

GOVERNANCE STRUCTURES, BARGAINS AND PROCESSES
IN THE SASKATCHEWAN URANIUM INDUSTRY: 1970 - 2010

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ABSTRACT

This thesis examines the shift in governance structures, bargains, and processes in the Saskatchewan uranium industry between the 1970s and 2000s. Using a framework based on international political economy, the thesis analyzes the security, production, financial and knowledge structures that shaped the environment of the province's uranium industry. In addition, an analysis of bargains created between and among structures helps provide further insight into the industry. Through this type of analysis, the thesis draws comparisons between the Allan Blakeney New Democratic Party and the Brad Wall Saskatchewan Party governments' attempts to expand the uranium cycle in Saskatchewan. Due to conditions both internal and external to their administrations, the Blakeney and Wall governments engaged in two different processes, one closed and one open.

Looking at these two events through content analysis, studying official statements, public documents, government positions and media reports, this thesis explores the circumstances that engendered two different processes and the outcomes each process produced. The 1970s and 80s refinery debate relied on a state-centric process that limited relationships with the industrial sector and the societal sector. These factors contributed to the failure of the provincial government to win the refinery contract. Given different governance structures during this era, the outcome reached for the refinery may have been different. Two decades later, the nuclear energy debate in the 2000s benefitted from evolved governance structures. The state engaged in a stronger working relationship with industry and a more open discourse with the public. However, the increased governing versatility remained unable to counteract economic forces at the global level. Both cases exemplify the difficulty expanding an industry as complex and contentious as uranium despite substantial change in governance models.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

Environmental changes driven by global warming and international economic security make questions concerning energy alternatives increasingly important. Energy is essential to our way of life in Canada and other Western countries but our current usage is creating two critical problems. First, using fossil fuels for energy is exacerbating global environmental problems by producing carbon dioxide, which contributes to global warming. Second, procuring petroleum from foreign sources such as the Middle East and Russia leaves the West in a vulnerable position in terms of energy security. These problems place increasing pressure on policy makers to search for viable alternative energy sources such as wind, solar and nuclear. Where nuclear energy fits into this future is an important question moving forward, especially for Saskatchewan in that it is uniquely situated to play a central role because of its ample supply of uranium. In 2009, Saskatchewan led high grade uranium production globally. Third, the recent global isotope shortages open the opportunity to expand the uranium industry supply chain outside of energy production. The medical sector represents an area of expansion that takes advantage of state relationships with institutions such as the University of Saskatchewan, underscoring the widening base of uranium networks in the province.

Since the discovery of uranium in the 1930s, the resource has been an important source of revenue and employment for the province. Provincial policy on uranium development has not changed fundamentally, however, over the past two decades, and public discussion of uranium mining and the broader uranium industry in Saskatchewan has not been at the fore since the Warman refinery debates in the 1970s and 80s. In the face of public opposition, the New Democratic Party (NDP) provincial government shelved its plans for expansion of the nuclear industry in the 1970-80s. However, with the election of the Saskatchewan Party in 2007, the direction of the uranium industry is, once again, the centre of media and public attention. Are circumstances such that the debate will be, as Yogi Berra once said, “déjà vu all over again”? Or, have circumstances changed? By examining the efforts to expand the uranium industry of the NDP government led by Premier Allan Blakeney in 1970s those of the Saskatchewan Party government led by Premier Brad Wall in the 2000s; this thesis seeks to understand both continuities and changes in the role of the provincial state in determining uranium policy in

Saskatchewan. This understanding may prove to be crucial in whether or not the current efforts to expand the nuclear industry in Saskatchewan will be successful.

1.2 The Problem Statement

The energy sector faces new challenges due to the combination of climate change and dwindling petroleum reserves. For a majority of the province's history, Saskatchewan remained content with exporting uranium to Ontario and foreign nations who produced nuclear energy. However, two attempts in the past thirty years aimed at changing the uranium industry in Saskatchewan. The Blakeney and Wall governments both tried to expand the uranium cycle in the province. This thesis focuses on the evolving roles of the provincial government in the uranium industry in the context of these two efforts. The uranium producers, the uranium and power buyers, various municipalities, a range of business and community groups all had a role in the discussion. Their roles are investigated as needed to investigate the provincial role.

Although several related questions may arise in the study and analyses performed in this project, the primary question is, how does the evolving role of the state impact the policy outcomes in the Saskatchewan uranium industry? And more specifically, what were the roles of the provincial state during the policy process for the Warman refinery, and what were its roles in the nuclear energy debates in Saskatchewan?

1.3 Focus and Objectives

This thesis uses background literature, formal documentation, policy documents and contemporary media reports to trace both the evolution of the policies and roles of the provincial government in the Saskatchewan uranium industry from 1970 to 2010, and identify possible factors that account for that evolution. Regarding the roles of the provincial government, the focus is on two key areas: (1) its roles in the Warman uranium refinery debate and (2) its roles in the 2007-09 nuclear power debate. In examining the policies related to each of the aforementioned matters, the focus is on the policy decisions made by successive provincial governments related to the policy and regulatory framework in this particular policy sector.

Concerning the roles of the provincial governments, the principal focus pertains to the extent to which the provincial government performed any of the following: a policy/regulatory role, an ownership or operational role, or public education and public consultation (i.e., studies and public consultations). And, insofar as the provincial governments have performed any of

those roles, the thesis examines whether they performed an exclusive role, a lead role, a partnership role, or no role in each of the stages of nuclear energy cycle.

With respect to the factors that account for the policies and the roles of the provincial governments in this policy sector, the thesis focuses on the *effects* of political, economic, and societal factors.

1.4 Analytical Framework

The analytical framework draws from both international political economy and policy networks literature. This thesis devotes special attention to the uranium policy debate from a political perspective, looking at the relationships between government and industry and government and civil society. When the state becomes increasingly dynamic, it forces the formal power structure to decentralize, leading to changes in the institutions and the rules that govern society. These types of evolutions in governance have occurred in the past, but Michalski *et al.* argue that “what distinguishes these shifts from previous ones is that they will largely depend on the emergence of a mutually reinforcing relationship between, on the one hand, a significant diffusion throughout society of governance capacities and, on the other, higher degrees of technological, economic, and social dynamism.”¹ The degree to which these types of changes will occur likely depends on the existing institutional structure and the willingness of government to allow more external input in policy processes. Although economies and civil society enjoy increasing influence on policy and help shape institutions in various sectors, key decision-making in the Saskatchewan uranium industry still requires approval of government. Therefore, this thesis approaches the uranium policy debate from a political angle.

Strange presents international political economy within a framework of four power structures: security, production, finance and knowledge. Inherent in this framework are normative principles on how the system as a whole *ought* to operate, specifically through what theoretical lens political and economic problems ought to be viewed. Strange presents three basic social values: wealth and efficient production, order and security, and justice and equality, each of which fit into a competing theoretical model.² The liberal approach favours minimal state control over trade, free markets and free trade ought to prevail. The realist approach

¹ Michalski, Wolfgang, Riel Miller and Barrie Stevens. “Governance in the 21st Century: Power in the Global Knowledge Economy and Society.” *OECD Governance in the 21st Century* (2001):14.

² Strange, Susan. *States and Markets*. 2nd ed. New York: Pinter Publishers, 1988, 3.

favours trade regulations that benefit domestic industry, particularly when regulation gives the home nation advantage over foreign nations. The Marxist or dependency approach favours high state control over markets in order to protect against exploitation of the periphery by the core. Normative principles, therefore, often help guide the analysis in international political economy. However, in this study, the normative principles remained the same and the socio-economic goals of the Blakeney and Wall governments largely coincide. Both wanted expansion of a local industry for economic benefit to the province, in both capital gains and job creation. Therefore, since socio-economic interests held between governments, the analysis does not require a comparison of normative principles and social values.

The international political economy literature identifies the sectors, organizations, and actors central to the uranium policy arena. Five common themes recognized in cluster case studies include learning, labour, leadership, legislation and location. Wolfe argues that the successful combination of these themes leads to successful industries.³ In the case of the Saskatchewan uranium industry, these themes are particularly pertinent. Bratt also acknowledges that such a multi-thematic approach to nuclear power is required to recognize the current challenges and future opportunities that lay ahead for the province.⁴

Looking at these actors from a policy perspective and determining their roles and efficacy within these governance models is another component to the analysis in this thesis. The policy networks model examines the actors involved in policy making within specific timeframes. Teisman states, “focus, therefore, should be on the interaction among purposeful actors. To gain insight into policy making, the researcher depicts which actors are participating at what time. Actors are units capable of developing a recognizable course of action (individuals, groups or collective/corporate entities).”⁵ This model of policy making identifies rounds of uranium policy-making in Saskatchewan, identifying actors involved in each round and the problems presented and policy solutions found. Although individuals and ideas frequently contribute to a policy process, the analytical focus of this thesis is on the role of institutions. Because governments approach policy within an institutional framework, emphasis in this thesis is placed on institutional policies and institutional decision-making. Nevertheless, this model helps to

³ Wolfe, David A. *Clusters Old and New*. Montreal and Kingston: McGill-Queen’s University Press, 2003, 25.

⁴ Bratt, Duane. “Prairie Atoms: The Opportunities and Challenges of Nuclear Power in Alberta and Saskatchewan.” *Canada West Foundation: Going for Gold* (2008): 4.

⁵ Teisman, Geert R. “Models for Research into Decision-Making Processes: On Phases, Streams and Decision-Making Rounds.” *Public Administration* vol. 78, no. 4 (2000): 944.

understand uranium policy in Saskatchewan's past as well as looking to future rounds of policy and decision-making and to which actors will likely be involved.

1.5 Methodology

This thesis approaches the analyses of the uranium policy in Saskatchewan diachronically. Beginning with the first uranium discoveries in the 1930s, key events in the province's history are studied looking at the actors involved, the decisions reached and the models of governance that have emerged and evolved.

In using this framework it becomes necessary to analyze each actor using official statements, both corporate and government documents. These documents both aid in understanding the purpose and intent of these actors and provide insight into the relationships. Interviews from individuals in government, industry, and research institutions gave direction to the thesis and helped frame the analysis. However, interviews conducted with participants in the refinery process over twenty years after the events took place were judged to pose too great a risk of retrospective analysis. Given that this thesis examines two periods divided by 20 years there is a very real chance that the degree of objectivity and insight would vary widely for the two cases. For methodological reasons the decision was made not to draw any conclusions between interviews conducted related to the two policy process, unless they could be substantiated by industrial or government documents or media reports. Because of the inability to conduct interviews both in the 1970s and the 2000s, they were not used as a primary source. Therefore, the interviews did not inform the conclusions drawn in this thesis. Together official documentation, prior academic research and informal interviews provided the information needed to apply the frameworks and develop conclusions.

1.6 Importance of the Thesis

This research is important for the following reasons: it provides new insights on the participants, perspectives and outcomes of Saskatchewan's uranium history; it reflects recent developments in the province; it provides critical findings in the area of uranium policy; and it serves as a model both to understanding the policy process in the province and to looking at Saskatchewan as one of many governments and economies facing similar circumstances. Methodologically, this thesis is one of the first substantive uses of the Blakeney Papers to examine a public policy problem that emerged in his regime.

1.7 Organization of the Thesis

This thesis contains six chapters. Chapter one introduces the problem and sets the parameters of the historical and empirical facets of this thesis. Chapter two discusses the framework of analysis for the thesis, pointing out key elements of international political economy literature that will be applied in this thesis. Chapter three explores the story of uranium in Saskatchewan, looking back at its early history from the 1930s to the present. Chapter four examines the processes during the Warman refinery debates with a particular focus on governance structures. Chapter five looks at the most recent nuclear energy debate from a similar perspective and draws comparisons between the two events. Chapter six provides an overview and analysis of the two key uranium debates in Saskatchewan and presents the findings of the thesis.

CHAPTER TWO

THEORY AND FRAMEWORK OF ANALYSIS

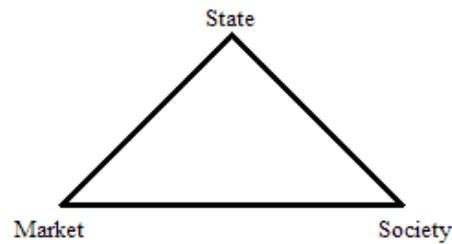
2.1 Introduction

Since the challenges and opportunities created by uranium affect the decisions of the provincial government, private sector and the public, a broad analysis of governance structures provides a relatively comprehensive approach to studying the uranium industry in Saskatchewan. Governance of the Saskatchewan uranium industry has changed since the initial decision to mine in the 1950s, when the decision making process rested primarily with government. More recently, discussions of pursuing value-added components to the uranium life cycle, including the Warman refinery debates and the current discussion of the potential for nuclear energy, has expanded the policy process; therefore, focusing solely on the provincial government's policy on uranium would miss critical components of the entire policy process. Thus, the analysis of resource policy in Saskatchewan should be broad in scope and include market and social forces.

This chapter sets out a framework of analysis that discusses theory on the roles of the state, identifies the key structures of the uranium industry in Saskatchewan, maps the network of actors involved in the industry, and recognizes the bargains within the network. International political economy provides a framework that addresses these three areas: the state, market and society.⁶ While theoretical perspectives on the roles of the state include the changes to governance models and diffusion of state powers, political economy investigates the structures, institutions and policies that govern the system and how they change, and networks and bargains explores connections between the institutions and actors, linking these connections to real-world outcomes. Hence, a study through this framework is the most likely approach to yield important insights not only into the development of the Saskatchewan uranium industry but also into the evolution of governance structures.

⁶ Picciotto, Robert. "Putting Institutional Economics to Work: From Participation to Governance." *World Bank Discussion Papers* 304 (1995): 12.

Figure 2.1



2.2 Changes in Theoretical Perspectives on the Roles of the State

Analysis in the field of political science traditionally focuses on the state as the sole policy maker; however, the state's role as the primary policy maker has changed and, as a result, its responsibilities have changed commensurately. Consequently, much of the change, inherent in liberal democratic governments that now exist in the Western world, also appears in Canada and Saskatchewan. Further, the combination of the democratic process and the competitive nature of a capitalist economy means that the character of governance systems exhibits significant increases in economic, social, and cultural interdependence.⁷ Advances in technology - driven by consumers and promoted by government - redistribute many of the responsibilities to the markets and society. In addition, the forces of globalization, open trade and communication, in turn, enable common interests that do not require compliance to the rules of traditional authorities but, rather, challenge these authorities and diffuses power to new actors.⁸ Defining the role of the market in the Saskatchewan uranium industry, however, remains challenging. Markets may exhibit pure optimization or, alternatively, strict state regulation; however, most cases fall somewhere in between. Market actors now operate in Saskatchewan's uranium industry, but state regulation continues to influence their activity.

The diffusion of power to the technological, economic, and social forces means that responsibility and policy decision-making are no longer heavily centralized and, actors not previously involved now play a role in the process. In addition, the scope of possible action changed with the evolution of technology and its subsequent impact on the economy. Technology fundamentally changes the decision-making process due to its speed and reach, which places pressure on policy-makers to respond quickly. Additionally, as technology

⁷ Michalski, Miller and Stevens, 15.

⁸ Michalski, Miller and Stevens, 15.

improves, and becomes more complex and interconnected the pressure further increases. The complexities, found in the uranium industry, task policy makers in Saskatchewan with the difficult job of ensuring high levels of uranium production in the province while, at the same time, staying aware of new opportunities.

The importance of technology in governance can also be understood in two ways: governing *of* technology and governing *with* technology.⁹ Governing *of* technology refers to the work of elected officials to promote development of technology both in terms of physical objects and human skill. Governing *with* technology refers to the understanding of how technology affects methods of governance, including increased capacity of the state due to advances in technology. These new tools of governance through technology mean that responsibility across government, business, and society also change. The result of the diffusion of power and decision-making authority gives the possibility of a more dynamic and productive society. These governance structures and dynamics already exist in Saskatchewan but inherent in their nature is a continual evolution. How this evolution fits in the Saskatchewan context and in particular the energy sector emerges as the fundamental question.

In summary, as the public becomes more involved, business gains greater responsibility, and technology emerges as a driving force behind evolving perceptions and relationships, governance changes. Salamon states, “the *new governance* also shifts the attention from hierarchic agencies to *organizational networks*.”¹⁰ Salamon continues, “The defining characteristic of many of the most widely used, and most rapidly expanding, tools, as we have seen, is their indirect character, their establishment of *interdependencies* between public agencies and a host of third-party actors.”¹¹

As hierarchical authority (top-down) shifts to more dispersed forms of governance found at both the macro and micro levels and the state no longer has the authority it once had – human rights, environmental security, free markets and the like have emerged and challenge the traditional power structures at all levels of society – a rethinking of past policy analysis is needed to match the diversity of the structures and networks.

