberta both have slowpoke research reactors, but in neither province are power reactors present. Nuclear power advocates emphasize that it is a safe and economical source for meeting a jurisdiction's electricity demand. Accidents at nuclear facilities are extremely rare when compared to other energy sources. In addition, they point out that nuclear energy can mitigate climate change because, unlike coal or natural gas plants, reactors do not directly emit greenhouse gases. They also argue that alternative energy, such as wind or solar power, cannot produce the large amounts of baseload electricity that is delivered by a modern nuclear reactor. In contrast, anti-nuclear activists argue that public health is at risk due to exposure from radiation that is emitted from nuclear power. Radiation is produced from all stages of the nuclear fuel cycle: mining and milling; conversion, enrichment, and fuel fabrication; power generation; reprocessing; transportation; and waste disposal. A second argument is that nuclear energy is fundamentally unsafe. Accidents may be rare, but when they occur, such as at Three Mile Island, Chernobyl, and Fukushima-Daiichi, they are substantially worse than accidents with conventional energy sources. A major nuclear accident would lead to the immediate loss of life of reactor workers and emergency responders and, in the long-term, many thousands more could die due to radiation exposure. Finally, they point out that nuclear energy produces waste that is intensely radioactive and has

half-lives that can range from several hundred years to tens of thousands of years. The long-term disposal of nuclear waste is a tremendous technological and managerial undertaking, and no country has yet to come up with an acceptable procedure.

Due to this polarizing debate, public acceptance of nuclear power has been identified as a necessary political requirement in democratic societies. This is because, as Les Pal has recognized, policymakers must "somehow balance expertise with democracy. Scientists and experts make claims and recommendations based on notions of truth, not majority wishes. The fear is that an overly rational policy process will be driven more by small cliques of experts than by the democratic desires and participation of the public. The problem is even more acute when an issue is highly contentious" (2006: 261). The nuclear policy area is obviously one of the more contentious issues that governments have to face, so, in order to derive public acceptance, governments often utilize a thorough public consultation process. As Richard Florizone, the Chair of the Uranium Development Partnership (UDP), has asserted, there are four critical elements to a successful nuclear strategy: if it is technically sound and feasible, economically attractive, environmentally appropriate, and socially accepted. An effective public consultation process supports this strategy by: "inform[ing] debate and dialogue on the nuclear development; surface[ing] and explor[ing] the strong and varied perspectives that exist; and provid[ing] input into long term policy decisions" (Florizon, 2009).

Accordingly, both the governments of Saskatchewan and Alberta embarked on a mechanism to consult their populations on whether they should introduce nuclear power.¹ While the goal was the same – to gauge public reaction on a continuous policy

issue – the design of their respective consultation process was quite different. This paper has four parts. Part one provides a short literature review on public consultation. Parts two and three are detailed analyses of the public consultation process used in Saskatchewan and Alberta. The final part analyzes the techniques of public consultation in the nuclear sector and the impact that it had on government decision-making.

Theories of Public Consultations

There is a growing literature internationally and in Canada on public consultations. Scholars have examined the public consultation process in a number of different sectors. For example, Julia Abelson and her colleagues identified 42 separate empirical studies of public consultation just in the area of health policy and bioethics (2013a). After the Canadian constitutional struggles of Meech Lake and Charlottetown, there was also serious discussion around public consultations and the constitution (Mendelsohn, 2000). In the nuclear sector, Genevieve Johnson used the concept of deliberative democracy to understand the operations of the Nuclear Waste Management Organization (2008).

Archon Fung identified a framework for understanding and comparing different forms of public consultations. Fung showed that there are three dimensions within which a public consultation process can occur: “who participates, how participants communicate with one another and make decisions together, and how discussions are linked with policy or public action” (2006: 66). In the final section of this paper, Fung’s three dimensions will be applied to the public consultation process in Saskatchewan and Alberta.

Saskatchewan’s Public Consultation Process

The Saskatchewan government, in November 2008, appointed an expert panel to examine the nuclear sector. The UDP was to make recommendations to the government on value-added opportunities in the uranium industry: exploration and mining, conversion, enrichment, reactor fuel manufacturing, and the use of nuclear reactors. “The report is to include details of the investment, legislative and regulatory conditions required for nuclear development as well as timelines for putting enabling measures in place” (World Nuclear News, 2008). The UDP was chaired by Richard Florizone, the Vice-President Finance at the University of Saskatchewan and a nuclear physicist. Since the mandate of the UDP was not to address the pros and cons of the uranium and nuclear industry, but to maximize its potential within Saskatchewan, it only made sense that industry leaders would play a significant role in the UDP’s composition. Thus, Duncan Hawthorne (President and CEO of Bruce Power), Jerry Grandey (President and CEO of Cameco), and Armand Laferrere (President and CEO of Areva Canada) all were on the UDP panel.

The UDP report was released on March 31, 2009 (UDP, 2009). The thrust of the report was stated right in the preface: “we believe great potential exists for the Province of Saskatchewan in the uranium and nuclear industries. We have identified where we believe these opportunities lie and what it would take to successfully realize them. We have also identified efforts that the Partnership believes should *not* be pursued in the foreseeable future” (2009: i). The UDP made 40 findings and provides 20 specific recommendations across five sections: exploration and mining, uranium upgrading, nuclear power generation, used fuel management, and research & development.² The UDP identified that “the high-priority opportunities for Saskatchewan

appear to be exploration, mining, nuclear power generation, and hosting a used fuel repository” (2009: 90).

There was criticism of the UDP report when it was released. Of particular concern was the composition of the UDP, particularly the involvement of Grandey, Hawthorne, and Laferrere. Ann Coxworth, of the Saskatchewan Environmental Society, who turned down an invitation to join the panel because she said it would be biased, stated that “I think it’s got a clearly pro-nuclear development mandate and their question is not whether to proceed with development, but how” (Kyle, 2008). Jim Harding, the province’s most prominent anti-nuclear critic, summarized many of the additional criticisms: a government commissioned panel should focus on renewable energy, the UDP’s assumptions were flawed, all aspects of the nuclear fuel cycle require public subsidies, and it fails to resolve the nuclear waste issue. A surprising target of opposition is the UDP recommendation for a centre for nuclear excellence. This, in Harding’s view, will facilitate the “collusion” between the nuclear industry and the academic community. According to Harding, “the nuclear industry has always counted on government funding for its R & D, and on sympathetic or oblivious scientists for doing it” (2009).