⁹ Perri 6, “Governing by Technique: Judgment and the Prospects for Governance of and with Technology” in OECD *Governance in the 21st Century*, (2001): 71.

¹⁰ Salamon, Lester M. *The Tools of Government: A Guide to the New Governance*. New York: Oxford Press, 2002, 11.

¹¹ Salamon, 11.

The Saskatchewan uranium industry, therefore, is an example of a sector in which collaboration and cooperation between government, business, and the public sector is driven by technological advancement.

2.3 Political Economy Structures

Pertinent to this study is the theory of political economy structures. Power in the political economy sense is the ability to shape the structure as a whole. Two types of power exist. First, relational power is the realist understanding of power that allows one state to force another state to do something they normally would not. Second, structural power is the ability to shape the structures of the international political economy (IPE) and to force other states and institutions to work within these established structures. It decides how things operate and how relations between states are defined.¹² Strange explains that it is based on four distinct structures working together: security, knowledge, finance and production.¹³ She likens it to a tetrahedron; where each structure represents one side, every side touching the other, and each holding the shape in place. None of the structures is more important than any other and each is necessary to create structural power and its processes.

The first structure, security, is defined as the protection from the threat of violence, the greater the threat present, the higher the price for security and the distribution of goods. Those who provide security also control non-security matters such as sustenance and justice. The second structure, control over production, pertains to the control over land, labor, capital and technology. This control gives power to define social structures, establish constitutions and build institutions that enable those with control over production to remain in control. In a basic political science understanding, this can be viewed as the power of one class over another. Within the IPE context this can mean that class control can extend beyond national borders, both empowering and disenfranchising. The third structure refers to finance and the ability to control credit. It emphasizes investments in the economy through the creation of credit. As Strange points out, the technological advances in recent history have been so great and rapid that they would not have been possible without credit creation.¹⁴ Credit, however, is only possible through trust and confidence in institutions that will control the economy. Finally, the fourth

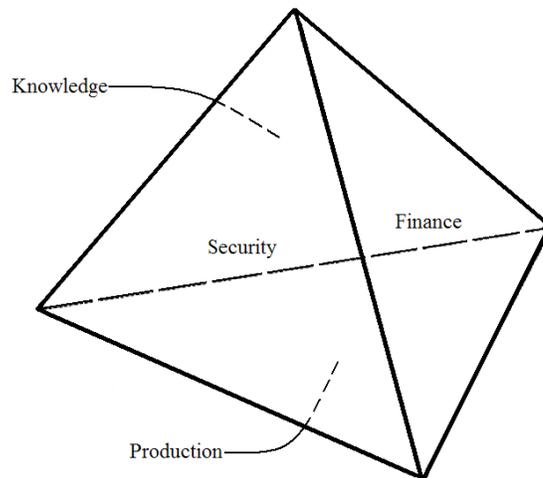
¹² Strange, 25.

¹³ Strange, 26.

¹⁴ Strange, 30.

structure is knowledge. Control over this structure rests with those who have the ability to develop and possess the knowledge and subsequently allow or deny others access to this knowledge. Because knowledge fuels new technology, it is immensely important in determining the progress made within the other structures.

Figure 2.2



Another key determinant in structures, particularly relevant to the uranium industry, is regulatory policy, created at both the federal level and the provincial level. Determined largely by the state, regulation creates limits within which all actors in the four structures must operate; ranging from determining export destinations and mining output in security and finance, while creating energy contracts and issuing research grants in finance and knowledge. Therefore, how regulation came into policy remains key in this analysis with respect to the impact on the four structures. Analytical comparison between the 1970s and 2000s gives insight into the change in government's approach to regulation and risk management. The first comprehensive piece published on risk assessment came in 1983, the National Research Council's "Risk Assessment in the Federal Government: Managing the Process," also referred to as the "Red Book." Aimed at changing the perception of risk, the "Red Book" aimed at eliminating emotional decision-making to one based primarily on scientific research, experimentation, and evaluation.¹⁵ With the evolution in risk management comes evolution in regulatory policy. Decision-making by

¹⁵ National Research Council. *Risk Assessment in the Federal Government*. Washington D.C.: National Academy Press, 1983, 1.

government on industry regulation relies more heavily on scientific data and the uranium industry is no different, regulation remains important to each structure but the mechanisms informing government decision-making changed. State-owned corporations require no additional regulation from government and, therefore, as the privatization of Crown corporations in Saskatchewan occurred, the need for government regulation increased. Therefore, the role government played in the four structures shifted from a direct approach to a regulatory one.

The structures model is a valuable tool in identifying the basic structures of international political economy and the impact of innovation. But one needs to also look more closely at the specific institutions and actors involved, especially the smaller structures within any innovation system. Five common themes are recognized in relevant literature: learning, labour, leadership, legislation and location. Wolfe points out that learning plays a critical role in the innovation process for both old and emerging industries; in the case of uranium in Saskatchewan this applies to current players in the market such as Cameco and possible new entries in the market like Bruce Power.¹⁶ Importantly, however, learning not only occurs within individual firms but also across firm boundaries and related institutions. On the other hand, labour and local talent in the workforce are crucial determinants of regional-industrial success. The success of labour, however, relies on creating skill and talent from within and attracting new skill and talent from without. In addition to labour, leadership plays a valuable role in determining the organization of industries themselves and their cooperation with each other. Leaders from the private sector and from the community work together to structure development for the greatest benefit to society. Besides leadership, legislation is often one of the defining factors in the direction of the private sector. While many see state interference in market operations as an obstacle to progress, legislation and law can be essential in building knowledge infrastructure such as universities, colleges, government labs, and other research and technology-transfer organizations.¹⁷ Finally, “location matters.” This is especially true when looking at the Saskatchewan uranium industry, both in terms of the potential due to natural geography and the opportunity to build from existing infrastructure. However, the networks and bargains between the institutions, organizations and individuals within the uranium industry are equally important and must be given their due attention.

¹⁶ Wolfe, 26.

¹⁷ Wolfe, 27.

The abstract idea of structures presented by Strange can be applied in a very real way to understanding the uranium industry in Saskatchewan. Because the applications for the resource are broad and implications of its use far reaching, then so too must the framework for studying uranium industry be a multifaceted approach. Recognizing the structures and how they have changed throughout Saskatchewan's history is one step in understanding uranium policy. For Saskatchewan these responsibilities undergo a shift from state to market, particularly with regard to the capacity of resource extraction and energy production.

Change in governance requires a more encompassing approach to the study of uranium policy. As a resource, uranium is important to a number of different institutions and organizations. Mining has been critical a component to the Saskatchewan economy and uranium continues to be an asset to the industry. The product derived from mining operations has an even greater range of impact which includes security implications, both from military and societal perspectives, and knowledge creation. The value of research and development related to uranium has converted it into a source of energy. The relationship between these different forces underpins shifts in structural power.

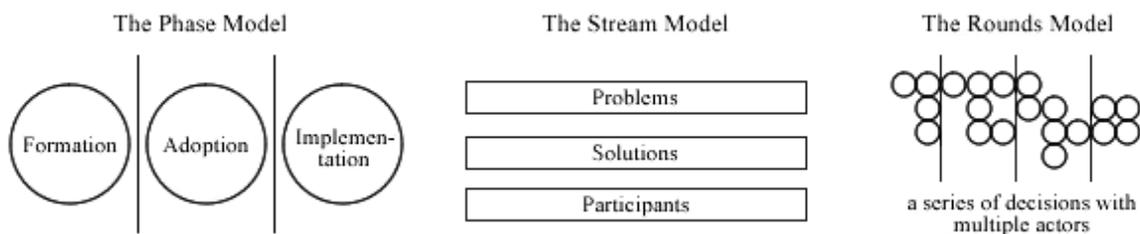
2.4 Networks and Bargains

Identifying the structure of the existing institutions is the foundation for the analysis of the state and governance in the uranium industry, but deeper analysis is needed to focus on the networks and bargains that make the structures function. The framework provided by governance analysis gives a basis for recognizing what factors play critical roles in successful industries and they interact and influence how the state and market must work together when creating policy. Increasingly, the role of civil voice must not be ignored if policy is aimed at providing the best societal outcomes. This has been proven true for other industries and this thesis will demonstrate its applicability to uranium in Saskatchewan. Atkinson and Coleman in their piece, "Policy Networks, Policy Communities and the Problems of Governance" look at how our views on policymaking must now shift to coincide with the true nature of the process. States and bureaucracies should not be recognized as autonomous actors – instead the state-society relationships must be acknowledged. This makes analysis more complex but more thorough, and the authors call this type of model "policy network" or "policy community." With these terms they suggest "a renewed attempt to be both encompassing and discriminating in

describing the policy process: encompassing because they refer to actors and relationships in the policy process that take us beyond the political-bureaucratic relationship; discriminating because they suggest the presence of many communities and different types of networks.”¹⁸ They argue that the workings of governance and the path to policy creation is not as straightforward as many believe. Instead the methods for policy creation will differ greatly across policy domains within a single state. Each domain will include different outside actors in policy discussion and debate. What is clear then is the importance of shared knowledge and consultation required in the policy making process. States cannot push agendas simply because of preference; the process is significantly more complex.

The Teisman “rounds” model of policy analysis looks beyond the state and bureaucracy which is akin to the idea of policy networks described by Atkinson and Coleman. Teisman argues, “focus...should be on the interaction among purposeful actors. Rather than using the phases or streams models of policy which limit the scope of the analysis, the rounds model gives the researcher a holistic view of the policy making process, a depiction of which actors are participating at what time in the entire process. Actors are units capable of developing a recognizable course of action (individuals, groups or collective/corporate entities).”¹⁹ This type of analysis gives value to actors that are sometimes ignored in the study of policy making, the problem that Atkinson and Coleman point out. Using this model of policy making, this thesis identifies rounds of uranium policy in Saskatchewan, actors involved in each round, problems presented, and policy solutions found. This model both helps to illuminate the uranium policy in Saskatchewan’s past and it looks to future rounds of policy decision making and to actors that will likely be involved.

Figure 2.3



¹⁸ Atkinson, Michael M. and William D. Coleman. “Policy Networks, Policy Communities and the Problems of Governance.” *Governance: An International Journal of Policy and Administration* vol. 5, no. 2 (1992): 156.

¹⁹ Teisman, 944.

Within any network there exists a series of bargains between pertinent actors that make the system work and that provide context and rationale for the decision-making processes in the structures. Strange describes the use of bargains as, “analysis of a particular situation so as to discern in more detail where a government, a political movement or a corporate enterprise has a range of feasible choices, and what possible scenarios might follow, depending on which choices are made.”²⁰ A resource such as uranium is highly complex and creates multiple political and moral dilemmas not found with other resources. The analysis of bargains is, therefore, relatively valuable when applied to this industry. Saskatchewan provides clear examples where decisions were made, due to the existing set of bargains, yet, as these bargains were reassessed, new policy paths were followed.

Bargains take the form of codified or tacit, explicit or implicit agreements. When identifying and comparing the efficacy of multiple bargains it is necessary to acknowledge that implicit and tacit bargains can be just as or more important than codified or explicit bargains. However, in all cases, bargains exist as a means for groups or individuals to gain additional power or influence. Bargains are central to political economy because of their ability to give actors power. Power and bargains are therefore continually interconnected and actors will always remain interested in engaging in new bargains. Phillips writes, “bargains in political economy provide a means for people to acquire power. The quest for power and the forging of bargains are therefore closely intertwined. Almost everyone would welcome an opportunity to bargain to increase their power.”²¹ Bargains can, however, only create power in relationships and situations that have the potential for increased power. Bargains can lead to a shift in power and, in the case of new governance with the resulting diffusion of responsibility, become critical. In Saskatchewan, the ineffective bargains between the provincial government and Eldorado Mining that existed during the Warman refinery discussions resulted in solutions found outside the province. Has the nature of the bargains with the private sector changed and what will this mean for the potential of nuclear power in the province?

Codified and explicit bargains are created in scenarios where terms are openly discussed and agreed upon and sometimes take legal form. These formal agreements and policies leave less room for interpretation of the terms between the parties and therefore outcomes are easier to

²⁰ Strange, 39.

²¹ Phillips, Peter W.B. *Wheat, Europe and the GATT*. London: Pinter Publishers, 1990, 9.

predict or, alternatively, cases of a breach of contract more easily detected. These types of bargains therefore serve as clear indicators of changes in governance structures, particularly at the state and market levels. Notwithstanding the above, looking only at these formal bargains would be neglecting all the tacit and implicit bargains that exist in governance structures. In both political and economic relationships there are conventions and understandings that exist outside of the formal frameworks, and are necessary for regulation and predictability in the system. Albeit relative to formal agreements and codified bargains, behavioural patterns serve as the key indicator of tacit agreements but identifying the exact parameters to measure types of behaviour becomes difficult.

Although the key governing structures such as the state, market and civil authority are responsible for establishing the bargains within the system, the bargains also affect the environment of the structures themselves. As noted earlier, Phillips suggests that bargains are a means to create real power in terms of enforcing certain behaviour where only the potential for power existed. Therefore, the creation of new bargains can also create new responsibilities and roles within the structures. As time passes new bargains are struck and the structures continue to adapt and evolve with the new realities they face. However, Phillips also points to the importance of individual actors in the outcomes of bargains, "... the ebb and flow of bargains is not necessarily continuous. By sheer force of personality, strong leaders can forge new bargains before the relevant structures have fully developed or can sustain failing bargains beyond their natural lifespan. Alternatively, weak leaders can precipitate the destruction of some bargains that would otherwise survive for a time or fail to create new bargains despite supportive structures."²² The importance of individuals in the network of bargains underlines the necessity of assessing structures and policy at multiple levels.

2.5 Conclusion

Governance structures have shown significant change in the past few decades and will continue to change in the future. These changes can be seen throughout many Western and Northern economies and Saskatchewan is no different. Government and policy has changed since the Warman refinery debate and so too have the structures governing the uranium industry in the province. Alternative theoretical framings such as economic theory, the "three Is"

²² Phillips, 10.

(individuals, ideas, and institutions), new institutionalism, risk analysis or policy networks theory could also provide the analytical framework for the Saskatchewan uranium industry. However, each of these tools narrows the scope of analysis in varying ways. On the other hand, international political economy elicits broader analysis, allowing the researcher to view policy problems in a larger context. International political economy provides many of the analytical tools necessary for identifying the underlying factors, precipitating changes in governance in Saskatchewan and for evaluating the outcomes. Further, bridging IPE with policy analysis achieves closer inspection into the policy process, giving a more complete picture in government decision-making. Governance has moved beyond the state and now includes a variety of structures; IPE analysis helps illuminate the how these interconnected forces work together. A better understanding of the uranium industry in Saskatchewan can be achieved by looking through these multiple lenses and identifying all the significant actors involved, the agreements they create, and the outcomes that result. These, in turn, give a more comprehensive picture of the Saskatchewan uranium story.

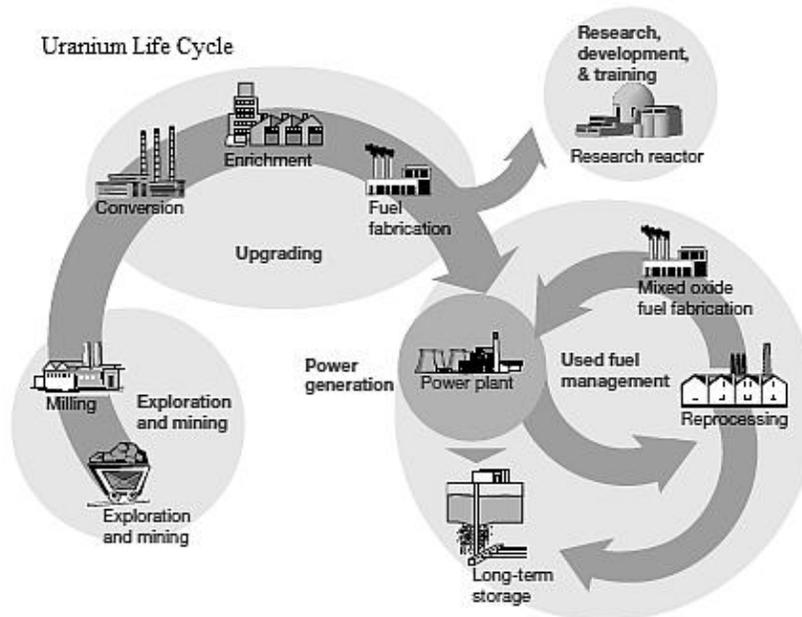
CHAPTER THREE

THE URANIUM LIFE CYCLE AND SASKATCHEWAN

3.1 Introduction

This chapter provides an overview of the history of uranium in the province of Saskatchewan, with particular attention to specific parts of the life cycle. The uranium life cycle can be understood as the spectrum of stages uranium undergoes, beginning with prospecting, then mining, milling, conversion, enrichment, fuel production, power generation and ending with spent fuel storage. Research, innovation and medical applications can also be included as stages of the uranium life cycle. Although the areas of refining and nuclear power have been part of the discourse on uranium in Saskatchewan in the past fifty years, today the only major involvement the province has in the industry is with mining and milling. This chapter introduces the policies and discussions in Saskatchewan pertaining to the spectrum of stages in the uranium cycle, including: (1) exploration and mining, (2) refining and upgrading, and (3) power generation and waste storage.