The Saskatchewan government appointed Dan Perrins, the respected former head of the Saskatchewan Public Service, to lead a public consultation process to gather input on the UDP report. The consultation period was held between April 6, 2009, and July 31, 2009. It included the following devices: a major stakeholder conference in Saskatoon, hearings in Saskatoon and Regina, 13 community meetings across the province, an opportunity for individual stakeholder organizations to provide oral and/or written submissions, and a special

opportunity for presentations from First Nations and Métis groups (Saskatchewan, 2009d). A special website was also created that would contain “the full report, presentation materials, online input opportunities, and ultimately, the results of the public input.”³ Over 2,600 people attended the public meetings and almost 1,300 people responded by letter or email (Perrins, 2009: 19).

A complicating feature of the public consultations was the issue of medical isotopes. The federal Department of Natural Resources (NRCan), in response to the medical isotope crisis precipitated by the shutting down of the NRU reactor in Chalk River, Ontario, sent out a call for expressions of interest in June 2009 for the future production of medical isotopes (NRCan, 2009b). The Government of Saskatchewan and the University of Saskatchewan submitted a comprehensive proposal to establish the Canadian Neutron Source (CNS) a new 20 MW low-enriched uranium multipurpose research reactor that would serve several purposes: production of medical isotopes, the delivery of neutron beams for neutron science, and conduct nuclear research (Saskatchewan, 2009c). Unfortunately, because NRCan established a deadline of July 31, 2009, it meant that the proposal was released at the end of the public consultation process making the CNS proposal vulnerable to criticism. David Orchard, a prominent political activist who had spoken at an earlier UDP hearing, asked “what’s the purpose of having public hearings when the Premier himself is declaring his plans before the hearings are complete” (White, 2009b). Sandra Martin, the New Democratic Party’s (NDP) environment critic, said “this is something that literally falls on the heels of the consultation process and yet there was no real information given to the consultation process through the Uranium Development

Partnership as to proceeding with something like a project of this nature” (Wood, 2009). For his part, Premier Brad Wall argued that the proposal had to be released before the completion of the UDP public consultation process because of the deadline established by NRCan and promised to withdraw the CNS proposal “if it doesn’t reflect the will of Saskatchewan people” (White, 2009b).

Despite the timing of the release of the CNS proposal, there actually was some preliminary discussion about medical isotopes and nuclear research. This is because one of the UDP’s recommendations was to “partner with the Federal Government to pursue the construction of a research reactor in the Province as a complement to synergies with existing research infrastructure and capabilities and to better position the Province to participate in multiple areas of study. Pursue medical isotope production as part of the reactor’s mandate” (UDP, 2009: 87). During the UDP consultation process, most people supported the production of medical isotopes, but “nearly three-quarters supported medical isotopes created without fission” (Perrins, 2009: 104). However, this opinion ignores the scientific reality that it is not technically feasible in the near-term, and possibly medium and long-term, to create medical isotopes without using nuclear fission. Mo-99 and Technetium-99m (TC-99m) are the most widely used isotopes with applications in cardiology, skeleton, brain, thyroid, lungs, liver, spleen, kidney, gall bladder, bone marrow, salivary glands, etc. In both cases, they can only be produced with a nuclear reactor. A cyclotron and high-energy photon can, in theory, create isotopes, but the yield is very small, cannot be sustained for a period of time, requires more R & D, and is much more expensive than nuclear fission.⁴ A cyclotron has an additional problem because it produces TC-99m directly (it cannot produce Mo-99),

combined with TC-99m’s very short six hour half-life, it means that “cyclotron technology cannot serve the needs of more remote hospitals in Canada because the significant transportation distance/time would be impractical given the amount of decay that would occur” (NRCan, 2009a: 32). If it was easy to produce medical isotopes why is over 90% of the world’s production done by five reactors that are all over forty years old?⁵

On September 15, 2009, the Saskatchewan government released *The Future of Uranium*, Dan Perrins’ UDP public consultation report (Perrins, 2009). Perrins was given a very strict mandate. He was restricted to simply summarize “public input and feedback from stakeholders and citizens gathered through the public consultations process.” He was not to act as “a spokesperson for the UDP or the government of Saskatchewan” nor was he to “advocate for or against the key findings and recommendations contained in the UDP report.” Finally, Perrins would “not make recommendations for further action with regard to uranium industry development except to recommend further public consultations and/or the provision of further information to the public” (Saskatchewan, 2009d).

The Future of Uranium revealed significant opposition to nuclear energy in Saskatchewan. The document identified eight main themes that emerged out of the responses to the public consultation process:

- 85% were opposed to nuclear power generation;
- Concerns about health, safety, and environment;
- 86% were opposed to nuclear waste storage;
- Concerns about the costs of uranium development;
- 98% support for renewable energy sources;

- Concerns about the UDP report (composition, mandate, quality of information, information on alternative energy sources);
- Different degrees of opposition to uranium mining and exploration⁶; and
- A need for more and better information about nuclear power and all energy sources.

Beyond these eight major themes, Perrins identified another eight themes. There were three themes related to uranium: 70% were opposed to uranium upgrading (conversion, enrichment, fuel fabrication); 42% were opposed to uranium research, training, and development, but a majority favoured the production of medical isotopes⁷; and 88% were opposed to the UDP strategy for Saskatchewan. Perrins also noted that 98% of responders viewed the public consultation process as inadequate. 88% believed that it would have no impact on the government. Finally, there were four themes on establishing Saskatchewan's future energy policy: public concerns about the involvement and public participation of First Nations and Métis Peoples and the duty to consult; 95% of responders felt that the government should focus on reducing energy consumption; a discussion on whether Saskatchewan should have an independent energy production system or whether it should work with other jurisdictions in North America; and a discussion over who should deliver energy for the province (SaskPower or some other combination).

From these themes, Perrins made nine recommendations regarding future public consultations and further information on energy. First, the Government of Saskatchewan should “develop a consolidated report on all power generation options and make this report available to the public.” This report should “document the

health, safety, environmental, and economic considerations” for each energy option. Second, SaskPower should “publicly release any existing analyses it has already undertaken regarding provincial power needs, the current state of its infrastructure, and future options for response.” Third, the Government of Saskatchewan should “commission a study to review the current research on the health impacts on nuclear power and that this study, and a publicly consumable summary version, be publicly released.” Fourth, the Government of Saskatchewan should “initiate a public information campaign regarding the production and use of medical isotopes and make this report available to the public.” A particular focus of this medical isotope report is the proposed CNS: “What will it produce, what technology will it use, what will it cost, and how is it similar or different from proposals submitted by other jurisdictions?” Recommendations five, six, and seven called for separate consultation processes for First Nations and Métis peoples plus the Athabasca Basin (home of the uranium mining activity) centred on the Crown's Duty to Consult. The final two recommendations address the frequent demand for more information. Eighth, forums should be “organized on an ongoing basis to facilitate dialogue, debate, and publication and information dissemination through the media.” In particular, both the Universities of Saskatchewan and Regina should host large-scale conferences to discuss “nuclear generation, environmental health and community health” and “explore other options for future power generation.” Ninth, the Government of Saskatchewan should “use mechanisms such as surveys, focus groups and polling on an ongoing basis to assess the knowledge, understanding, information needs and views of the public” (Perrins, 2009, 137-142).

The Future of Uranium, by summarizing the responses to the public consultation process and limiting the recommendations to “further public consultation and/or the provision of further information to the public,” stuck to the mandate that Dan Perrins was given (Perrins, 2009: 137). However, in several key respects, the design of the public consultations was flawed and these flaws will likely not lead to clarifying the public’s views about the nuclear sector, but may end up significantly muddying the debate. For example, the media reported that 85% of Saskatchewanians opposed nuclear power generation, but it was actually 85% of responders who attended public meetings or submitted letters to the UDP public consultation process who opposed nuclear power generation. There is a big difference. This was not the fault of the report, but rather a major misinterpretation by the media of the report’s findings. As Perrins noted in his report, “*the responses summarized are not necessarily representative of the Saskatchewan population and cannot be linked back to the population with any statistical reliability*” (emphasis added, 2009: 36). Nevertheless, Perrins should have taken precautionary steps to ensure that the media did not make such a fundamental error on a politically charged subject.

First, there was a problem with *The Future of Uranium*’s methodology. In many ways, the methodology of the study, which coded qualitative responses to generate quantitative statistics, was consistent with established social science practices. Unfortunately Perrins decided to count all responses equally. This was problematic in two respects. There was an unknown number of multiple responses from the same individual due to “speaking a number of times at a public meeting, submitting a series of written pieces, or through a

combination of those scenarios” (Perrins, 2009: 35). More worrisome was the fact that responses from large organizations (i.e., the Saskatoon Chamber of Commerce, Cameco, etc.) counted the same as responses from small organizations (i.e., Fellowship for Reconciliation and Peace, Singers of the Sacred Web, etc.) or even an individual.

A second flaw, and again consistent with the mandate he was given, was that Perrins made no attempt to evaluate the quality or factual accuracy of the responses. Several simple examples should suffice. 60% of responders stated that they wanted medical isotopes, but without nuclear fission (Perrins, 2009: 103). This is like saying that I want to drive a car, but do not want to use gasoline. Electric cars may be possible, but with current technology, are expensive and inefficient with a very small market share. Similarly, it is possible to produce some medical isotopes without the fission process, but with current technology it is very expensive and inefficient. 70% of responders criticized the composition of the UDP because it was loaded with senior industry representatives even though it was designed to be a government-industry partnership (Perrins, 2009: 75-76). 65% of responders criticized the UDP for not writing more about alternative energy sources even though its mandate was to focus on the economic potential of uranium development (Perrins, 2009: 80-81). When these sorts of responses are taken at face value, is it any wonder that *The Future of Uranium* avoided a comprehensive evaluation of the arguments (both pro and con) surrounding the health, safety, environmental, security and economic issues of the nuclear sector.

The Wall government initially accepted Perrins’ report with caution. Energy and Resources Minister Bill Boyd suggested that “when I look at this report, it’s neither a green light nor a red light for

the future uranium development. It's more like a yellow light – take any next steps with caution...my foot is off the accelerator” (Hall, 2009b). However, nuclear critics used *The Future of Uranium* to say “the people have spoken.” For example, the Saskatchewan Environmental Society argued that the report shows that the government should stop pursuing nuclear power and turn its attention to renewable energy sources, greater energy efficiency, and conservation (Hall, 2009b). Sandra Martin, the NDP's environment critic, stated that the Perrins report is “a good barometer of the passion that's out there...Given this report, it's clear that the government is moving contrary to what people are saying” (White, 2009b). According to Murray Mandryk, a columnist with the Regina Leader-Post, the report “screamed at the government to slam on [the] brakes” of nuclear development in the province (2009b).

On December 17, 2009, the Saskatchewan government outlined its strategic direction for uranium development in the province:

- Continue to facilitate the uranium exploration and mining that has taken place in Saskatchewan for over 50 years.
- Encourage investment in nuclear research, development and training opportunities, specifically in the areas of mining, neutron science, isotopes, small scale reactor design and enrichment.
- Reserve decisions on supporting Saskatchewan communities interested in hosting nuclear waste management facilities to when such proposals are advanced in a regulatory process; and
- Direct SaskPower to continue including nuclear power in the range of energy options available for additional baseload generation capacity in the medium and long term after 2020 (Saskatchewan, 2009a).

At the same time, the Saskatchewan government released its official response to the UDP report and the public consultation process. Energy and Resources Minister Bill Boyd said that “[t]hrough the UDP's extensive research and Dan Perrins' follow-up consultations, we have received the most comprehensive overview of the uranium industry in our province's history. We reaffirm our belief in, and our need for, a strong future for the industry that goes beyond exploration and extraction” (Saskatchewan, 2009b). The Saskatchewan government endorsed all but two of the UDP's recommendation: a nuclear power plant by 2020, and the “maintenance of the current physical claim staking system, given the investment already made in developing an electronic claim staking system” (Saskatchewan, 2009a).

There were three notable features of the Saskatchewan government's announcement. First, was the decision to not pursue a nuclear power plant at the present time. This was probably the most important recommendation of the UDP report and a project that Bruce Power had proposed in November, 2008 (Bruce Power, 2008). It was also something that the Wall government had previously given indications that it was going to support. Nevertheless, Boyd stated that the government had “carefully evaluated” Bruce Power's “initial plans,” but “uncertainty around long-term costs to consumers remain[ed] a lingering concern. Further, the large scale of the proposed nuclear power investment that may arise requires a regional approach involving, ideally, all three prairie-provinces for successful implementation” (Saskatchewan, 2009b). Boyd did not rule out a future nuclear plant proposal, suggesting that “when you look at beyond 2020, we still think it should be in the basket of options that SaskPower has to take a look

at” (Hall, 2009a). Advocates of nuclear power also took comfort in the date of 2020, because it takes about a decade for a reactor to clear the regulatory process and be constructed.⁸

Second, the Saskatchewan government reversed its earlier stance⁹, and endorsed the UDP’s recommendation to support any Saskatchewan community that might consider hosting a long-term nuclear waste repository. However, “[i]t still reserves decisions and its options around a geological repository for nuclear waste and communities that might want to host such a facility, while acknowledging the Nuclear Waste Management Organization’s consultation and siting process in this regard” (Saskatchewan, 2009a).