Figure 3.1



The section on exploration and mining lays out how uranium was initially discovered in Canada and how it expanded into mining and milling that supplied the nuclear weapons projects during World War II. It illustrates how growth in uranium production in Canada allowed Saskatchewan to contribute to this production, it discusses the relationship between federal and provincial jurisdictions with respect to uranium production in light of security implications, an example of which is the establishment of Uranium City, it explains how the surplus of uranium in the United States and Great Britain along with the policy of only exporting uranium for peaceful purposes affected the Canadian uranium industry, it explains how the global effects of energy demand led to the resurgence of the industry and to Saskatchewan establishing itself as a leading uranium producer, and it discusses Saskatchewan's concerns over the current regulatory policy, a legacy of the Cold War years. The section concludes with a discussion of the challenges within the existing policy framework and why they could hold back the province in the future and what changes could possibly negate this problem.

The section on refining and upgrading focuses on the period following the OPEC oil embargo and the first attempt the Saskatchewan government made at expanding the uranium cycle within the province. It explains not only the factors that played into the revival of uranium both globally and in Saskatchewan, but also the policies at the federal and provincial levels in response to these factors. As well, it describes two specific attempts made by the provincial government to join the global initiative to venture into non-fossil fuel energy sources: the heavy water facility and the uranium refinery. The uranium refinery will be covered in greater detail in chapter four.

The section on power generation and waste storage looks at the more recent ventures into the nuclear energy production stage. It describes the actors involved in initiatives towards possible uranium cycle expansion and the policies these actors hoped to achieve. As well, it examines why these attempts were ultimately unsuccessful and largely failed to take root, how the political climate has changed, and why the debates reopened at the end of the current decade.

In summary, this chapter illuminates the major events that had the greatest impact on the uranium industry in Saskatchewan. Looking at past policy and the events that triggered change in policy and vice-versa, it aims to give an overview of how Saskatchewan has arrived at its current situation.

3.2 Exploration and Mining

The first major discovery of uranium in Canada occurred at Great Bear Lake in the Northwest Territories in 1930, a discovery that was staked by the Eldorado Gold Mining Company.²³ Although little activity took place in the uranium industry throughout the rest of the decade, in 1942, the federal government decided to promote and to control uranium production due to the request from the governments of both the United Kingdom and the United States that Canada contribute to the nuclear weapons project. The active pursuit of nuclear weapons by the United States became the primary driver for the first uranium mining in Canada. And, since the Eldorado Gold Mining Company already had a mine, mill and a refinery – designed for radium production but that could be easily modified to produce uranium – Canada became an important partner.²⁴ Consequently, 1942 marked the first uranium production in Canada at the Great Bear Lake deposit in the Northwest Territories.²⁵

Canada's involvement in the United States nuclear weapons programme (the Manhattan Project) made uranium a national security issue, giving the Canadian government little options in their initial handling of the resource. Consequently, all newly discovered uranium deposits were required to be exclusively under federal government control, banning all potential staking by private interests. The provincial governments implemented similar policies. Subsequently, in January 1944 the federal government assumed control of the assets of the Eldorado Gold Mining Company: it nationalized the Company, compensated the shareholders, and eventually created a Crown corporation renamed Eldorado Mining and Refining Limited. Notwithstanding this nationalization event, the management of the mines and refinery remained the same. Because the foreign demand for additional uranium sources rose, the Geological Survey of Canada began to assist in the search of untapped uranium deposits²⁶ and, in 1944, prospecting began in earnest in Saskatchewan at the Beaverlodge District, the site of an accidental find in the 1930s.

In 1946, the federal government continued to expand its control over the Canadian uranium industry by introducing the Atomic Energy Control Act and the Atomic Energy Control Board (AECB), a regulatory policy and a body to strengthen their control over the resource. The

²³ Hunter, W.D.G., "The Development of the Canadian Uranium Industry: An Experiment in Public Enterprise," *The Canadian Journal of Economics and Political Science* vol.28 no.3 (1962): 329.

²⁴ Hunter, 331.

²⁵ Holman, G.J., *Impacts of Canada's Uranium Mining Industry*. Calgary: Lawson Printing, 1982, 5.

²⁶ Hunter, 331.

AECEB and the Act deemed the uranium industry and all of its undertakings for the “general advantage” of Canada. Thereafter, the federal government had constitutional jurisdiction over the regulation of uranium mining, a constitutional duty which previously belonged to the provinces.²⁷ Despite these tighter regulations, and perhaps due to the federal intervention, the push of prospecting in northern Saskatchewan continued through the 1940s and into the beginning of the 1950s.

Shortly after WWII, the international politics settled into a bipolar system with democratic states on one side and communist states on the other. The rebuilding of Europe allowed the United States to emerge as the predominant power among Western democracies while the Soviet Union served as the standard-bearer for the Communist Bloc. The nature of this international system forced states to choose a side and contribute to the on-going competition between the United States and the Soviet Union. For Canada, supplying uranium to the United States and Great Britain for the nuclear arms race represented its contribution and the next two decades influenced both the production and regulatory aspects of the national uranium industry.

The creation of new towns to service the mines was one issue where the federal regulatory policy left the province in a difficult position. The federal government was responsible for initiating the prospecting and mining in the region, however their policy did not address creating a local workforce and the necessary associated amenities. Before Uranium City was established one of the challenges for the early expansion of the uranium industry was securing a local labour force and this led to negotiations between the federal and provincial governments to find a solution. Saskatchewan’s CCF government presented two options: create a town for every mine or build a town to serve the entire region.²⁸ A single town appeared to be the preferable option but neither the federal government nor the provincial government were prepared to cover the costs. The development of the mine at Beaverlodge continued, however, and in 1951 Eldorado Mining began to build the facilities necessary to supply the mine sites. The federal Department of Transport also became involved by building an airstrip for the area and a port at Black Bay to avoid the portage between Lake Athabasca and Beaverlodge Lake.²⁹ Nevertheless, the lack of a planned town led to the emergence of multiple squatter communities,

²⁷ Distribution of Legislative Powers, Part VI, Section 92A, *Constitution Act, 1867*.

²⁸ Parsons, Graham F. and Ron Barsi, “Uranium Mining in Northern Saskatchewan: A Public-Private Transition,” in *Large Mines and the Community* edited by Gary McMahon and Felix Remy. Ottawa: International Development Research Center, 2001, 278.

²⁹ Parsons and Barsi, 279.

a situation similar to that of Ontario's shanty towns around mines, a problem that Saskatchewan had hoped to avoid. Consequently, the province and Eldorado Mining decided on a new town called Uranium City, modeled after the company town of Arvida, Quebec. The provincial government was still reluctant to pay for the town and requested that the federal Crown, Eldorado Mining, pay for its construction, but that ownership of the town would remain with the provincial government. This proposal was soundly rejected by Eldorado Mining and the Saskatchewan government had no choice but to pursue the endeavor itself. In July 1952 the province began to survey a townsite which would become Uranium City, located in the northwest corner of Saskatchewan, roughly 725 kilometers northwest of Prince Albert.³⁰ Before the completion of the townsite, Eldorado Mining began mining at the Beaverlodge Mine in 1953 and six years later the Uranium City mining camp was finally established.³¹

Security risks remained one of the central reasons for the federal government to increase their level of control on the uranium industry. The lawsuit *Pronto Uranium Mines Ltd. v. Ontario Labour Relations Board et al* supported this stance. In 1956 the Ontario Supreme Court upheld a ruling that federal regulation still applied to uranium mining in accordance with the principles of "peace, order and good government."³² The central reason for allowing federal regulation to stand in the case of uranium mining is the highly contentious debate over the safety of the resource both on-site and off-site. All the provinces, including Saskatchewan, still had the responsibility of monitoring the day-to-day operations of the mines, but according to the regulations set at the national level. This created a difficult situation for the Saskatchewan government; they became responsible for carrying out federal policy while meeting the socio-economic challenges in the province. Somewhat like the dispute over funding for Uranium City, the provincial government covered some of the costs of the federal mandate but had little control over policy. This relationship began to alter, however, as uranium use and export policy changed.

Towards the end of the 1950s the importance of new uses for uranium and, in particular, the development of nuclear energy technology began to eclipse the military use of uranium. In 1958 the federal government indicated that future uranium exports would be for peaceful

³⁰ Parsons and Barsi, 280.

³¹ Government of Saskatchewan, "Uranium."

<http://www.er.gov.sk.ca/Default.aspx?DN=3564,3541,3538,3385,2936,Documents> (accessed November 15, 2008)

³² O'Donnell, Margaret, "An Inquiry into Provincial Jurisdiction over Uranium Development in Saskatchewan," *Saskatchewan Legislature Review* vol.28 (1983-1984): 293.

purposes only. This year also marked the beginning of the commercial uranium industry in Canada with private producers granted the ability to engage in their own marketing.³³ The following year marked the peak of uranium production in Canada, exceeding every other metal or mineral that year. But changes to the global uranium climate and uranium price decreases forced Saskatchewan to rethink its uranium strategy.

In 1959, the peak of Canadian uranium production, the United States began to decrease the foreign supply of uranium and by 1967 the delivery of foreign uranium to the United States ended completely. Furthermore, in 1970 the Atomic Energy Commission (AEC) of the United States announced that they had roughly 45 thousand kilograms of surplus stock uranium. Similarly, the UK Atomic Energy Agency, the second largest international uranium purchaser, announced that they also had been overstocked since 1961.³⁴ The worldwide decrease in uranium purchases had an enormous impact on Canada where, in 1959, uranium represented the nation's fourth-largest commodity export at roughly six percent of the overall export value, more than any other mineral. In 1959 23 different mines produced roughly 15 million kilograms of uranium valued at roughly C\$300 million, but in 1967 only four mines produced less than 4 million kilograms of uranium valued at roughly C\$50 million.³⁵

The change in uranium policy of the American and British governments required Canada to adapt to the new reality of uranium production. In an attempt to simply maintain the uranium industry at its much reduced capacity, the Canadian government introduced the first national stockpiling programme which ran from 1963 to 1974.³⁶ The uranium industry, though a shell of its former self, remained viable due to interest in energy production and interest spurred on by other global economic factors at the beginning of the 1970s. Realizing that the surplus uranium supply in the United States and Britain would mean a long hiatus on Canadian uranium exports to these nations, in 1972 the federal government allowed two Crown corporations, Eldorado Nuclear (previously Eldorado Mining and Refining Limited) and Uranium Canada Ltd., to begin a process of arranging marketing agreements with non-U.S. uranium producers.³⁷ The primary objective of the agreements was setting new parameters for things like establishing minimum

³³ Holman, 7.

³⁴ Radetzki, Marian. *Uranium: A Strategic Source of Energy*. London: Croom Helm Ltd., 1981, 43.

³⁵ Radetzki, 45.

³⁶ Holman, 7.

³⁷ Holman, 8.

selling prices and creating regulation and predictability in previously unexplored uranium markets.

The new initiative of the Canadian federal government to find new uranium buyers was bolstered the following year by the OPEC oil embargo. Oil importing nations soon looked to developing and expanding their nuclear power programmes as an alternative energy source to protect themselves from the current and potential future energy crises. This was particularly prevalent with developed nations now heavily dependent on foreign oil. The preliminary work done in 1972 by Eldorado Nuclear and Uranium Canada Ltd. to establish frameworks paid dividends when Canada began negotiating long-term sales agreements in 1973. By 1974, a total of 38 million kilograms of Canadian uranium had been negotiated for foreign export, an amount roughly equal to ten times national annual production.³⁸ Increased global demand reached such a high level in this period that the federal Minister of Energy instructed AECCB to maintain the required minimum levels of uranium supply domestically in order to ensure the national nuclear energy programmes continued to function in both the short and long-term. During this period Canada expanded its nuclear energy capabilities. And though Saskatchewan continued to be a primary uranium ore producer in Canada, it set its sights on taking advantage of the boom in the uranium industry.

Canada and Saskatchewan were both interested in expanding existing and developing new nuclear power infrastructure. Ontario already refined uranium and produced nuclear energy in the 1970s while the Saskatchewan government only began to seriously look at uranium expansion during this decade. The matter of cycle expansion in Saskatchewan, discussed in the following section, was at least partly influenced by the regulatory protocol.

As described earlier in this section, the initial regulatory framework for uranium mining was based on export for weapons manufacturing. Although the federal policy on exports changed in the following decades, much of the domestic framework at the beginning of the 1970s remained based on the federal policies of supplying uranium for weapons manufacturing. The federal government, in cooperation with the provincial government, was interested in exploring and mining in a cost-effective manner; however, this was often undertaken without any meaningful socio-economic analysis of affected regions. The Uranium City mining community is an example of the reluctance of the federal government to become involved in socio-

³⁸ Holman, 8.

economics and of the inability of the provincial government to gain federal funding in order to meet the needs of local communities. This changed as foreign need for uranium exports dried up and the Canadian government exited the weapons manufacturing, thus allowing the provincial government to become more involved in the regulatory process.

During the early years of uranium mining development in Saskatchewan the federal government held responsibility for ensuring that the ecological and health impacts were looked after and that the mines met necessary criteria to ensure public safety. Because the regulatory body, the AECB, was located in Ottawa apprehension arose that many of the socio-economic concerns would continue to be overlooked. The Saskatchewan government wanted to prevent the lack of planning that occurred in the past from continuing in the future. This meant reevaluating regulation in order to give more attention to concerns for the existing and new communities affected by uranium mining. As Parsons and Barsi describe, “limited attention was paid to workers’ occupational health and safety, less to environmental protection, and no attention at all to reclamation, communities, or socioeconomic performance,” during the Lake Athabasca development.³⁹ The provincial government, wanting to protect itself against similar scenarios playing out with new mine developments, became more involved in the process.

As the provincial government placed greater emphasis on these types of issues, public participation increased and public hearings were introduced to allow communities to express their thoughts and opinions on the development of uranium mines. Parsons and Barsi point out five major public hearings on mining in northern Saskatchewan: the Berger Inquiry into the Mackenzie Valley Pipeline in the Northwest Territories (1974-1978); the Bayda Commission Cluff Lake Board of Inquiry (1977-1978); the Key Lake Board of Inquiry (1979); the Rabbit Lake Panel (1993-1994); and the Joint Federal Provincial Panel of Uranium Mining Developments in Northern Saskatchewan (1991-1997).⁴⁰ These types of public hearings and inquiries allowed for more open debate on many of the socio-economic issues that had previously been ignored. The resulting changes in regulation not only improved the conditions for mines and adjacent communities, but also aided the provincial government in creating better opportunities for the northern region of the province. This was part of their goal to create greater

³⁹ Parsons and Barsi, 278.

⁴⁰ Parsons and Barsi, 278.

parity between the south and the north, a goal that also aimed for through expansion into value-added ventures.

3.3 Refining and Upgrading

This section focuses on government policy in light of the shift in uranium use that began during the late 1950s. It explains how the reduction of weapons stockpiling in concert with a greater emphasis on energy security expanded the use of uranium from the narrow approach in the nuclear weapons industry during the 40s and 50s. It discusses how Western governments began to embrace nuclear energy as an alternative to fossil fuels, how this allowed the Canadian uranium mining industry to mature and how it gave Saskatchewan the opportunity to expand on their capacity in uranium processing.

The value of uranium has not been insulated from the effects of the global market; rather it has been subject to the booms and busts experienced by most natural resources. However, due to its limited number of uses the value of uranium is much more sensitive than other minerals. For the first half of the twentieth century its demand was based exclusively on its use in weapons manufacturing, forcing the Canadian and Saskatchewan uranium industries to rely heavily on the American and British nuclear weapons programmes. The strength of the uranium industry began to ebb in the 1960s when much of the uranium used at the early stages of weapons development was recycled, and the need for newly mined uranium decreased. In addition to the recycling of uranium, the arms race between the United States and the Soviet Union could not maintain its break-neck pace, especially with a backlash from the general public against the threat of global nuclear war.