Third, the Saskatchewan government ignored the results of the UDP public consultation process that it had put together. For instance, the Perrins report showed that 88% of participants were opposed to the overall UDP strategy. Yet, the government’s uranium strategy was “massively pro-uranium industry and pro-development” (Mandryk, 2009a). Regarding nuclear power generation, the Perrins’ report showed that 85% of responders were opposed to nuclear power generation and there were particularly strong concerns about health, safety, and environment. However, the government simply delayed its decision on nuclear power generation – it did not close the door – due solely to cost considerations. The government also took pains to emphasize Perrins’ caveat that he issued prior to quantifying what he had heard through the public consultation process: *“the responses summarized here are not necessarily representative of the Saskatchewan population and cannot be linked back to the population with any statistical reliability”* (emphasis added). Instead, the government recognized that “recent independent polling has shown support for the nuclear industry”

(Saskatchewan, 2009a). Although the government generally agreed with Perrins’ number one recommendation – more consultation over nuclear power was needed – it emphasized that “significant consultation has already occurred and is occurring, not only through the recent public consultation process, but also in connection with earlier uranium mining decisions, through regular public polling and surveying and through the work of the Standing Committee on Crown and Central Agencies” (Saskatchewan, 2009a).

The reaction to the Saskatchewan government’s announcement was mixed. Bruce Power viewed “this announcement as not being very far off our take on what potential there is in Saskatchewan. Saskatchewan obviously continues to consider nuclear energy as part of its mix. Nothing has been ruled out. We don’t see it really changing that much as we’ve always looked at 2020 and beyond” (Hall, 2009a). Ironically, some environmentalists also appeared pleased with the same decision. Ann Coxworth said that “nuclear power has been the elephant in the room in all of our thinking about energy planning for the next decade and while the elephant hasn’t been killed, it’s securely locked up in its cage” (Hall, 2009a). However, other environmentalists wanted “the door completely shut on it” (Hall, 2009a). Some nuclear supporters were also upset with the government. The Saskatchewan Chamber of Commerce was disappointed that the government based its decision on cost, “but when you start to take into account the carbon costs, you take into account escalating infrastructure costs for any type of new power supply, they should have done full due diligence. They’ve written it off for reasons that are unknown to us” (Hall, 2009a).

The December 2009 decision was followed up by a number of pro-nuclear

announcements by the Wall government. For example, in August 2010, Energy Minister Boyd told a group of uranium conference delegates in Saskatoon that small reactors, producing less than 500 MWs of electricity, makes a lot of sense for Saskatchewan (Kyle, 2010). In November 2010, the Wall government announced that it supported federal legislation that would open up foreign investment in the uranium sector (Bouw and McCarthy, 2010). Finally, in January, 2011, Premier Wall announced a three-pronged nuclear agenda: nuclear medicine, nuclear research and development, and small reactors for electricity (Wood, 2011). Wall maintained that while the province has no immediate plans to build a small reactor for electricity generation, it continues to investigate the idea. Saskatchewan could be “replacing coal plants down the road, smaller coal plants with smaller nuclear facilities.” Wall further stated that “this isn’t the end of the nuclear centre story, either. You’ll see us moving with private partners on the small reactor side” (Warren, 2011).

The March 2011 accident at the Japanese Fukushima-Daiichi nuclear power plant led many governments around the world to reconsider their use of nuclear energy. In the case of Saskatchewan, the government has affirmed that it will continue to pursue uranium mining, nuclear medicine, material science and research on small reactor technology. Innovation Minister Rob Norris, who is also responsible for SaskPower, said that “we need to make sure that we’re contributing to this dialogue, to the discussion and actually to the science about making the technology safer.” He also argued that Saskatchewan, as one of the world’s largest uranium producers, has “an ethical obligation” to move forward with its uranium mining. The government also reiterated its pledge to develop a public-private partnership to determine whether a

small reactor would fit into the province’s existing electricity grid (Graham, 2011). SaskPower has continued to investigate the possible use of small modular reactors (SMRs) post-2020 in the province. This has included signing a memorandum of understanding with GE-Hitachi Nuclear Energy, attending SMR workshops hosted by the Canadian Nuclear Association, and other initiatives. As Robert Watson, SaskPower CEO, has admitted, “We’re just keeping our eye on it, making sure we understand the technology to make informed recommendations when we need to, but not for a while, quite frankly” (McMurtry, 2014).

Post-Fukushima, Saskatchewan remains committed to its nuclear strategy in other ways. For example, it established the Sylvia Fedoruk Canadian Centre for Nuclear Innovation in March 2011 with \$30 million in funding over seven years (Saskatchewan, 2011). The Fedoruk Centre, which was one of the key recommendations of the UDP, would focus on four areas: nuclear medicine, materials science, nuclear energy, and physical and social environment. The purpose of the Fedoruk Centre was “to place Saskatchewan among global leaders in nuclear research, development and training through investment in partnerships with academia and industry, for maximum societal and economic benefit” (Sylvia Fedoruk Centre, 2014). It would do this through funding research projects, developing academic programs, and managing specialized facilities such as a new cyclotron to produce medical isotopes which will be operational in early 2015.

Alberta’s Public Consultation Process

The Alberta government was behind the rest of the provincial nuclear policy sector in considering the ramifications of nuclear power within the province. Energy Alberta Corp., and later Bruce Power, were involved in building public support for a

nuclear power plant, making arrangements for reactor vendors, and selecting a site. Grassroots nuclear organizations, like the Peace River Environmental Society (PRES) and Citizens Advocating the Use of Sustainable Energy (CAUSE), were starting to mobilize. The media was covering the emerging story. What was lacking was government involvement. There were some initial musings from politicians, and some preliminary discussions within the departments of energy and environment, but that was about it.

Eventually the Alberta government decided that it had to get more involved in the growing nuclear debate. In April 2008, the Alberta government appointed the Nuclear Power Expert Panel (NPEP), chaired by former federal Conservative Cabinet Minister Harvey Andre, to prepare a comprehensive report on nuclear power in Alberta. The NPEP would examine: environmental, health and safety issues; waste management; comparing nuclear energy with other electricity generation technologies; current and future nuclear power generation being used in Canada and around the world; Alberta's future electricity needs; and social issues/concerns related to nuclear energy (Alberta, 2008a). The report would not make any recommendations; instead the panel's mandate was to "prepare a balanced and objective Report for the government of Alberta on factual issues pertinent to the use of nuclear power to supply electricity in Alberta" (Alberta, 2008b). The panel's findings would be used as the basis for a public consultation process that would gather input from Albertans.

The NPEP was released by the Alberta government on March 26, 2009 (Alberta, 2009d). Although it does not contain any recommendations, it did make some important conclusions that would frame the debate over the development of nuclear power in Alberta. These are the key

conclusions of the NPEP: Alberta will need additional electricity; all technologies have trade-offs; building a power plant is a private sector decision, but regulated by government; nuclear power has existed around the world for over 50 years; nuclear power, unlike other mainstream electricity sources, does not release carbon dioxide; and nuclear waste is a major concern.

A thorough examination of the tone and emphasis within the NPEP report revealed strong support for the development of nuclear power in Alberta. The report made clear that the demand for electricity will rise in Alberta estimating annual increases of 3.3% until 2024 (Alberta, 2009d: 14). Therefore the question is what electricity sources will be used to meet the demand: coal, natural gas, hydroelectric, wind, solar, or nuclear? On this point about comparative energy sources, the NPEP repeatedly emphasized that the absence of greenhouse gases in the generation of nuclear power "is a significant difference (in environmental terms) between it and technologies using traditional coal and natural gas" (Alberta, 2009d: 52). When the discussion turned to renewable energy, the NPEP pointed out that "while there is considerable interest in other non-conventional power generation means such as geothermal, bio-fuel, solar, etc., it is unlikely that these technologies will be able to satisfy all of Alberta's growing electricity needs" (Alberta, 2009d: 10). In addition, "compared with hydroelectric and wind power, nuclear has a smaller physical footprint on the landscape" (Alberta, 2009d: 52).

Nuclear waste is a prominent issue among both anti-nuclear activists and the public in general. How can highly toxic elements, some of which have half-lives in the range of hundreds of thousands of years, be effectively handled? The NPEP's response was twofold. It began by

emphasizing the role that fuel recycling (also called reprocessing) can play in significantly reducing the amount of waste. It highlighted the fact that “more than 99%” of spent fuel “is made up of the heavy metals uranium and plutonium, which can be recycled into nuclear fuel. The remaining waste fission products decay comparatively quickly” (Alberta, 2009d: 53). All of this is true, and in fact, is critical to mitigating substantially the long-term nuclear waste issue. The problem is that fuel recycling is not yet cost effective. However, there is a ramped up research and development effort in this area that should start to bring results. Its second point was to describe in detail Canada’s Nuclear Waste Management Organization’s *Phased Adaptive Management* approach to spent fuel (Alberta, 2009d: 34).

The NPEP acknowledged that “opinions on nuclear safety tend to be highly polarized between supporters and opponents, making it more difficult to develop an objective, balanced view of the risks and impacts” (Alberta, 2009d: 35). Nevertheless, the report followed that statement up with a detailed chapter identifying all of the comprehensive safety features of a nuclear reactor (Alberta, 2009d: 35-43). In the process, it minimized the risks of radiation exposure (by comparing nuclear-created radiation and natural radiation), reactor safety (by listing the triple redundancies of control, cool, and contain features), the lessons learned from accidents such as Three Mile Island and Chernobyl, and the role played by the International Atomic Energy Agency, the Canadian Nuclear Safety Commission, and the World Association of Nuclear Operators in ensuring reactor safety). The NPEP was correct to note that nuclear reactors have been functioning for six decades with few fatalities. Chernobyl being the obvious exception, and even then, it notes that the

“consequences” have often been “overstated” (Alberta, 2009d: 42). When these facts are presented, it becomes apparent that around the world, nuclear power has a substantially better safety record than any other energy source, and better than other sectors such as construction or agriculture.

Critics who were hoping for a denouncement of nuclear power have argued that the NPEP was biased. For example, Gordon Edwards, President of the Canadian Coalition for Nuclear Responsibility, bluntly said that “they are really presenting a very one-sided, very limited picture which doesn’t give the average member of the public, or the average politicians, any real insight into the nature of the hazards that are peculiar to nuclear” (Brooymans, 2009). Meanwhile, Brian Mason, the leader of the Alberta New Democratic Party complained that the panel “cannot claim to be unbiased when it clearly tries to abdicate responsibility of the decision to have or not have nuclear power. B.C. and Manitoba have anti-nuke policies and we should too” (Diotte, 2009). CAUSE argued that the NPEP was riddled with errors and omissions: failing to discuss the design and construction problems of generation III+ reactors; avoiding the risks and consequences of a nuclear accident; ignoring the Nuclear Liability Act that makes insurance available to nuclear operators at a fraction of the costs of a catastrophic accident; failing to address the health risks of nuclear power; and ignoring the real financial costs of nuclear power (CAUSE, 2009a; CAUSE, 2009b; Bell and Weis, 2009).

Nuclear power is very politically contentious. Therefore, it is crucial that the people are heard. The NPEP served as the basis for a “multi-faceted consultation process” that was designed to gather the views of Albertans on nuclear power.

Innovative Research Group, an independent research firm, was commissioned by the government to collect the data and provide a summary to the government (Alberta, 2009b; Alberta, 2009c). The process, which took place between April 27 and June 1, included a telephone survey (1, 024 people), twenty randomly selected discussion groups (193 individuals), stakeholder discussion groups (First Nations and Métis, community, business, environmental, and all of the province's anti-nuclear groups), and an online and mail-in questionnaire (3, 615 responses) (Innovative, 2009).

Not all stakeholders participated in the public consultation process. For example, Bruce Power, despite being the principal advocate for nuclear power in Alberta, deliberately avoided the public consultation process. In contrast, the anti-nuclear organizations, despite being very critical of the process, participated in the stakeholder sessions in Edmonton. CAUSE was upset that the online workbook started with the executive summary of the NPEP. This led them to allege that "a biased nuclear panel report with one-sided, pro-nuclear information will play a key role" in the public discussions. They believed that a counter-document, focusing on alternative energy, needed to be commissioned by the government to balance the debate. Instead of "selective meetings with stakeholders and some focus groups," they recommended that "public hearings be held throughout the province" (CAUSE, 2009a).