In 1959 Canadian uranium production hit its peak of 14.4 million kilograms from 23 different mines, valued at C\$300 million. At the time uranium represented Canada's fourth largest exported commodity, close to six percent of the overall export value. However, by 1967 only four mines remained open with production around 3.6 million kilograms, valued at C\$50 million.⁴¹ As the price of uranium plummeted in the 1960s so, too, did government initiatives and programmes associated with the mineral, and the only option available for the Canadian government to keep uranium mining afloat was stockpiling programmes, one in 1963 and a second in 1965.

⁴¹ Radetzki, 45.

While uranium prices fell, oil prices remained steady in the 1960s despite the creation of OPEC. Only in the 1970s did that organization begin to exercise its command of oil supply. The climax came in 1973 when OPEC placed an embargo on oil in response to the United States support of Israel during the Yom Kippur War. Following this event and recognizing the capability of other states to determine essential commodity prices the focus of many nations turned to methods of ensuring energy security. New state policy in France moved quickly to integrate nuclear power generation into its national power infrastructure and today generates almost all of its electricity this way. The United States, Great Britain, and Germany also looked to nuclear power generation as a viable and valuable option, moving forward and building nuclear power plants, but not to same scale as France. As a competitive source of energy, oil proved to be one of the key factors in igniting the rise of the commercial value of uranium. Already established as a primary producer of the raw material, Saskatchewan became motivated to expand its uranium capabilities.

The 1970s were a particularly important era for uranium politics in Saskatchewan. The provincial government policy began to shift in favor of developing the uranium industry which meant an expansion of the capacity within the province, both in terms of increased mining operations and growth of facilities for extending the life cycle in Saskatchewan. This shift also included talks on a heavy water facility and a uranium refinery. In February 1973, the Saskatchewan government began to encourage Atomic Energy of Canada Limited (AECL) to select Estevan as the site for a heavy-water facility.⁴² The plant would have produced 800 tons of heavy-water annually and employed roughly 150 to 200 people. One drawback of the Estevan location was the lack of water supply from the Souris River but the province recognized this problem and was prepared to divert the South Saskatchewan River. The province also promised to cover \$12 million of the \$33 million capital cost of the plant as well as the annual operating costs of \$300 000.⁴³ In addition, the diversion of the South Saskatchewan River would serve the purposes of increasing the water supply to Regina, Weyburn, and to the Saskatchewan Power Corporation Boundary Dam, and increasing water supply for irrigation and livestock watering in the south-east. These concomitant purposes with the heavy water plant more easily justified

⁴² Blakeney to Trudeau (March 1 1973), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981, 11 187.

⁴³ Thorsen to Blakeney and Cabinet Ministers (October 19 1973), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 11 187.

public expenditure for the project.⁴⁴ Despite piecing together an attractive offer, Saskatchewan failed to win the contract, and AECL decided to select Quebec as the site for the heavy-water facility. Notwithstanding falling short in the push to get the plant in Estevan, the provincial government remained persistent in its efforts to secure expansion on uranium-related ventures. The next major item on the agenda for the Blakeney government was the uranium refinery.

The following gives a brief overview of the central issues concerning the refinery during the 1970s. Because the global strength of uranium persisted during this period the Saskatchewan government continued to be motivated to develop additional capabilities for the mineral within the province. It proposed constructing a uranium refinery in the province shortly after the failure to secure the heavy-water plant. In addition, in June 1974 it created the Saskatchewan Mining Development Corporation (SMDC), a Crown corporation, to actively pursue any possibilities for expansion of the uranium industry. This government initiative of the Blakeney government stimulated corporations such as Eldorado Nuclear to begin to investigate the viability of constructing value-added facilities in the province. An independent feasibility study, initiated by the provincial government, concluded that building a uranium refinery in Saskatchewan was viable. Soon the province entered discussions with Eldorado Nuclear on the prospects of constructing a uranium refinery.⁴⁵

Eldorado Nuclear's assessment of potential sites for the uranium refinery concluded that the Warman area was the most desirable location. This triggered SMDC to broker deals with local farms to secure the necessary land on behalf of Eldorado Nuclear. As the plans of the provincial government and Eldorado Nuclear began to materialize, public awareness increased and public opposition to the uranium refinery emerged. Hence, the provincial government found itself in the difficult position of appeasing the voting public while at the same time ensuring future corporate investments. Efforts made to convince Eldorado Nuclear to prolong the assessment period while the NDP government attempted to turn public opinion in their favour proved unsuccessful. As the anti-nuclear voice grew stronger, Eldorado Nuclear's interest in Saskatchewan as a potential site waned. The provincial government soon relented: it became clear that pushing forward the refinery agenda would be monumentally difficult. These events

⁴⁴ Thorsen to Blakeney and Cabinet Ministers (August 30 1973), "Uranium Production and Royalties, Saskatchewan, *Allan Blakeney Papers*, 1981 11 187.

⁴⁵ Dombowsky to Thorsen (April 25 1975), "Uranium Production and Royalties, Saskatchewan, *Allan Blakeney Papers*, 1981 111 470a, 1.

ended the proposals for uranium expansion with the Blakeney government. The events of the uranium refinery will be discussed at greater length in chapter four.

3.4 Nuclear Energy and Waste Storage

In the early 1990s there was some consideration within the province to reengage with nuclear development. One of the key actors in this new proposition was Atomic Energy of Canada (AECL) which devised plans with the Devine government. A proposal was developed to build a nuclear reactor large enough to supply Saskatchewan. However, these talks failed in creating any type of real policy for nuclear power generation in Saskatchewan and the idea died with the change in governments in March 1992. However, in December 1992, the new NDP government in Saskatchewan and AECL signed a new memorandum of understanding to investigate the option of a nuclear power plant in Saskatchewan; however the MOU stated the government made no pre-commitment to purchase a CANDU-3.⁴⁶ In 1999, Chief Ray Ahenakew and the Meadow Lake Tribal Council also began talks about nuclear energy and waste storage in Saskatchewan but again nothing concrete developed. Now the possibility of nuclear power is again being opened by the provincial government.

Part of the party platform the Saskatchewan Party ran on in the 2007 election was the necessity to reopen the discussion of uranium value-added opportunities and the creation of a nuclear energy programmes. After the election the Saskatchewan Party government continued to support this stance on nuclear power and in October 2008 created an advisory panel designed to aid the government in the development of the nuclear industry. The Uranium Development Partnership included leaders of companies with vested interests in Saskatchewan's uranium, including: Jerry Grandey, the president and CEO of Cameco Corp.; Armand Laferrere, president and CEO of Areva Canada; and Duncan Hawthorne, president and CEO of Bruce Power Inc. The group also included individuals from the First Nations community, urban and rural municipalities, and nuclear physicists and researchers. Tasked with evaluating the current state of the Saskatchewan uranium industry, the panel conducted its own feasibility study into building a nuclear power plant in the province and made the recommendation that nuclear energy was the most viable option.⁴⁷

⁴⁶ *Memorandum of Understanding between the Government of Saskatchewan and Atomic Energy of Canada Limited*, 21 December 1992.

⁴⁷ Kyle, Cassandra. "Nuclear advisory group created in Saskatchewan." *The Star Phoenix*, October 20, 2008.

After the panel delivered its findings, the provincial government went to work in securing potential partners in the construction of a nuclear reactor. The province entered discussions with corporations already involved in the nuclear energy sector, such as Bruce Power, but many of these plans remained tentative until the public consultation process had been completed. During the summer of 2009 a series of public hearings were held throughout the province to gauge public perception on the matter of a nuclear reactor. From these hearings the provincial government hoped to derive a better sense of the public attitude toward this type of uranium expansion in the province and whether pursuing this avenue was safe politically. However, around the same time as the public consultations the isotope reactor in Chalk River, Ontario, went offline due to emergency maintenance. The Saskatchewan government then used this opportunity to submit a proposal to be the site for a new isotope facility. The question facing Saskatchewan in 2010 is whether nuclear energy will finally be pursued and whether the political, economic and social climate is conducive to development.

CHAPTER FOUR

1970-1985: WARMAN URANIUM REFINERY

4.1 Introduction

The end of the 1950s marked the end of an era in the Canadian uranium industry. No longer was the resource exported for military use after the introduction in 1958 of the federal policy stipulating export for peaceful purposes only. The federal government initiated the stockpiling of uranium to counteract the forces of the global market in order to sustain the Canadian uranium industry because uranium use began to decrease internationally throughout the 1960s. Soon Saskatchewan and the rest of Canada created a supply of uranium that far exceeded its demand. At the beginning of the 1970s, however, uranium had a turn in fortune due to global events and the subsequent perceived need for energy security. The Saskatchewan government realized that the need for energy security increased the value of uranium and made the expansion of the uranium cycle within the province an attractive venture. This marked the beginning of the energy production era. This chapter covers: (1) the structures of the uranium industry during the Blakeney years, (2) the new provincial policy that encouraged growth in the uranium industry, and (3) the processes that took place during the efforts to build a refinery at Warman and the outcomes of these processes. Discussion of these three areas illuminates the key policies created by the participants in the refinery process, thus providing a better understanding on the nature of uranium politics during this era and the possible outcomes of similar politics in the future.

4.2 Power Structures in the Blakeney Uranium Era

Power structures, as described by Strange, encompass four areas of the overall system: security, production, finance and knowledge. The four structures work in conjunction and open the opportunity for new bargains to form. Looking at the four structures in the Saskatchewan uranium industry during the 1970s and 1980s, one can see critical governance roles held by the state both external and internal to the province. In the case of the refinery process in Saskatchewan, the external structures and bargains created conditions which opened the possibility to engage in the process of pursuing a uranium refinery.

In the broadest sense, a bipolar security structure emerged prior to the 1970s and continued during the refinery debate. The bipolar system allowed the uranium industry to flourish while producing weapons but at the same time forced governments to implement strict

regulations on uranium. In Canada, the federal government held responsibility for creating the regulations. Therefore, the construction of a uranium refinery relied on federal approval due to the security structure at the time.

The production structures during this era remained heavily influenced by the security structures. Not only did the Canadian government hold responsibility for creating regulation, Crown corporations served as the primary uranium mining operators in Saskatchewan. Foreign producers, however, played a key role in revitalizing the uranium industry. The oil embargo created by OPEC, another state organization, forced many governments to rethink their energy programmes, thus allowing the Saskatchewan government and federal Crowns to focus on expanding uranium capacity in response.

The financial structures in the uranium industry during the 1970s and 1980s also fell primarily under state control. The provincial government created the Saskatchewan Mining and Development Corporation and gave it responsibility to manage all uranium mining operations within Saskatchewan. These responsibilities included arranging domestic and international partnerships which resulted in an increase in uranium mining and the opportunity for a uranium refinery.

The knowledge structures during this era primarily included the ability to extract and process uranium, generate nuclear power, and establish regulations and security. For Saskatchewan and Canada the majority of these structures rested in state control, particularly regulation and research. The level of control wielded by the state, a symptom of the Cold War, ensured that any new development required cooperation and open lines of communication between two levels of government and in concert with the North American security policy.

The four structures help map the variety of actors involved in the uranium industry, specifically either those creating the conditions that allow expansion or those attempting to facilitate expansion. How well the actors within the structures worked together and the bargains they created are central to understanding the policy process during this era.

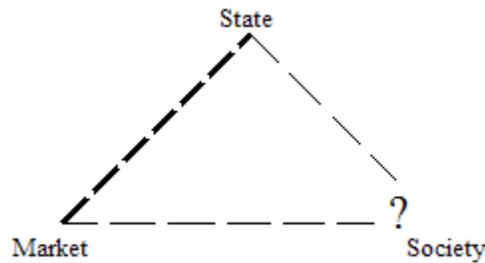
Table 4.1

Structures in the 1970s-80s Saskatchewan Uranium Industry

<i>Security</i>	<i>Production</i>	<i>Finance</i>	<i>Knowledge</i>
Bipolar system required strict state (provincial and federal) oversight and regulatory policy	Provincial government held primary control over the means of production but foreign organizations (OPEC) dictated energy prices	State control (SMDC) over credit and investment in existing and new uranium ventures	Security and production primary knowledge bases in the uranium industry, under government control

However, the process evoked change in the dynamic between state, market and society, marking the beginning of a shift in governance in the uranium industry. At the beginning and throughout the process, the state held the dominant role in all four structures. Market and societal actors held little to no influence over the decision-making process, but the refinery process forced policy-makers to re-evaluate the importance of actors outside the state.

Figure 4.1



The lack of collaboration between a variety of actors led to a policy process similar to the streams model described earlier and focusing on a specific project meant the construction of the refinery relied on a number of variables to fit through a “policy window.” Therefore, the success of the refinery and the provincial government relied on perfect conditions that may not have been possible during this era due to the governance model in place.

4.3 New Provincial Uranium Policy

The 1970s were a particularly important era for uranium politics in Saskatchewan. The provincial government policy began to shift in favor of developing the uranium industry through an expansion of the capacity within the province, both in terms of increased mining operations and growth in facilities for the whole life cycle.

The provincial government focused initially on the need for a revised mineral policy, a policy response to the recent global events. The Saskatchewan government wanted to ensure that the province's uranium industry continued to grow and that the province benefitted from growth. The Blakeney government wanted to ensure that Saskatchewan determined its own economic future. The result, a new mineral policy developed in 1974, contained four central objectives:

- 1) The province, as the owner of mineral resources, should receive a return from the development and use of these resources which adequately compensates the province for the depletion of its non-renewable resources and which ensures that the economic rent accruing to mineral resources is returned to the province.
- 2) Private firms which are now engaged in developing resources or which may become engaged in resource activity in the future, should be allowed to receive a fair return on their investment which is commensurate with the risk involved.
- 3) To be consistent with general economic development policy, mineral resource development should strive to ensure that the secondary benefits of resource extraction are retained in Saskatchewan to the greatest extent possible, by developing processing and other related facilities in the province to enhance employment opportunities and to retain the value added component of mineral development in Saskatchewan.
- 4) The rate of exploration, development and other related activities should be determined on the basis of market demand, security of supply, long term provincial requirements relative to the adequacy of supplies and the need for regional economic development.⁴⁸

Although the new policy presented broad objectives, it lacked specifics on how to execute this plan for the future. Nevertheless, the intent remained clear – the province wanted to take

⁴⁸ Planning Committee to Cabinet, "Saskatchewan Minerals Policy," Agenda Item #4 (April 3 1974), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers* 1984 XLVI 4v, p 2-3.

advantage of the window of opportunity presented due to events at the global stage, specifically the OPEC oil embargo. While the Saskatchewan government was concerned with increasing the amount of interest from the private sector, they remained adamant that private corporations remain coordinated with government. As well, much of this cooperation should take the form of joint-ventures. The path set by the new policy indicated that the Saskatchewan government wanted to become more involved in the workings of the uranium industry. However, this would require additional capacity at the corporate level and in this case a new Crown corporation. Nevertheless, it would be specific events that spurred the creation of a new Crown.

Saskatchewan's first attempt to expand its uranium capacity occurred in February 1973; the provincial government tried to win the bid for a heavy-water facility. AECL required a new Canadian facility and Saskatchewan made considerable efforts to be the recipient of the heavy-water plant, but in the end was unsuccessful. The contract was awarded to Quebec. Recognizing that uranium could play a large role in the future, the provincial government created the Saskatchewan Mining and Development Corporation (SMDC) in June 1974, signaling a new policy aimed at taking advantage of the uranium renaissance of the 1970s. SMDC enabled Saskatchewan to have greater control over its resources, specifically uranium. With international interest booming and many American and European-based corporations looking at expansion in Saskatchewan, the provincial government needed to establish itself as a player in the uranium market.