On December 14, 2009, the Alberta government announced its conditional support for nuclear power in the province. "Alberta," as Energy Minister Mel Knight explained, "will maintain its existing policy where power generation options are proposed by the private sector in the province and considered on a case-by-case basis. We will work with the federal government regarding any nuclear power

application to ensure provincial rules and environmental standards are respected. Further, we will not invest public dollars in any nuclear power proposals" (Alberta, 2009a).

The Alberta government based its decision, in part, on the public consultation process that was conducted on the entry of nuclear power into the province. According to Knight, "Albertans have told us that we shouldn't be closed to new generation technologies that could provide clean, low-emission power. At the same time Albertans have identified concerns with nuclear power that potential future applicants will need to fully address" (Alberta, 2009a). The public consultation report, compiled by Innovative Research Group Inc., was released at the same time as the government's announcement (Innovative, 2009). As Table 1 shows, the different consultation tools led to different results. Most noticeably it shows that randomly-selected Albertans (telephone survey and discussion groups) were more supportive of nuclear power than self-selected Albertans (submission of workbook). A probable explanation for the division between randomly-selected and self-selected Albertans is the efforts by the anti-nuclear groups to mobilize people to fill out the survey, but in a way that opposed nuclear power. For example, CAUSE sent out emails, labelled a "call for action," through affiliated organizations with instructions on how to fill out the survey. They wrote that "the information preceding the survey is full of false and missing information. I am attaching again CAUSE's response to the Nuclear Panel Report, our alternative report and media release. Here is a summary of some of the errors in the government document preceding the survey (this new government document is similar, but not identical, to the Nuclear Panel Report.)"¹⁰ A second feature of the public consultation report was that the discussion

groups showed that, when more information was provided, the level of opposition to nuclear power dropped. This was consistent with the telephone survey and workbook

submission which showed a strong correlation between how informed people were about nuclear power and electricity and their support for nuclear power.¹¹

Table 1: Comparing Alberta’s Nuclear Power Public Consultation Results by Instrument

	Telephone Survey (Randomly-Selected)	Discussion Group (Randomly-Selected)	Submission of Workbooks (Self- Selected)
Province should encourage proposals	19%	22%	28%
Considered on a case-by-case basis	45%	57%	16%
Province should oppose proposals	27%	13%	55%
Don’t Know	8%	8%	1%

Source: Innovative Research Group Inc., *Alberta Nuclear Consultation*. Report prepared for: The Alberta Government – Department of Energy (2009). Accessed on 14 December 2009 at <http://www.energy.gov.ab.ca/Electricity/pdfs/AlbertaNuclearConsultationFull.pdf>

The reaction to the Alberta government’s announcement was predictable. Bruce Power saw the decision as a green light. Duncan Hawthorne, Bruce Power’s CEO, stated that [i]t’s encouraging to see the door remain open for us to demonstrate we can bring value to the province and help Alberta meet its future energy needs without contributing to greenhouse gas emissions” (Fekete, 2009). Local anti-nuclear groups, despite predicting in advance the government’s decision, were nevertheless outraged. Adele Boucher Rymhs, president of the Coalition for a Nuclear Free Alberta, argued that “[t]he government didn’t listen” (Fekete, 2009). Similarly, Elena Schacherl, the founder of CAUSE, complained that the government “ignored the 55 per cent opposition to nuclear from the 3, 600 Albertans who filled out the consultation workbook.” For Schacherl, the “[t]he consultation results were the culmination of a process that right from the start suggested that the government had already made up its mind about nuclear. They set out to convince rather than consult Albertans” (2009). In contrast, the large environmental groups (Sierra Club and

Pembina Institute) argued that “[n]ot providing public dollars to subsidize the nuclear industry hits the final nail in the nuclear energy coffin for the province” (Fekete, 2009).

Alberta’s decision to allow nuclear power on a case-by-case basis gives approval to Bruce Power to move forward on its project. If the province had said no, then Bruce Power would have obviously abandoned the project. However, the conditional “yes” from the government only met one of Bruce Power’s conditions. The other conditions include a willing host community, a successful environmental assessment, and a profitable business case. While it was waiting for a government decision, Bruce Power has been doing some preliminary work. It has secured the land for the Whitemud site. It is also conducting a public education and consultation campaign with the local community. Finally, it has started some of the pre-environmental assessment work (water flow and temperature, soil studies, etc.)¹².

Despite the government approval, Bruce Power eventually decided to withdraw from its reactor proposal in Peace River (Thomas and Stolte, 2011). Although

no public explanation was provided, Bruce Power's decision-making calculus was probably based on low natural gas prices. High natural gas prices were a driver for the interest in nuclear energy in Alberta in 2007-2009. However, the recent drop in natural gas prices, largely due to the discovery of shale gas in large parts of the United States, has greatly diminished that interest. Natural gas prices had been relatively high since 2003 and had peaked in price at \$9.84/gj in July 2008. At which point they had started a steady decline and by October 2011, the price was \$3.17/gj. In fact, natural gas had not been above \$6/gj since December 2008 (Alberta, 2011). Gas-fired plants, due to their peaking ability, relatively lower rate of GHG emissions (at least in comparison to coal), and superior construction timelines, are the major competitor to nuclear. Therefore, low natural gas prices are an economic incentive to build gas-fired plants as opposed to nuclear power plants.

Analysis

Both Saskatchewan and Alberta used different tools in their respective public consultation process over nuclear power. This allows a policy analyst to make some observations about the strengths and weaknesses of different designs. It also allows for an examination of the impact that public consultation has on government decision-making. Designing the appropriate mechanisms is critical.

Applying Fung's three dimensions, which were outlined in the second section of this paper, to the public consultations in Saskatchewan and Alberta reveals several differences in the processes, but also some similarities. First, is the dimension of participation: who participated in the process and who did not? The biggest difference between the two processes was public hearings, which were done in Saskatchewan but not in Alberta. A major

benefit of public hearings is to provide greater political legitimacy for the eventual decision. This is expressed in the concept of deliberative democracy. Deliberative democracy "take the ideal of the informed and uncoerced dialogue of all those who could be bound or affected by policy (or their accountable representatives) as an appropriately high standard of justice and legitimacy." It is critical that the dialogue – such as public hearings – allows "all those potentially affected by the outcomes freely draw from their experiences and expertise, mutually exchange their perspectives, and ultimately exercise their decisional agency" (Johnson, 2008: 45). As was shown earlier, critics of Alberta's decision not to hold public hearings emphasized that the omission constituted a democratic deficiency.

An additional benefit of public hearings is that, while not a statistically representative sample of public opinion, it did, in the case of Saskatchewan, reveal a cross-section of groups that are strongly opposed to most (for some, all) aspects of the nuclear sector. The range of opposition groups (environmental, labour unions, peace, religious, etc.), the geographic range of the opposition (all parts of the province, no NIMBY syndrome here), and the range of arguments (economic, health, environmental, peace, etc.) against nuclear expansion was wide indeed. Everybody in Saskatchewan, organizations and individuals alike, could have participated in the UDP public consultation process. The fact that it was the anti-nuclear forces who mobilized is something that the government cannot ignore. A highly motivated minority can often overwhelm a soft majority by its intensity.

There is a danger that public hearings can often be hijacked by special interest groups. Commenting on previous

public hearings, Colin Hunt, of the Canadian Nuclear Association, noted that:

It didn't matter where you were in Canada, it was exactly the same faces testifying at the previous one...the usual horde of anti-nuclear groups. That's who participated in these hearings...The public didn't speak. All the Panel heard from was a handful of special interest groups repeating their message time after time after time. So, my question becomes then, is it legitimate to translate a handful of public interest groups to say, or so-called interest groups, to say they constitute the public interest (Johnson, 2008: 79).

This scenario played out again in Saskatchewan as anti-nuclear activists packed the public hearings and submitted the majority of submissions (Warren, 2009b). The UDP public consultation process, as a Bruce Power official admitted, allowed the:

anti-nuclear movement to mobilize and unify. It gave all of the opposition groups an opportunity and platform. They could say what they wanted without any consequences. Opinions, even misguided ones, even completely wrong ones, were equally counted as facts. The Perrins report, as an official government document, has given the anti-nuclear groups legitimacy.¹³

Fung has argued that participants in public hearings "are frequently quite unrepresentative of any larger public" (2006: 67). This is reflected in public hearings about nuclear issues, with the exception of hearings at potential reactor sites (which will be included in the consultation process), where participants are rabid anti-nuclear and pro-nuclear activists. It is to avoid this problem that focus groups, where the participants are not told what the topic is in advance, were used to provide input from Albertans who were undecided about nuclear power. Allowing any interested person to fill out the workbook (in combination with the stakeholder consultations and focus groups) was a legitimate compromise. Fung has suggested that "selectively recruiting" individuals can

be a useful tactic to ensure that key or disadvantaged groups are heard from (2006: 67). So stakeholders from the Peace Region were invited to a special consultation meeting. But it was a closed meeting, meaning that it was by invitation only, and no media was allowed. It is interesting that many of the most vocal and organized critics of nuclear power in Alberta participated in these stakeholder sessions.

Fung's second dimension was how the participants communicated with each other and made decisions together. This is conceived as a spectrum of communication modes (listen as speaker, express preferences, and develop preferences) and decision-making modes (aggregate and bargain, deliberate and negotiate, and deploy technique and expertise) (Fung, 2006: 68-69). In both Saskatchewan and Alberta, despite using different mechanisms in their respective public consultations, participants were restricted to communication, albeit the most intense form of communication (developing preferences), and were not involved in decision-making.

Fung's third dimension was the impact of public discussions on policy action. Fung identifies five categories of influence and authority (personal benefits, communicate influence, advise and consult, co-governance, and direct authority) (2006: 69-70). In both Saskatchewan and Alberta, participants were limited to offering advice and consultation. For example, prior to the initiation of the process, the Saskatchewan government could be described as very pro-nuclear. Soon after coming to power, Premier Brad Wall stated that "we would like to lead. It's time for the country to have a national vision on nuclear energy - and we want to aggressively pursue that" (Howlett, 2008). The governing Saskatchewan Party publicly desired everything from uranium upgrading, to a power reactor, to increased research and development, to medical

isotopes. This was reflected in the mandate which they gave the UDP, which was not to assess in a neutral fashion the technical aspects of nuclear power, but to consider how to maximize the potential of the nuclear sector in Saskatchewan. Moreover, if the Saskatchewan party was replaced it is likely that the NDP would follow a similar path. This is because the NDP tacks towards its internal anti-nuclear faction while in opposition, but when it is in government it listens to its pro-nuclear wing.

In contrast, the Alberta government could be described as agnostic on nuclear issues. There is no pro-nuclear political party in Alberta. The Progressive Conservatives, who have governed since 1971 in what has been described as a “one party dominant” political system, have been very cautious when asked about nuclear power in the province. During his campaign for the Progressive Conservative leadership in 2006, Ed Stelmach did not advocate nuclear power (as did Jim Dinning, the perceived frontrunner), but instead promised to study whether it was a right fit for the province. After assuming the Premiership, there were some initial tentative comments, both in favour and in opposition, from some of Stelmach’s cabinet ministers.¹⁴ But once the NPEP was established a cone of silence went up around the government and no public comments were made except to say that they are consulting Albertans. Even when the government announced its conditional support for nuclear power in December 2009, there have been no comments outside of Premier Stelmach and Energy Minister Knight.

Ultimately, the purpose of the public consultation process is to help elected officials come to a decision. Governments must weigh the advice of nuclear scientists, business people, and other experts with the concerns of ordinary citizens. In addition, governments must weigh the various tools

that are used in the public consultation process. The Saskatchewan government, on the surface, appeared to throw out most of the results of the public consultation process. But, its decision to delay moving forward with a nuclear reactor was obviously informed by the strong, if not statistically accurate, opposition exhibited in the public hearings and submissions. This does not mean that the Wall government is disregarding the wishes of the public, but recognition that the public consultation process was controlled by special interest anti-nuclear groups who did not represent the majority view of Saskatchewanians.

The Alberta government’s decision further reflected its agnostic stance regarding nuclear power. It did not oppose nuclear power; instead it asserted that nuclear power, like all other forms of electricity, were private sector decisions. It did not support nuclear power; instead it explicitly stated that it would not put any public money into a nuclear project. This balancing act continued with its assessment of the results of the public consultation process. It opted to emphasize the quantitative results of the telephone survey over the online workbook. It also balanced the qualitative discussions in the stakeholder sessions with that of the focus groups. Regarding public hearings, the government noted that if a nuclear project went forward it would require a further three-year environmental assessment that would include public hearings.