Prior to the formation of SMDC, Eldorado Nuclear and the federal government handled most of the international uranium dealings. The key event, however, the one that precipitated the creation of SMDC, was the interest that the West German corporation Uranerz had in expanding its operation into Saskatchewan. It wanted to establish a joint venture comprised of itself and the province with the possibility of other actors. Its proposal largely rested on its desire to comply with pending federal regulation that restricted foreign ownership of mines to thirty-three percent.⁴⁹ As well, its proposal would open new lines of communication between private, international mining corporations and the province. Shortly thereafter, the province established SMDC and entered into a joint venture with Uranerz to develop what would eventually become the Key Lake uranium mine. Although the new provincial minerals policy encompassed the

⁴⁹ Gartner to Cowley and Thorsen (February 1 1974), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers* 1984 XLVI 4v, 4.

overall vision for the future of Saskatchewan, SMDC narrowed the scope of the new vision and in its first years pursued five objectives:

- 1) Develop the mineral resources of Northern Saskatchewan.
- 2) Make a profit.
- 3) Retain for the Crown control of all mineral dispositions in Northern Saskatchewan.
- 4) Socio-economic development of Northern Saskatchewan by bringing about greater involvement of local people in the mineral industry.
- 5) Regain control of mineral dispositions now owned in the private sector, e.g. Gulf Mine at Rabbit Lake, Mokta deposit at Cluff Lake.⁵⁰

By adhering to these goals, SMDC sought to give the province greater control in the prospecting and mining processes. It allowed the province to pursue the foreign investment required to develop the mining industry, while at the same time allocating the profits made in these joint ventures to the critical policy goal of building infrastructure in the north.

After reassessing the objectives of SMDC, Jack Messer, the minister of natural resources, reiterated that the Crown, indeed, intended to operate first and foremost like a private corporation. In January 1977, he made the recommendation to Cabinet that SMDC, "...should be regarded primarily as a profit-oriented organization, and should be expected to operate similar to a private sector company, subject to two modifications."⁵¹ The first modification emphasized northern development in the province; the second required SMDC to serve as a model corporation, again with particular focus on relations with the north. These modifications required SMDC to pursue ventures and train individuals at a cost, and subsequently reduced profit, a situation that may not be acceptable in the private sector. Thus, creating a Crown designed to operate partly as a private corporation allowed Saskatchewan to develop its uranium mining industry. However, the efforts did not end just with the growth in mining; its focus shifted to plans for a uranium refinery.

Building a uranium refinery became an important policy for the Blakeney government in the 1970s after the significant rise in the price of uranium. The dramatic rise in prices followed a period in which the price of uranium dropped due to the reduction of military requirements. In

⁵⁰ Saskatchewan Geological Survey, "Objectives of the Saskatchewan Mining Development Corporation" (July 22 1974), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers* 1984 XLVI 90o, 1-2.

⁵¹ Messer to Blakeney and all Cabinet Ministers (January 11 1977), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 II 169, 1.

the late 1960s to the early 1970s many uranium producers could not survive with the depressed demand, as few firms could cover costs or obtain a sufficient return on their invested capital. As a result, many firms with weak financial structures unable to cope with the extended low price, uncertain of the future of the industry, dropped out of uranium production.⁵² However, the major uranium producer, Eldorado Nuclear, continued to operate, and, as uranium prices began to turn, the province took the opportunity to expand its existing capacity.

4.4 The Warman Uranium Refinery Proposal

The Warman uranium refinery case in Saskatchewan is one of the critical events that has defined uranium policy in the province. The potential for completing the uranium life cycle within the province has continually emerged in debate among policy-makers, the private sector and the general public. This debate among private and public stakeholders was once again at the forefront and a major contributor to policy decision making and for the future of uranium in the province. The mining of uranium has been an industry in the province since the 1930s, gaining prominence first in the era of nuclear weapons and then again with the rise of nuclear power generation, but value-added initiatives have been unsuccessful in Saskatchewan.

During the 1970s the province saw an increase in uranium mining activity: the construction of the mine-mill complex at Rabbit Lake was very close to completion, discussions between the province and Amok Ltd. regarding a mine at Cluff Lake were progressing, and discussions were taking place with Uranerz of Canada Ltd. regarding additional exploration in the province's north. In light of the provincial government's new policy to create growth in the uranium sector, including the construction of new mines, corporations such as Eldorado Nuclear began to have a different perspective of Saskatchewan. Subsequently, Saskatchewan, along with Ontario, became frontrunners as the location for a new uranium refinery. The provincial government, eager to find some avenue of expansion quickly, commissioned a feasibility study for establishing a uranium refinery in Saskatchewan. The May 1975 report from this study concluded that building a refinery in Saskatchewan was not only viable but also desirable.⁵³ Consequently, the provincial government entered talks with Eldorado Nuclear to investigate the prospect of constructing and operating a uranium refinery.

⁵² Radetzki, 51.

⁵³ Dombowsky to Thorsen (April 25 1975), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 111 470a, 1.

Since Eldorado Nuclear had already expressed an interest in constructing a \$15 million refinery which would employ roughly 30-40 people, a consortium that consisted of the Atomic Energy Control Board (AECB, now the Canadian Nuclear Safety Commission), Eldorado Nuclear, Environment Canada and Saskatchewan Environment was formed to guide the refinery project through a three-phase review process:⁵⁴ phase 1, a preliminary assessment of the eleven potential sites (completed during the fall of 1975); phase 2, pairing potential sites down to four; and phase 3, a full-scale environmental impact assessment of the most ideal site followed by public hearings before a federal-provincial board.⁵⁵ Despite agreement on the process at the beginning, at the end of the assessment the provincial government held the view that Eldorado Nuclear did not carry out the full review but instead selected one potential site for the refinery one month after agreeing to the three-phase plan in November 1975. Eldorado Nuclear, however, believed it fulfilled its obligations.⁵⁶

Once Eldorado Nuclear had formally announced its plans to assess the possibility of constructing a uranium refinery in Saskatchewan in February 1976, the provincially-owned Saskatchewan Economic Development Corporation (SEDCO) began to negotiate land options for an unspecified industrial development with farmers in the Warman area on Eldorado Nuclear's behalf.⁵⁷ A lack of transparency in these negotiations became evident, and soon after Eldorado Nuclear confirmed itself as the client for which SEDCO had engaged in negotiations.⁵⁸ The failure of the provincial government and Eldorado Nuclear to remain transparent and clear on their intent with the public in these negotiations became one of the critical incidents which fueled public opposition to the uranium refinery. And it soon became clear that neither the provincial government nor Eldorado Nuclear anticipated the organized opposition they would face.

⁵⁴ Gartner to Blakeney (August 26 1975), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 111 470a, 1.

⁵⁵ MacDonald, "Overview of the Government of Saskatchewan's Position on the Selection of a Site for Eldorado Nuclear Limited's Proposed Uranium Refinery," (April 1980), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1984 453, 1.

⁵⁶ Hutch to Blakeney (December 10 1975), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 111 470a, 1.

⁵⁷ Overend to Epp (October 27 1980), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1984 910, 1.

⁵⁸ Hutch to Blakeney (July 9 1976), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 111 470a, 1.

The Minister of Environment at the time, Neil Byers, acknowledged on August 6, 1976, a high level of interest in the uranium refinery project and defended the position of the government and their cooperation with Eldorado Nuclear to begin uranium refining in the province, a particularly important response to the public given the recent secrecy with regard to the negotiations for the land in the Warman area. This defense of the uranium refinery project was also necessary in light of the increase in public inquiry into the Warman proposal. Byers empathized with the public concern and guaranteed that a public consultation would be a component of the process moving forward.⁵⁹ Although, Eldorado Nuclear continued to move forward in their quest for land acquisition for the construction of a refinery, Byers also made it clear that government support for the project was contingent on the refinery being consistent with the goals of its resource development policy. He described the policy in three broad objectives: (1) to maximize per capita income and job opportunities and to achieve a more uniform distribution of jobs and incomes across the province; (2) to have raw materials mined in Saskatchewan processed in the province by Saskatchewan people; and (3) to ensure that no development of resources would take place until the government was satisfied that health and safety of people and environmental effects were fully assured.⁶⁰ Of these three objectives the first two were an easier sell. Explaining that one outcome of the refinery was the creation of jobs and capital within the province was a simple message that would be easy to convey to the public. However, since the methods of implementing the third objective were undefined at the time Byers made the statement, they would continue to be a sticking point moving forward.

The third objective, satisfying health and safety concerns, also remained a contentious issue within the NDP government: some elected officials believed that refined uranium could be used in nuclear weapons and, hence, they were faced with a moral dilemma in accepting or rejecting the uranium refinery project. This type of sentiment was understandable given that just two decades earlier Saskatchewan was responsible for supplying foreign nuclear weapons programmes. Again Byers rebutted this criticism of building a uranium refinery in the province. He pointed out that if, indeed, there existed a moral fault in producing refined uranium within the province due to the connection to nuclear weapons, then logically, since yellowcake could be

⁵⁹ Byers, Neil (August 6 1976), "Statement Regarding Eldorado Refinery," *Allan Blakeney Papers*, 1981 111 470a, 1.

⁶⁰ Byers, 4.

refined anywhere else, uranium mining itself in the province should cease.⁶¹ He also expressed to his colleagues that a failure to expand the capacity of uranium production in Saskatchewan could potentially mean a loss of future uranium expansion to provinces such as Ontario.

In the following months, although the province focused on the Amok Ltd. proposal for a mine-mill at Cluff Lake, the Saskatchewan government remained highly interested in the expansion of the uranium industry, in particular, the construction of a uranium refinery. However, one problem that they identified regarding the expansion process was the reluctance of Eldorado Nuclear to explore other sites for the refinery. So, in January 1977, Saskatchewan Environment developed a list of arguments pertaining to the disadvantages of a single site assessment, as opposed to multiple site assessments; these disadvantages were aimed in particular to the selection of the Warman site. They argued that the Warman site was not well suited to promote new growth within the province because of its proximity to a major center, Saskatoon, especially since selection of that site was contrary to the goal of the government: decentralizing industry through the development of rural regions, and particularly the north. As well as creating problems for provincial policy, the Warman site contained a pacifist Mennonite community which opposed uranium refining in principle. On the other hand it benefitted Eldorado Nuclear to undertake an environmental impact assessment at alternative sites for two reasons: first, the local support for the uranium refinery would possibly become more vocal if another site became a possibility; second, assessing alternative sites would still allow Eldorado Nuclear to construct a uranium refinery even if the Warman site were to be rejected by the review panel and the provincial government.⁶² The Saskatchewan government wanted to craft a scenario that led to expansion in the uranium industry. Unfortunately for the Blakeney government, Eldorado Nuclear, in responding to the suggestion of a second environmental impact assessment, pointed out that the marginal viability of the Warman site itself and the cost of even a second assessment, roughly \$500 000, would terminate the entire project.⁶³ Thus, the government was left with the choice of either allowing or rejecting continuation of the refinery project.

⁶¹ Byers to Government MLAs (October 14 1976), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 470a, 6.

⁶² Byers to Blakeney and Executive Council (January 7 1977), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1984 V 453, 1.

⁶³ Hutch to Blakeney (February 11 1977), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1981 III 470c, 1.

Eldorado Nuclear's beginning of phase 3 of their assessment of the Warman site in March 1977, without conducting any phase 2 assessments at any alternative sites, as they had previously agreed to, put pressure on the provincial government to support the process. In turn, the Ministry of Environment put pressure on Eldorado Nuclear to show some interest in alternative sites in order to appear committed to following the agreed upon phases. By Eldorado Nuclear doing so, the ministry expected more political support for the refinery, particularly from the business community in Saskatoon. Consequently, the Ministry of Environment and the Ministry of Industry and Commerce tried to convince Eldorado Nuclear to at least make a statement with regard to the examination of alternative construction sites. However, Eldorado Nuclear remained reluctant to do so when such a statement would not be true.⁶⁴ From 1977 to 1979 the province continued to pressure Eldorado Nuclear either to conduct an assessment of one or more alternative sites, or at least to make a public statement implying the intent of additional assessments. These attempts fell on deaf ears as Eldorado Nuclear maintained its position that conducting additional assessments would be of no benefit given the cost, and any such statement could only be made if the assessment of additional sites were truly undertaken in earnest.

To put more pressure on Eldorado Nuclear, in April 1980, the new Environment Minister, Ted Bowerman, opened the debate to the public by stating to the *Leader Post* that the provincial government's concern lay with Eldorado Nuclear's reluctance to conduct studies on alternative sites.⁶⁵ In February of 1979, the provincial government offered the idea of using Prince Albert as a potential alternative site. Eldorado Nuclear responded soon after, stating that if they looked into Prince Albert as a site a necessary consequence would be dropping Warman as a possibility because they were only interested in examining one site at a time. In addition, they pointed out the Prince Albert location would increase the costs of the project, including at least an additional \$5 million for construction. More importantly, Eldorado Nuclear worried that hinting toward a change in location would undo much of the efforts made in securing support from the Warman Town Council and the Rural Municipality of Corman Park.⁶⁶ Evidence of this support was found in the brief presented by the Warman Town Council to the Environment Assessment Panel in

⁶⁴ Webster to Blakeney (July 8 1977), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1984 III 470c, 1.

⁶⁵ Bowerman in MacDonald (April 1980), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1984 V 453, 2.

⁶⁶ Wallace and Mitchell to Blakeney (April 6 1979), "Uranium Production and Royalties, Saskatchewan," *Allan Blakeney Papers*, 1984 V 453, 1-2.

January 1980. The report offered the following rationale for potential economic growth: temporary construction jobs for the project, permanent careers in the local area, promotion for other commercial and industrial development, and increase in the tax base. The town council rationale for creating a stronger economic cycle fell in line with the Bayda Inquiry. That inquiry recommended development of the Saskatchewan uranium industry, stipulating new jobs went to northern and rural residents. The town council agreed with the recommendation, stating, “we feel that the yellowcake should be refined in Saskatchewan rather than export it to Ontario to be refined at the Port Hope Refinery.”⁶⁷ In the end, on July 16, 1979, Eldorado Nuclear made it clear that Warman remained the possible site from both an environmental and economic standpoint. And nine days later, on July 25, 1979, it released an Environmental Impact Statement (EIS) which triggered a federal public inquiry.⁶⁸ Due to the disagreement between Eldorado Nuclear and the Blakeney government, the province did not approve of proceeding with the inquiry.

Eldorado Nuclear’s EIS gave it’s rationale for the selection of the Warman site and proposed a \$100 million uranium hexafluoride (UF₆) refinery in Saskatchewan. The construction of this refinery would be consistent with the provincial policy of ensuring that Saskatchewan uranium would be refined to the highest degree possible thus expanding the industry in the province. The rationale argued that the first two phases of their assessment gave clear evidence that Warman was the only viable site in the province. In phase I, an engineering and environmental study by Cambrian Engineering and the Saskatchewan Research Council reduced the number of potential sites from fourteen to two: Vanscoy and Warman. In phase II, the study of the two sites included water analysis, dye studies of river flow characteristics, air photo analysis and extensive literature reviews. The phase I report, “Saskatchewan Site Evaluation Study for Eldorado Nuclear Limited, Uranium Refinery,” was completed in July 1976; the phase II report, in July 1977. In phase III, Beak Consultants Limited conducted a two-year environmental impact study, the results of which became a major part of the EIS.

Although this part of the EIS covered many of the important technical details of the proposed uranium refinery, including uranium input and output, water usage and waste, the

⁶⁷ The Council of The Town of Warman, “Uranium Refinery Brief,” Presented to the Environment Assessment Panel concerning the proposed Uranium Refinery by Eldorado Nuclear Limited, near Warman, Saskatchewan, January 1980.

⁶⁸ Dakers to Beatty (July 16 1979), “Uranium Production and Royalties, Saskatchewan,” *Allan Blakeney Papers*, 1984 V 453, 1.

socio-economic effects of the refinery for the local communities held much more importance. The report emphasized that the refinery would offer several benefits to the local communities while the costs would remain minor. Employment for the nearby communities remained a key issue for accepting the proposal and the Eldorado Nuclear report states that “the local communities of Warman, Martensville, Dalmeny, and Osler may supply up to one third of the construction labour force and one third of the operations personnel.”⁶⁹ Most of the operating personnel, unsurprisingly, would be drawn from Saskatoon and area except for fifteen to thirty specialists transferred from existing Eldorado Nuclear operations. Using local personnel would create little additional strain on the community services, a socio-economic factor problematic to many resource industries, and this made the refinery an attractive addition to the local communities that desired controlled growth. The construction stage would create the largest income for the region with a potential \$26 million spent on goods and services – as many as 393 jobs would be created with an estimated payroll of \$9.5 million.⁷⁰ After construction, the refinery would employ 220 permanently with an annual income between \$3.5 and \$4.0 million. The EIS, therefore, gave technical support to a refinery that would also boost the local economy and add strength and diversity to Saskatchewan industry, both primary initiatives in provincial policy.

A federal inquiry began shortly after the release of Eldorado Nuclear’s Environmental Impact Statement. Environment Canada created a seven member panel from the Federal Environmental Assessment Review Office charged with the task of looking at the environmental and social impacts of the Warman refinery. They began their investigation on October 17, 1979.

The public hearings held between the 8th and 24th of January 1980 in Saskatoon and Martensville attracted groups and individuals associated with the anti-uranium (nuclear) movement. This movement existed before the uranium refinery proposal was submitted and the proposal offered an opportunity for the group to mobilize and gain additional support. In addition, the federal public inquiry represented an ideal venue for the anti-uranium advocates to express their agenda – preventing the construction of a uranium refinery in the province.

At the hearings, various anti-nuclear groups focused on questioning the ecological and sociological impacts of the refinery: local residents and farmers voiced particular concern on the

⁶⁹ Eldorado Nuclear, “Environmental Impact Statement for a Uranium Refinery in Corman Park R.M. Saskatchewan,” July 1979, iv.

⁷⁰ Eldorado Nuclear, iv.

potential effects of soil contamination from the uranium refinery on the agricultural industry; the Canadian Union of Public Employees and the National Farmers Union voiced their opposition to the refinery, citing potential risks to the physical environment and worker safety as well as issues with the association to the nuclear fuel cycle; and church groups from a variety of denominations raised objections and concerns over the construction of the refinery.⁷¹ One spokesman, John Polloch, representing the Social Action Committee of the Diocesan Pastoral Council, St. Peter's Abbey, stated that, "while aware of the beneficial effects of uranium mining on the economy of the province, there are serious questions which remain unanswered. No satisfactory way has been developed to deal with nuclear wastes [*sic*]. There can be no guarantee that uranium mines in Saskatchewan will not be used to create nuclear armaments."⁷² Along with the groups mentioned, the Saskatoon Citizens for a Non-Nuclear Society attended the hearings to support the opposition to any nuclear related project; the refinery was no exception.

During the period of the hearings, certain individuals in both government and academia also mobilized to oppose the refinery. M.L.A. for the Saskatoon-Sutherland Constituency, Peter Prebble, stated, "If this refinery is built...there will still only be 7 uranium refineries in the entire Western world. Each will be either the feedstock source for nuclear electricity production, or for nuclear weapons."⁷³ Dr. Jim Harding, a sociology professor at the University of Regina, made the argument that nuclear energy and nuclear war cannot be separated, "Since nuclear war is the ultimate threat to public health, and would constitute all-out genocide against the human race...it's also mandatory for your panel (the federal inquiry) to consider the implications of the Nuremberg Tribunal into War Crimes for people working in the nuclear fuel cycle. It's not uncommon for people working in the nuclear industry to try to dissociate their activities at one point in the fuel cycle from ultimate consequences at another point."⁷⁴ Like Prebble and Harding, many Saskatchewan citizens believed that refining uranium in the province linked the province to the creation of nuclear weapons. While anecdotal, these arguments reflect the fears of many individuals with regard to upgrading uranium.

⁷¹ Federal Environmental Assessment and Review Office, "Eldorado Uranium Refinery R.M. of Corman Park, Saskatchewan," July 1980, 11.

⁷² Warman and District Concerned Citizens Group, *Why People Say No to a Uranium Refinery at Warman, Saskatchewan*, Regina: Regina Group for a Non-nuclear Society, 1980, 85.

⁷³ Warman and District Concerned Citizens Group, 91.

⁷⁴ Warman and District Concerned Citizens Group, 92.

Overall, the uranium refinery did not have overwhelming public support at any stage of the proposal process and the well organized anti-uranium group had little trouble raising doubts about the socio-economic benefits of a refinery and about the moral action of this endeavour. With the already existing discord between the provincial government and Eldorado Nuclear, the future of the refinery proposal was tenuous and the strong negative sentiment in the public consultations left little hope for construction.

The Federal Environmental Assessment Review Office released its report on August 6, 1980. The report concluded that at the technical level there were no objections to the construction of a uranium refinery in the Warman area but, as a result of the outcomes of the public hearings, an apparent deficiency existed in the assessment of potential socio-economic outcomes.⁷⁵ The technical aspect of their report

- 1) concluded that the refinery would have no significant health or environmental impacts, providing that the company fulfilled its commitments regarding waste disposal, public involvement and health monitoring;
- 2) felt the production of uranium hexafluoride by the new plant would not be a significant factor in nuclear weapons proliferation;
- 3) agreed that there was a need for another world scale refinery;
- 4) found that a Saskatchewan site was ‘consistent with federal and Saskatchewan government policies’; and
- 5) felt a Saskatchewan site compares favourably with other options, such as a site in Ontario.⁷⁶

However, the panel’s recognition of the sound technical plan was not enough to give an overall recommendation to move forward without greater investigation into the social impact of the project on nearby communities. The report stated concerns regarding the impact of outside influence on the local institutions and the possible encroachment on agricultural practices. Furthermore, the panel noted the potential of conflict between the project and the moral and religious beliefs of individuals in the local communities. With these concerns at the forefront of their conclusions the panel recommended three options:

- 1) further studies be done on Warman to assess the social impact of the project;

⁷⁵ Planning Bureau, “Warman Hearings – Current Status” (June 20 1980) “Uranium Production and Royalties, Saskatchewan, *Allan Blakeney Papers*, 1984 V 453, 1.

⁷⁶ Executive Council (1982): Section 19b: 2.

- 2) other Saskatchewan sites be selected and evaluated in terms of environmental and social impact of the refinery; and
- 3) a combination of the above.⁷⁷

Although the recommendations by the panel did coincide with the wishes of the provincial government, the likelihood of Eldorado Nuclear complying with these recommendations was slim.

Shortly after the panel released its report, Premier Blakeney stated that he agreed with the report's recommendation to assess additional sites. However, knowing that Eldorado Nuclear was extremely reluctant to pursue this avenue the provincial government likely believed that the hopes for a refinery were finished. On September 29, 1980, Eldorado Nuclear's decisions not to renegotiate a two-year extension on the land options and to drop its options on the Warman site confirmed this belief.⁷⁸ This action was perceived by the provincial government as a rejection of the Warman site. In a last ditch effort, business organizations such as the Prince Albert and Saskatoon Chambers of Commerce and their respective municipal governments attempted to open discussions with Eldorado Nuclear for a refinery to their regions. They were unsuccessful. Eldorado Nuclear had decided to begin construction in an area with minimal public resistance and put forward plans to expand its capacity in Blind River, Ontario. As the provincial government had foreseen, the lack of shoring up public support for the refinery resulted in unfavorable public hearings. As a consequence, the federal panel could not support the construction of the refinery, ending the prospect of uranium cycle expansion in the province for the time being.

Talks of expansion in the uranium cycle entered a 25 year hiatus in Saskatchewan after the failure to secure the uranium refinery in Warman. Just eight years later the Canadian and Saskatchewan governments agreed to merge Eldorado Nuclear and the Saskatchewan Mining Development Corporation. The new company, Cameco Corporation, became fully privatized through public share offerings over the next seven years. Through internal growth and expansion through purchases, Cameco emerged as a leader in uranium mining and in 2009 was the largest high-grade uranium producer in the world.

⁷⁷ Executive Council (1982): Section 19b: 2.

⁷⁸ Executive Council (1982): Section 19b: 3.

4.5 Bargains During the Refinery Process

Although the effort to gain a refinery for Saskatchewan did not end the way the provincial government hoped, the process gives insight into the structures and bargains associated with the uranium industry. The structures in the uranium industry during the 1970s and 1980s remained primarily under state control. To no surprise, the importance of international security continued to dominate uranium policy and the state held most decision making power.

Recognizing the opportunity created by the international energy crisis, the Blakeney government made the first move to begin discussions of expanding Saskatchewan's uranium industry. Changing the mineral policy and creating SMDC not only allowed the provincial government to broaden its range of relationships, with particular focus on new investment from outside industry, but also increased awareness outside the province of Saskatchewan's intent to refocus on the uranium business. Shortly after its creation, SMDC went to work in creating new links with out-of-province corporations, a German uranium mining company, Uranerz, being the first. With the new-found success of building partnerships, the NDP government looked to expand the range of development in Saskatchewan and this included expanding the uranium life cycle.

During the 1970s, Eldorado Nuclear served as the primary developer and operator of nuclear power plants in Canada and, although Saskatchewan already held ties to Eldorado through the mining operations, a uranium refinery required a unique set of bargains between industry and the province. The initial set of bargains established in the partnership between the province and Eldorado Nuclear focused on purchasing land rights for the construction of the proposed refinery; the provincial government (SEDCO) engaged in the negotiations on behalf of Eldorado Nuclear, an arrangement that benefitted both parties. However, this bargain exhibited a lack of transparency that triggered skepticism later in the process. Determining the impact of the transparency (or lack thereof) in the dealings between the Saskatchewan government and Eldorado Nuclear remains immeasurable, but perhaps displays the perceived desire of the province and federal crown to keep their intent out of the public eye for as long as possible. And although state driven initiatives before this era rarely undertook public consultation, the attempt to push forward policy in an era of changing governance structures did not help the provincial government.

Another set of bargains critical to the refinery proposal came with the agreement between the Saskatchewan government and Eldorado Nuclear to begin a series of feasibility studies in the province to determine the ideal location for the proposed uranium refinery. The first of the three rounds completed without issue from either the provincial government or Eldorado Nuclear. However, the cooperation between Blakeney's government and Eldorado Nuclear began to show signs of weakness moving forward in the process. Eldorado Nuclear believed it did due diligence in the final two stages of the viability study and that the selection of Warman met all criteria establishing at the beginning of the process. On the other hand, while the province perhaps agreed with the selection of the Warman site (they had after all aided Eldorado in securing land in the Warman area), it refused to accept the final stages of the feasibility study. Part of this refusal stemmed from mounting public pressure on the government to conduct more thorough investigations into the most viable site. Consequently, many of the bargains established between the province and Eldorado Nuclear at the beginning of the process evaporated when the time came for the federal inquiry. As a result, the federal inquiry could not recommend the construction of a uranium refinery until further studies on socio-economic impacts took place, a conclusion expected given the discord between the province and the industry.

The uranium refinery proposal era exemplifies a structured and relatively closed process in governance. Because the state controlled a majority of the structures related to the uranium industry, ranging from regulatory structures to production structures, the breadth of bargains remained limited. Consultation with the public occurred only after the state decision to pursue a uranium refinery and, therefore, public response remained limited to support or opposition to a specific project. Further, consultation did not extend beyond the public hearings. Neither the provincial government nor the federal government approached First Nations communities for input in the process. Environmental groups also remained absent from directly participating in the refinery process. During this era, however, the inclusion of non-state or non-industry actors remained a rarity in a centralized system. The value of input from communities and non-government organizations began to gain traction in the 1970s and 1980s and only became normalized a couple decades later. A governance system that facilitated open discussion may have yielded different results for the Blakeney government, but the failure of understanding and

lack of familiarity between the Saskatchewan government and Eldorado Nuclear, state and industry, proved to be the key factor in the failure of the refinery proposal.

CHAPTER FIVE

2007-2010: NUCLEAR POWER GENERATION

5.1 Introduction

In 2007, the Saskatchewan Party ran on an election platform that included and promoted expansion of the uranium industry, then won the election and formed government. Similar to the Blakeney and the Warman uranium refinery era, Saskatchewan engaged in debate over the viability of expansion in the uranium sector. Chapter five analyses the following four parts of the uranium discussions that occurred between 2007 and 2009: (1) change in the political climate, (2) the Uranium Development Partnership (UDP), (3) the government, corporate and public response to the UDP report, and (4) the public consultations on nuclear energy.

5.2 Structures in the Present Uranium Industry

Relative to the refinery process during the 1970s, the uranium industry in today's system includes a variety of actors in the four core structures. Although security remains an important structure in today's uranium industry, the unipolar system creates more predictability than the bipolar system of the 1970s and therefore the necessity for direct oversight from the state lessened. The regulatory framework, established by the state at both the federal and provincials levels, remains stricter for uranium than other natural resources due to the historic association with weapons manufacturing, but the means of production began opening to the market and private corporations.

A fundamental shift in the production structures between the Blakeney and Wall governments lies with the change from Crown corporations to private corporations. After the provincial and federal governments made the decision to merge and privatize Eldorado Nuclear and SMDC to create the privately controlled and publicly traded Cameco Corporation, the state no longer dominated uranium mining operations in Saskatchewan. For the next two decades Cameco grew, emerged as the largest uranium producer globally in the late 2000s, and played an integral role in renewing the strength of the Saskatchewan economy. Beyond mining, however, Saskatchewan held little involvement in the uranium industry and the provincial government recognized that new partnerships and processes needed to emerge to promote new growth in the industry.

The financial structures in the current uranium era involve a greater range of actors due in large part to the increased corporate involvement. Since the 1970s the landscape of the Saskatchewan uranium industry changed substantially with a majority of mining operations conducted by private corporations. Opening the province to the competition of the market divided the financial structure between state and market. The provincial government no longer held responsibility of financing the day-to-day exploratory and mining operations, instead focusing on its regulatory role. However, if the provincial government hoped to expand the uranium industry, a project required longer-term financial partnerships between state and market. Long-term contracts with the Crown power utility, SaskPower, were critical to provide price protection on energy and to justify the substantial initial capital investment. These types of complicated contracts required a greater level of coordination between state and market than in the 1970s-80s.

The knowledge structures in the current era of the uranium industry place greater emphasis on the research and development aspect than in the past. The University of Saskatchewan increased its association with the uranium industry over the past two decades in the area of research and, consequently, participated in the UDP process to determine the future for uranium in Saskatchewan. Further, the U of S engaged in a partnership with the provincial government to put forward a bid to the federal government to produce medical isotopes. Knowledge structures shifted from the production-centric focus of the 1970s to a more diverse range of knowledge including an emphasis on research and development, allowing the province to explore an increased scope of possibilities moving forward. Further, the focus of industrial expansion increasingly included a socio-economic element. After the release of the 1983 “Red Book” (“Risk Assessment in the Federal Government: Managing the Process”) by the National Research Council, risk assessment became a normalized area in policy creation. Precipitated by the advances in the economy and in technology, a method to measure risk quantitatively became necessary, particularly with respect to an industry such as uranium.⁷⁹ Ensuring human safety in uranium and nuclear development, therefore, meets specific guidelines in the post-“Red Book” era, a socio-economic concern that existed in the Blakeney era that has since been addressed.

⁷⁹ Callahan, Michael A. and Ken Sexton. “If Cumulative Risk Assessment is the Answer, What is the Question?” *Environmental Health Perspectives* vol. 115, no. 5 (2007): 799.

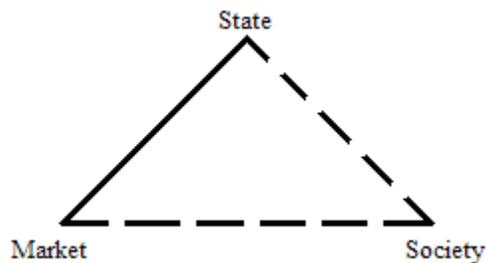
Table 5.1

Structures in the 2000s Saskatchewan Uranium Industry

<i>Security</i>	<i>Production</i>	<i>Finance</i>	<i>Knowledge</i>
Unipolar system continues to require state (provincial and federal) oversight and regulatory policy, but lower focus on global security (Cameco operating in Kazakhstan)	Production now held by private corporations, both domestic (Cameco) and foreign (Areva), while production levels remain regulated by government	Long-term contracts between state and market, increased private credit to promote growth	Universities and research centres heavily involved in the uranium industry, increased innovation

In the 25 years since the refinery debate, the governance model in the uranium industry evolved to include a greater variety of actors. State and market actors now engage in day-to-day relations with open lines of communication. Societal actors also play a much stronger role in the present governance model, as both the state and the market allow more dialogue between themselves and representatives from communities and non-government organizations. However, the extent to which a broad spectrum of actors influence decision-making remains to be seen with research institutions such as the university dominating the discourse.

Figure 5.1



The increase of actors participating in a more open policy process requires a different model of policy analysis and the rounds model better fits the current era of governance. From the beginning of the nuclear energy debates a number of actors have provided varying degrees of

influence in a number of stages from provincial election to the UDP process to the provincial government announcement to postpone plans for a nuclear power plant.

5.3 Change in the Political Climate

The defeat of the NDP in Saskatchewan and the first election win by the Saskatchewan Party had immediate effects on the uranium industry in the province. One of the key platforms the Saskatchewan Party ran on in the 2007 election was the expansion of the uranium industry. Brad Wall, the Saskatchewan Party leader and provincial premier following the election, openly stated his intent to refocus the government's efforts on the uranium industry. The province was and continues to be the largest uranium producer in the world and the Saskatchewan Party argued that priority should be placed in an area of unique opportunity. The newly elected provincial government kept their election promise and quickly went to work assembling a panel tasked with identifying the most desirable and viable option for the future of uranium in Saskatchewan. The panel, the Uranium Development Partnership (UDP), consisted of representatives from business, labour, the environmental community, and academia and set out in October of 2008 to gather evidence and make recommendations for the province.