By applying Fung’s three dimensions, we can see that in the areas of communication and impact on policy-making, that the public consultation processes in Saskatchewan and Alberta were similar. Participants could communicate by developing preferences and they could offer advice to the government, but the ultimate decision-making power remained exclusive to the government and, in the case of

Alberta, private business. It was in the participation dimension that the two provinces differed. Saskatchewan was much more open (by allowing public hearings), but Alberta's was more representative by utilizing tools that emphasized randomly-selected individuals instead of self-selected ones.

Since our application of Fung's three dimensions shows the importance of using multiple tools of public consultations, it is important to address the tools in more detail. This is because each tool has strengths and weaknesses. Telephone surveys may provide a statistically representative sample, but they do not have time to go into detail, and there is no opportunity for dialogue. Workbook submissions, either on-line or hardcopy, allow for greater detail including an opportunity to provide comments instead of just a sliding scale of responses. Workbooks also allow participants an opportunity to reflect on their answers. However, workbooks are time consuming, and this means that only the most motivated will take the time to fill them out. Therefore, you get the most intense responders, but not a statistically representative sample. Public hearings allow individuals and groups to prepare (such as with the workbooks), but with the additional benefits of a dialogue with other individuals and groups. In addition, if the media covers the event, it allows non-attendees to be educated about the subject. The public hearings in Saskatchewan generated substantial media coverage; in contrast, the nuclear issue in Alberta was below the radar. The downside of public hearings is that they can be hijacked by special interest groups and the silent majority can be ignored. Focus groups also allow for dialogue, but because they are randomly-selected they are more representative than public hearings. However, focus groups do not allow participants the time for preparation and

reflection in advance of the meetings. In addition, there is the possibility that a facilitator could lead the participants in the pre-designated direction.

The other reason why multiple tools need to be used is that there is a strong correlation between the consultation tool and the result. In both Saskatchewan and Alberta, there was a wide divergence between the results of randomly-selected participants (telephone surveys, public opinion polls, focus groups) and self-selected participants (public hearings attendees, online workbook submissions). Dan Perrins declared that 85% of participants opposed nuclear power, but this result contradicted numerous public opinion surveys that showed a slight majority of Saskatchewanians in favour of nuclear power.¹⁵ In Alberta, as Table 1 showed, there was a similar gap.

Conclusion

Public consultation is an inherent part of governmental decision-making on major public policy issues such as nuclear power. In designing a public consultation mechanism, government needs to determine if they want to simply consult citizens or whether it wants to cede some form of decision-making power. In addition, and as the public consultation processes in Saskatchewan and Alberta showed, designing the appropriate mechanisms is critical. This is because there are many possible tools in the toolbelt. An inappropriate mechanism can lead to accusations that "the decision is already a *fait accompli*," or allowing a vocal minority to block a project that would greatly benefit the province. A proper design is only half the battle. When the results are in, governments need to weigh quantitative and qualitative data and randomly-selected versus self-selected responses. They need to assess the strength of economic and environmental arguments and balance

scientific facts with democratic impulses. The ultimate judgement of the government's decision, and the role of the public

consultation process, occurs when the electorate either rewards or punishes the government at the ballot box.

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¹ Ontario, New Brunswick, and Quebec are the only provinces which currently have nuclear power. Although each of them has been debating refurbishing existing reactors and building new ones, they have not used a formal public consultation process. This tells us that it is the introduction (not maintenance or expansion) of nuclear power which requires a public consultation process.

² There were also technical appendices on the health and safety considerations of nuclear power, managing the risks of nuclear proliferation, introduction to medical isotopes, and small reactors (UDP, 2009, 95-111).

³ <http://www.saskuranium.ca>

⁴ Thank you to Anthony Waker, Dan Meneley, and Eleodor Nichita, all from the Faculty of Energy Systems and Nuclear Science at the University of Ontario Institute of Technology for their expertise on this matter.

⁵ The NRU in Canada (operational in 1957), HFR in the Netherlands (operational in 1961), BR2 in Belgium (operational in 1961), OSIRIS in France (operational in 1966), and SAFARI-1 in South Africa (operational in 1965).

⁶ 19% were opposed to **all** uranium mining and exploration, 41% were opposed to **further** expansion of mining and exploration and 10% were opposed to expansion of mining and exploration with **financial incentives** (ie., reduced royalty rates) (Perrins, 2009: 83-87).

⁷ 60% supported medical isotope production without nuclear fission, 30% supported medical isotope production generally, and 10% were opposed to medical isotope production generally (Perrins, 2009: 103).

⁸ Interview with Richard Florizone, Chair of the Uranium Development Partnership (Saskatoon, 23 March, 2009),

⁹ When the UDP report was first released, the Wall government was quick to distance itself from the recommendation on nuclear noting that that it had already determined that there was a lack of public support for locating a nuclear waste repository in the province. (Hall and Paulson, 2009c).

¹⁰ Confidential email received by the author.

¹¹ The telephone survey showed 40% of those who could explain nuclear details to others were supportive of nuclear power, compared to 10% who were "not familiar" with nuclear power at all. In addition, 31% of those who follow electricity news "very closely" were supportive of nuclear power, compared to 15% of those who follow electricity "not closely at all" (Innovative, 2009).

¹² Interview with Albert Cooper, Lead Alberta Affairs, Bruce Power (Calgary, 9 September 2009).

¹³ Interview with Steve Coupland, Senior Advisor – Regulatory Affairs, Bruce Power (Calgary, 20 October 2009).

¹⁴ For example, Treasury Board President Lloyd Snelgrove said that nuclear power was "a natural fit" for the oil sands, but Environment Minister Rob Renner responded that he was sceptical and was concerned about the disposal of nuclear waste (Fekete and Seskus, 2007).

¹⁵ In three separate polls conducted by Sigma Analytics for the Regina Leader-Post (November 2006, May 2008, and April 2009) support for a uranium refinery has ranged between 57.2-75.1%. While support for the construction of a nuclear power plant is lower still: support has ranged between 47.8-53.5%, while opposition has ranged between 30.5-33.5% (Regina Leader-Post and Sigma Analytics, 2009). An October 2009 online poll by Insightrix Research found that almost 62% expressed support

for the development of a nuclear reactor in Saskatchewan. In addition, 75% of respondents “felt the feedback at public hearings this summer represented a very vocal minority of nuclear opponents” (Warren, 2009a).