The re-emergence of uranium as a vital mineral within the province's economic development strategy and the perceived need of the Saskatchewan Party to move in a new direction is a result of global events. As in the 1970s, energy security is once again a great concern for public officials and policy makers. The known fossil fuel reserves are dwindling and their price is sharply higher than in earlier decades. As the reserves shrink and prices inflate the demand for energy also continues to grow. The global population is increasing daily and some new technologies (oil sand extraction) demand more power. Procuring new resources, ironically, also calls for more energy consumption. A clear example of this exists in Alberta where the processing of oil sands will require more energy than is currently available on the electrical grid. This leaves many nations at the mercy of global markets and, with the memories of the OPEC embargo still relatively fresh in their minds, the search for and adoption of alternative sources of energy remains an important policy path.

The search for alternative sources of energy is also fueled by the current concern of rapid global climate change and increasing worldwide recognition of the problems it creates. Fossil fuels became the primary energy source globally, particularly in developed nations, emitting the

harmful carbon dioxide; therefore, a majority of energy produced today also fuels a global environmental crisis. There is now mounting pressure to find alternative sources of energy to reduce the negative effects of climate change. These alternatives include wind, solar, hydro and nuclear, each with their respective positives and negatives. What makes nuclear energy particularly attractive in Saskatchewan is the relative abundance of uranium found within the province as well as the existing infrastructure associated with uranium mining. These factors make nuclear energy expansion within the province an attractive option.

In the middle of the debate the shutdown of the Chalk River nuclear reactor due to safety concerns raised the stakes. The Chalk River reactor was responsible for producing medical isotopes and as a result of its temporary closure there existed a global shortage of medical isotopes. This provided a window of opportunity for Saskatchewan and the premier was vocal in his interest in pursuing an isotope reactor for the province. The result was an agreement between the provincial government and the University of Saskatchewan to enter a partnership to produce medical isotopes. One way or the other, Saskatchewan appeared to be on a path to expanding the uranium industry.

After the failure to bring a uranium refinery to Warman the idea of expanding the uranium cycle within the province died down. Political parties shied away from uranium expansion in recognition of the strong voice of opposition at the public consultations at Warman. This limited the value-added debate around uranium for the next two decades. The 2007 provincial election provided an opportunity for the idea of uranium expansion to be addressed once again. The Saskatchewan Party had narrowly lost the previous election in 2003 with the NDP winning 30 seats to the Saskatchewan Party's 28 but the 2007 pre-election polls showed an almost certain Saskatchewan Party victory. The Saskatchewan Party ran on the assertion that Saskatchewan had tremendous potential that the NDP, it argued, had failed to tap. Part of this potential, they stated, is found in the natural resources within the province and the party promised that if elected they would create Enterprise Saskatchewan, "a new public-private partnership between government, business, labour, First Nations, municipalities, post-secondary institutions and economic stakeholders."⁸⁰

The Saskatchewan Party made clear that one of the purposes of Enterprise Saskatchewan was to re-open a uranium discussion in the province, a topic the NDP was reluctant to discuss.

⁸⁰Saskatchewan Party, "Securing the Future: New Ideas for Saskatchewan," 2007, 18.

In their 2007 platform, the Saskatchewan Party asserted, “Enterprise Saskatchewan will: support research, development and the commercialization of innovation in activities related to energy, mining and agriculture; work with the federal government to increase the number of value-added initiatives for Saskatchewan’s natural resource industries; explore and identify uranium value-added opportunities; and review and address tax measures, infrastructure barriers and export barriers to assess in the value-added development of our natural resources.⁸¹” The Saskatchewan Party believed that the general public in the province were willing to re-engage in a value-added uranium debate and this was a point that they could use to set themselves apart from the NDP, particularly given the mixed message from the NDP caucus on the issue.

It was no secret in the province that for many years the NDP viewed themselves as reluctant partners with the uranium industry and the producers such as Cameco and Areva. One key exception was Blakeney who accepted and even encouraged uranium expansion in Saskatchewan. Even more surprisingly, he did this at a time when uranium was viewed as a particularly dangerous mineral as a result of its association with American and British nuclear weapons programmes a decade before Blakeney was elected. During the 2007 election campaign the specific issue of value-added uranium expansion was not heavily critiqued by the NDP, likely due in part to some of its own members supporting expansion. Instead, the entire idea of Enterprise Saskatchewan drew most of the criticism, but this gained little traction with the voters. The Saskatchewan Party interpreted their win as at least partly based on a platform that included a clear intent to revisit uranium expansion in Saskatchewan, including nuclear energy. The government reiterated this sentiment post election and then began the process the following fall when the Uranium Development Partnership was formed.

5.4 The Uranium Development Partnership

In October 2008 the Saskatchewan government created a panel, the Uranium Development Partnership (UDP), tasked with assessing the possibility of uranium expansion in the province. The group consisted of members of a variety of organizations with the intent of including as many voices as possible pertinent to a discussion of value-added uranium. This meant an examination of the current environment of uranium, both within the province and outside markets, and a determination of whether value-added was appropriate for Saskatchewan

⁸¹ Saskatchewan Party, 18.

and, if so, what form this expansion should take. The UDP panel drew criticism immediately from groups who believed that the provincial government had already made up its mind, that uranium expansion would occur and it was just a matter of how to proceed. Dr. Richard Florizone, the Vice President of Finance and Resources at the University of Saskatchewan and who holds a Ph.D in nuclear physics, chaired the UDP. Eleven more members formed the UDP including: Ray Ahenakew, the former chief executive officer of the Meadow Lake Tribal Council (which had proposed nuclear waste management under his leadership) and current President of Saskatchewan Indian Institute of Technology; Jerry Grandey, the President and CEO of Cameco; Duncan Hawthorne, the President and CEO of Bruce Power; Armand Laferrere, the President and CEO of Areva; Dr. Patrick Moore, the co-founder and former President of Greenpeace Canada (who has since split from Greenpeace); Neil Collins, a former member of the SaskPower Board of Directors; Allan Earle, the President of the Saskatchewan Urban Municipalities Association; Jim Hallick, the Vice President of the Saskatchewan Association of Rural Municipalities; Dr. Edward Mathie, a Professor of Nuclear Physics at the University of Regina; and Alex Pourbaix, the President of Energy, TransCanada Corporation. The purpose of this composition was to strike a balance between the corporate and environmental perspectives, providing advice for the provincial government to keep the province competitive globally in the uranium sector.

Because of the complexity of the uranium industry, the panel required diversity in its membership. Finding the right balance became a critical point for the legitimacy of the panel. Florizone, the panel chair, stated in an interview with the *Star Phoenix*, “I think the best policy or strategy comes when you bring people together from different backgrounds.”⁸² Florizone also indicated that despite the obvious ties members of the panel had with their respective associations, communities, corporations, and interest groups, the panel had the responsibility to remain fair in making recommendations. The mandate of the panel, handed down by the provincial government, required unbiased analysis of the current state of the uranium industry in Saskatchewan and objectivity in the final report. However, the level of objectivity in the panel remained a problem for some groups. Ann Coxworth, a research advisor at the Saskatchewan Environmental Society, rejected an invitation to participate in the UDP because she believed that

⁸² Kyle, Cassandra, “Environment group questions uranium panel objectivity,” *The Saskatoon Star Phoenix*, October 21, 2008.

some answers the panel needed to provide were already foregone conclusions. “I think it’s got a clearly pro-nuclear development mandate and their question is not whether to proceed with development, but how,” she stated in reference to the composition of the UDP panel.⁸³ She continued, “(the group) might objectively look at a range of options like (enrichment, waste disposal and nuclear energy) and consider which would be the least problematic for the province to look in to, but I don’t see that they are mandated to look objectively at whether or not this is the right direction for Saskatchewan to be pursuing in the first place.”⁸⁴ Unsurprisingly, skepticism over uranium development remained since the Warman refinery era and the anti-uranium presence in the province persisted as displayed in the consultations later in the process. Coxworth and the Saskatchewan Environmental Society held the view the uranium development should not be pursued; rather, other alternative sources of energy should be the priority for the Saskatchewan government, a view shared by many other anti-uranium groups. However, the Saskatchewan Party kept steady in their intent to explore all options for uranium development and the UDP did not hide their desire to follow through on this intent.

The Saskatchewan Party made clear during their 2007 election campaign and reiterated thereafter that keeping the province economically competitive was a key priority. After the election the sentiment did not change and the new provincial government kept its promise to explore all possible avenues for expanding on the existing uranium industry. This meant an analysis of the current practices in all aspects of the Saskatchewan uranium industry, a task which the UDP was commissioned to carry out.

The report submitted on March 31, 2009 by the Uranium Development Partnership, “Capturing the full potential of the uranium value chain in Saskatchewan,” laid out four key approaches in their evaluation of opportunities for Saskatchewan uranium. They:

- 1) identified specific commercial opportunities at each step of the chain, examining both uranium’s life cycle and its end-use applications, such as power generation, taking into account the key economic, technical, and environmental trends and forces at work and around the world;
- 2) evaluated the business case for each opportunity, assessing each opportunity’s commercial viability based on its market fundamentals (in terms of demand, supply,

⁸³ Kyle, October 21, 2008.

⁸⁴ Kyle, October 21, 2008.

- and growth) and Saskatchewan's competitive strengths and weaknesses relative to those of its global competitors; this assessment resulted in a financial evaluation of the full life cycle economics of each opportunity;
- 3) estimated the potential benefits accruing to Saskatchewan from each opportunity, calculating the GDP impact and job creating potential based on industry standard models of both the direct and the indirect economic impact; and
 - 4) created a strategy for pursuing the opportunities over time and developed clear recommendations to inform discussions and decision making.⁸⁵

Like other feasibility studies, the UDP panel studied a broad range of variables in determining the best path forward and relevant recommendations for the province. The final report offered recommendations organized into five areas of the uranium industry: exploration and mining, upgrading, power generation, used fuel management, and research, development, and training.

In exploration and mining, the panel found that Saskatchewan remains the global leader, but this position is threatened by nations such as Australia and Kazakhstan. As uranium prices continue to rise, the province needs to expand its existing operations to remain competitive globally. This requires a reassessment of the current regulatory system, infrastructure in the north, and the duty to consult process with First Nations and Métis.⁸⁶ In upgrading, the strong likelihood for increase in the global demand for enriched uranium is most effectively met through expansion in existing facilities, particularly in the United States and France.

Saskatchewan should not pursue development in the current generation of uranium enrichment; rather, focus should be placed on the next generation technology – laser isotope separation.⁸⁷ In used fuel management, the panel suggested passing on reprocessing facilities, for the short term, and instead focus on the Nuclear Waste Management Organization's depository decision making process. The report argues that hosting the long-term repository provides significant employment and GDP benefits for the province.⁸⁸ In research, development, and training, the panel premised this area of uranium development with the nuclear power generation. The suggestion made for a "center of excellence for nuclear research and training with a dual mission of: 1) supporting the existing nuclear industry in Saskatchewan; and 2) developing a nuclear

⁸⁵ Uranium Development Partnership, "Capturing the full potential of the uranium value chain in Saskatchewan," March 31, 2009, 3.

⁸⁶ Uranium Development Partnership, 34.

⁸⁷ Uranium Development Partnership, 44.

⁸⁸ Uranium Development Partnership, 69.

R&D programmes to support emerging opportunities.”⁸⁹ These recommendations made by the panel did not surprise critics or supporters, given the mandate of the provincial government. However, the recommendations for nuclear power generation spurred the greatest interest.

In addition to the Saskatchewan government’s desire to find the best avenue for expanding the uranium value chain, the panel gave three key reasons for exploring nuclear power generation within the province. First, the need for electricity continues to grow and as the planned decommissioning of existing power generation facilities approaches the province needs to find alternative energy sources. Nuclear power generation potentially fills this need. Second, energy needs also exist outside of the province and Saskatchewan could provide low-carbon emission power to neighbors such as Alberta, particularly for the oil sands. Third, the construction of a nuclear power plant would boost the Saskatchewan economy. The report estimated a nuclear power development adds \$12 billion GDP to the province over the lifespan of the power plant, \$1.2 billion during construction and \$10.6 during operation. As well, a nuclear power plant creates 3000 person years of employment during the construction phase and between 400 and 700 long-term jobs during the operation phase.⁹⁰

At the most basic level the purpose of nuclear power generation is the creation of energy. However, as the UDP findings purport, Saskatchewan is uniquely situated to take advantage of existing infrastructure and meet the challenges of the future. The UDP panel estimates in their report that electricity use in Saskatchewan between 2009 and 2020 will grow 1.5 percent annually. Baseload demand – the minimum level of electricity required by a grid at any time – is forecast to increase from approximately 2500 megawatts (MW) to 3750 MW by 2020. In conjunction with the gradual increase in electricity demand, a current power generator, the Boundary Dam, is scheduled for decommission, creating a 540 MW deficit. The combination of these factors means a possible 1500 MW deficit in 2020 and 2600 MW deficit in 2030.⁹¹ Filling the energy need with uranium powered nuclear energy could serve two purposes. One, the addition of nuclear energy to the province fits the Saskatchewan government’s policy agenda. The Saskatchewan Party ran on the platform of developing domestic resources and existing industry and the construction, research, and development of nuclear energy could fulfill this election promise. Two, environmental concerns over the long-term effects of carbon emissions

⁸⁹ Uranium Development Partnership, 9.

⁹⁰ Uranium Development Partnership, 7.

⁹¹ Uranium Development Partnership, 56.

encourage finding low-emission alternatives. This arose due to awareness of global climate change in the academic community and the general public, ensuring government attention to this policy challenge. Therefore, the possibility of nuclear energy presents a clear opportunity for the provincial government. The necessity for additional energy offset through a low-carbon electricity sources appeared to be an ideal policy solution for the Saskatchewan government.

However, questions remained over the viability of nuclear energy in comparison with other low-carbon electricity alternatives and the benefits and challenges for the province. The UDP panel attempted to respond to criticism in their report. They agreed that wind and solar energy are potential clean energy sources for Saskatchewan. Nevertheless, the high start-up costs and lack of reliability mean that, at best, these renewable sources potentially only serve as a supplement to the baseload power supply. Therefore, in low-carbon electricity generation for Saskatchewan, the nuclear power plant remains, according to the panel, the best policy solution.⁹²

In addition to the benefits of potentially cleaner energy for Saskatchewan, according to the UDP panel, the opportunities for creating new jobs and exporting energy make the nuclear reactor a promising investment. As stated earlier, a nuclear power plant adds roughly \$12 billion to the provincial GDP over its lifespan. Also, it creates approximately 3000 person years of employment during construction and between 400 and 700 long-term jobs during operation. Although the direct benefits to Saskatchewan held greatest importance, part of the attraction in pursuing nuclear power generation existed in the possibility for power export. The UDP report estimates that Alberta could face a 4000 to 5000 MW power deficit by 2020 and Saskatchewan is well-positioned to fill this deficit.⁹³ The combination of population growth in Alberta's large cities and the energy intensive processes such as upgrading bitumen and steam-assisted gravity drainage in the oil sands potentially places Alberta in a position requiring additional energy. However, construction and planning of a nuclear reactor brings a new set of policy challenges for the province.

The planning, implementation, and construction of a nuclear reactor is a highly complex process, particularly if the development is a first for the region. These challenges, broadly defined, include the social, environmental, and technical issues associated with construction of a

⁹² Uranium Development Partnership, 59.

⁹³ Uranium Development Partnership, 57.

nuclear power plant. Social challenges include finding a willing-host location – a community willing to accept the risks and inconveniences of a nuclear plant in close proximity in return for the potential economic rewards. The environmental challenges meant finding a suitable location for the power plant while incurring minimal ecological damage. Technical challenges for the province range from licensing to construction. The UDP report points out that if Saskatchewan decided to pursue nuclear energy, the reactor design would be a Generation III(+). This type of construction, a first for Saskatchewan, poses many start-up difficulties such as the aforementioned licensing, as well as labour availability and supply of materials. In terms of licensing, the panel states that the Canadian Nuclear Safety Commission (CNSC) last reviewed a construction license in the 1980s for the Darlington project in Ontario. This, in combination with limited experience with Generations III(+) reactors, could mean a long licensing period, a detrimental delay for the province.⁹⁴ This, however, opens opportunities to cooperate and communicate with governments, such as Ontario, who already know many of the challenges associated with nuclear energy start-up. Regardless of these challenges, the UDP panel recommendation for nuclear energy stood and the province faced the challenge of crafting proposals and gaining public support.

5.5 Response to the UDP Report

The conclusions drawn in the UDP report left little ambiguity about its positive recommendation for nuclear energy. The Saskatchewan government, therefore, believed they possessed the information necessary to move forward in pursuing value-added opportunities. Shortly after receiving the report, the Minister of Innovation and Enterprise, Lyle Stewart, said, "The UDP report has, for the first time in the province's history, put forward a thoughtful, measured and well-researched strategic plan to revitalize and expand Saskatchewan's uranium industry."⁹⁵ The report reaffirmed the direction the Saskatchewan government wanted to pursue. Finding value-added opportunities in the uranium industry appeared increasingly viable and, at the time, the province did not hesitate in pursuing this objective. Stewart acknowledged, however, that before any concrete decision-making with regard to nuclear energy, a public

⁹⁴ Uranium Development Partnership, 64.

⁹⁵ Nuclear Policies, "Panel makes recommendation to Saskatchewan," *World Nuclear News*, April 6 2009, <http://www.world-nuclear-news.org/NP-Panel_makes_recommendations_to_Saskatchewan-0604095.html> (September 16, 2009).

consultation process needed to take place. Even before the UDP panel released their report, posturing between the provincial government, the opposition, private corporations, and anti-uranium groups already started.

The premier, Brad Wall, did not shy away from the question of uranium development during the 2007 election campaign and after winning the election continued to contribute to the growing discourse on the nuclear issue. On February 26, 2009, Wall delivered a speech to the Canadian Nuclear Association in Ottawa on Saskatchewan's current and future role in the uranium industry. He argued that although currently Saskatchewan enjoys its place at the top of the uranium mining industry globally, the province has the opportunity to rebrand itself: "it is the vision of our government that our brand with respect to this resource is one that will involve electrons and one that will involve amazing value-added potential in medical research, in perhaps reactor technology development."⁹⁶ Wall noted Saskatchewan had a long history of working with nuclear materials, including the first Cobalt 60 treatment on November 8, 1951, at the University of Saskatchewan, a global first. Since then, he continued, although the province maintains its strong presence in mining, Saskatchewan has not been a leader of in the research and innovation side of the uranium industry. The current Saskatchewan government vision is designed to change that. He continued, "...the new Government of Saskatchewan is committed to creating the business environment, the research climate, is prepared to partner with real resources and provide the right environment so that we may thoroughly explore the chance for our province to be a leader in value-added opportunities related to this great resource."⁹⁷ The message from Wall is clear; the province wants to create an environment that fosters the growth and expansion of the uranium industry. Research remains a necessary component and the opportunity for expanding other value-added ventures remains an open possibility.

Even though Wall delivered the speech just over one month before the UDP report became public, it appears he correctly anticipated the impending outcome. He referenced two specific points that correlate closely to the recommendations made in the report. First, he stressed the current opportunity for small reactor technology in Saskatchewan. He argued that the interest that corporations such as Bruce Power have invested into the province should not be overlooked. However, he assured citizens of the province that their input is necessary moving

⁹⁶ Wall, Brad, "Speech to Canadian Nuclear Association," Ottawa. February 26, 2009.

⁹⁷ Wall, February 26, 2009.

forward. Second, he reiterated the importance in revisiting the mining industry to ensure Saskatchewan remains a global leader in uranium. Revising the regulatory process, a combination of provincial and federal requirements, he argued is necessary for the advancement of the industry in Saskatchewan.⁹⁸ Although little debate occurred over the importance of uranium mining, the central message of the Wall speech, pursuing value-added opportunities, remained the main point of contention between opposing voices in the province.

Global events, however, began to impact the viability of investing large capital into a nuclear energy project. The collapse of American financial markets due to the credit crunch and the subsequent recession in economies worldwide, a problem largely unforeseen during the 2007 provincial election, made an impact on the government of Saskatchewan's economic outlook. The significant boom in the provincial economy, now tempered by the global bust, challenged government to justify massive capital costs to the public. The speech at the Canadian Nuclear Association delivered by Wall, although still supportive of uranium expansion, did not convey the message of pursuing nuclear energy as strongly. While presenting a positive message, managing both corporate and public expectations became increasingly pertinent to the nuclear development issue.

Two weeks after the Wall speech, a poll of 635 Prince Albert citizens, conducted by Demar Consulting Associates, revealed that 71 percent responded 'yes' to the question of wanting to attract Bruce Power to the region while 24 percent said 'no.' The other 5 percent did not answer. Allan Hopkins, chair of the Prince Albert Chamber of Commerce, expected this type of response, "I think people are looking for economic development in the city, so I think anything that's going to bring that to Prince Albert is going to be a good thing."⁹⁹ The Bruce Power chief executive, Duncan Hawthorne, echoed the support for development in Saskatchewan, in spite of the recent economic downturn. Because a nuclear reactor takes several years before construction begins, the delay for many of the substantial costs enables governments and potential partners to look beyond the current recession. "The economic climate is a cause for concern for all of us, but that doesn't necessarily mean that those conditions will still be there when it comes time to make a big investment decision."¹⁰⁰

⁹⁸ Wall, February 26, 2009.

⁹⁹ CBC, "City of Prince Albert releases nuclear power poll," *CBC News*, March 17, 2009.

¹⁰⁰ The Canadian Press, "Bruce Power seeks to win Prairies' nuclear approval," *CTV News*, March 15, 2009.

The potential for weaker economic conditions down the road and additional money committed to a controversial project could mean defeat for the current government in the next election. Minister of Enterprise and Innovation, Lyle Stewart, retreated even further than the premier in regard to the possibility of nuclear energy, “I suppose there’s a possibility that the economic downturn could play a major role in this thing. Could be a deal-killer in fact.”¹⁰¹ This statement gave a clear indication that Saskatchewan’s plans for nuclear energy experienced a blow with the global economic recession. Stewart continued, “But a nuclear build for Saskatchewan would be some years down the road and I would expect – and certainly hope for – different economic circumstances by then.”¹⁰² These statements came two weeks before the release of the UDP report and although they did not discount the recommendations made in the report, they tempered expectations for those in favour of the immediate pursuit for nuclear power. The provincial government, however, still desired to expand its capabilities in uranium and the opportunity for research and medicine now presented itself.

Days before the UDP panel made their recommendations public, Minister Stewart and the Minister of Energy and Resources, Bill Boyd, announced they signed a memorandum of understanding (MOU) with Bill Rogers, associate laboratory director at the Idaho National Laboratory (INL), on March 17, 2009.¹⁰³ The INL is a nuclear research laboratory in the United States, considered one of the best in that country. The collaboration possible with the MOU allows the province to move forward in establishing a nuclear center of excellence in Saskatchewan. The government still intended to pursue uranium expansion but now the area of focus started to change.

After the release of the UDP report, the provincial government cautioned that although the findings offered exciting possibilities, these possibilities needed public support. Before nuclear energy can become a reality, a public consultation process is necessary. However, as the government prepared for public input into the energy question, the importance of uranium research became increasingly pertinent. Just as Wall alluded to in his speech, the significance of nuclear research in the realm of medicine is a global issue. The Saskatchewan government intended to explore all avenues with regard to uranium expansion, including nuclear medicine. On May 14, 2009, Atomic Energy of Canada Ltd. (AECL) shut down the National Research

¹⁰¹ The Canadian Press, March 15, 2009.

¹⁰² The Canadian Press, March 15, 2009.

¹⁰³ The Leader-Post, “Sask. signs agreement with nuclear research lab,” *The Regina Leader-Post*, March 17, 2009.

Universal (NRU) reactor at Chalk River after the detection of a heavy water leak at the base of the reactor due to corrosion.¹⁰⁴ The repairs took one month to complete and resulted in a global medical isotope shortage. This was the third global shortage in three years. The first shortage occurred in 2007 when Chalk River needed maintenance and global demand outgrew supply. Then in 2008 the world experienced a global isotope shortage due to the scheduled maintenance of four major isotope producers in the Netherlands, Belgium, France and South Africa. The trend of global isotope shortage in combination with the second recent shutdown of a Canadian facility presented a timely opportunity for the Saskatchewan government to expand its own industry.

From the premier's speech in February to the temporary closure of the Chalk River reactor in May, the opportunity for expansion in isotope reactors firmed up. The Saskatchewan government, keen on finding an avenue for value-added expansion, took the opportunity to express its interest in the isotope business. Premier Wall gave a clear statement that exploring the possibility of an isotope reactor in Saskatchewan should be in the plans for the province. He also added that the process should be expedited, building a research reactor within two to three years at the University of Saskatchewan.¹⁰⁵ He acknowledged that while the construction of an isotope reactor in Saskatchewan would not solve the current isotope shortage, additional, small-scale reactors, such as proposed by Saskatchewan, would prevent debilitating isotope shortages in the future. On July 8, 2009, the provincial government and the University of Saskatchewan announced a formal partnership working to bring an isotope reactor to Saskatchewan. The two parties delivered a proposal to the federal government for a 20-megawatt research reactor, the Canadian Neutron Source, at the University of Saskatchewan that could cost between \$500 and \$750 million to construct and \$45 to \$70 million to operate annually.¹⁰⁶ The proposal asks for the federal government to pay for 75 percent of the construction costs and 60 percent of the operating costs with the provincial government covering the rest. Minister Boyd added that these figures were just a proposal and that the Saskatchewan government knew that it might need to contribute more than the proposal states. At the same time, however, the project would not go

¹⁰⁴ CBC, "Global supply under pressure," *CBC News*, May 19, 2009.

¹⁰⁵ Brethour, Patrick, "Premier wants isotope reactor in Prairies," *The Globe and Mail*, June 20, 2009.

¹⁰⁶ Wood, James, "Saskatchewan makes pitch for big-money isotope reactor," *The Saskatoon Star Phoenix*, August 4, 2009.

forward without significant financial contribution from the federal government.¹⁰⁷ The provincial opposition worried that committing to this project would make Saskatchewan vulnerable to future costs currently unseen. The opposition also expressed concern that the proposal for an isotope reactor was a tool for bypassing the public consultation process. However, the Premier Wall and Minister Boyd assured the public that any development remained contingent on the results of the public consultation process.

5.6 Public Consultations

The controversial nature of uranium politics draws both strong support and harsh criticism, putting pressure on government to follow public opinion closely. From the beginning of the Saskatchewan Party term as government, the premier and cabinet promised public input into any decisions made with regard to the uranium industry. Shortly after the release of the UDP report, the government followed through on this promise. On April 8, 2009, the provincial government announced The Future of Uranium in Saskatchewan Public Consultation Process. Dan Perrins, a Senior Policy Fellow at the Johnson-Shoyama Graduate School of Public Policy in Regina and former Deputy Minister to the Premier and Head of the Public Service between 2001 and 2007, delivered a final report of the consultation process on August 31, 2009. The process included: a week of stakeholders conferences with 46 organizations; four days of hearings with presentations from 61 organizations; public consultations in Yorkton, Estevan, Swift Current, Regina, Prince Albert, Buffalo Narrows, Lloydminster, North Battleford, Saskatoon, La Ronge, Stony Rapids, Fond du Lac and Wollaston Lake with 2637 attendees; and 1275 pieces of correspondence from the public in the form of letters, emails, and other submissions.¹⁰⁸ The government expected heavy engagement from the public in the uranium consultation process and stated uranium expansion depended on this process, but the extent to which public input mattered remained unanswered.

In stakeholder meetings hosted by the provincial government at the end of May, pro- and anti-nuclear groups assembled in Saskatoon to voice their opinions on the future of Saskatchewan's uranium industry. As expected, organizations such as the Saskatchewan Chamber of Commerce gave support to the development of the uranium industry and nuclear

¹⁰⁷ Wood, James, "Saskatchewan could end up paying more than proposed for research nuclear reactor in Saskatoon, Bill Boyd says," *The Saskatoon Star Phoenix*, August 4, 2009.

¹⁰⁸ Perrins, Dan, "Future of Uranium Public Consultations Process," 11.

energy while, on the other hand, the Saskatchewan Environmental Society opposed nuclear energy over concerns of accidents and waste disposal. Glen Tait, representing the National Farmers Union, argued that alternative energy sources such as wind, solar and biomass have not been given enough consideration.¹⁰⁹ Anti-nuclear groups believed that energy discussions should include all possible alternatives, rather than just the viability of nuclear energy. Because the UDP report served as the focus of the consultation process, some argued this limited the focus of the discussion. Perrins immediately recognized that organizations and individuals wanted more information about both nuclear energy and other alternatives in order to form their opinions. As well, concerns arose among those participating in the consultations regarding the length of the hearings, preferring a more exhaustive process.¹¹⁰ These became common themes moving from the stakeholder to the public consultations.

The first public consultation, on June 1, 2009, in Yorkton, set the tone for the rest of the process. A videotape presentation from Richard Florizone, the UDP chair, provided information on the uranium industry and the conclusions drawn in the UDP report. However, some individuals in attendance believed the UDP presentation provided too much positive support for nuclear energy without addressing any negative consequences. Frances Thauberger, an individual at the Yorkton consultation, said, “There are always pros and cons with everything and it doesn’t really seem right that we’re only being shown the pros of nuclear.” This statement received applause from other individuals in attendance.¹¹¹ Catherine Cox and Danny Jewitt, also at Yorkton, expanded on this sentiment. They felt that the consultation process failed to provide answers to many of their questions and that the final outcomes were already determined.

The Regina consultations held on June 4, 2009, hosted 400 people, many of whom soundly rejected the idea of nuclear energy. However, John Hopkins, chief executive of the Regina Chamber of Commerce, spoke in favour at the Regina meeting. “The more I read the report, the more that makes a lot of sense. We have some of the dirtiest power generation in the country and clearly nuclear power is the way to address that,” he said, “I think the other opportunity is to become a centre of excellence in terms of research.”¹¹² The crowd, mostly in

¹⁰⁹ CBC, “Pro- and anti-nuke advocates have their say at Saskatoon hearings,” *CBC News*, May 27, 2009.

¹¹⁰ Warren, Jeremy, “Opposition vocal at nuclear hearings,” *The Saskatoon Star Phoenix*, May 29, 2009.

¹¹¹ CBC, “Yorkton, Sask., public offers input on uranium proposals,” *CBC News*, June 2, 2009.

¹¹² Hall, Angela, “Anti-nuclear opinions dominate uranium forum in Regina,” *The Regina Leader-Post*, June 5, 2009.

opposition to a nuclear reactor, again suggested that the discussion ought to include non-nuclear alternatives.

On June 8, 2009, in Prince Albert, a potential site for a nuclear reactor, the consultations drew almost 400 individuals. Again, concern from the participants stemmed from wanting more answers and information on nuclear energy. Marion Bear, from the Muskoday First Nation, stated, “there is no provision made for questions, answers, or anybody who’s knowledgeable enough to answer some of the questions. Also, the insufficient amount of information we’re actually being given [*sic*].”¹¹³ As well as those unsure, the Prince Albert consultations attracted individuals in strong support and opposition to nuclear energy. Opposition concerns ranged from the costs of implementing nuclear power to the problems associated with waste storage. However, some did not share these concerns. Jim Smith said, “No, I really, really was not convinced at all. In fact, a lot of the speakers who got up just loved to hear themselves talk, and what they were talking about was full of innuendo.”¹¹⁴ But despite some support for nuclear energy, the anti-nuclear movement effectively mobilized during the consultation process and this reflected heavily on the Dan Perrins report.

In the final report, Perrins organized his findings into 16 themes and 9 recommendations. The 16 themes, derived from the input from all participants in the consultation process, directly addressed topics in the UDP report and put forward new ideas the public found relevant. These themes included: opposition to nuclear power generation, concerns about health, safety, and the environment, costs of uranium development and support for alternative energy sources.¹¹⁵ According to Perrins, minimal public support for a nuclear reactor existed and, at the very least, the public wished to be better informed. This included in-depth analysis of the costs and risks associated with nuclear energy as well as similar analysis into renewable energy sources. Perrins suggested in his report that the province should produce a consolidated report on all potential power generation options. This report should include an outline of all available options and the health, safety, environmental and economic variables for each of the options.¹¹⁶ Given the positive response in polls leading up to the consultation process, these themes and

¹¹³ CBC, “400 attend uranium meetings in Prince Albert, Sask.,” *CBC News*, June 9, 2009.

¹¹⁴ CBC, June 9, 2009.

¹¹⁵ Perrins, 12.

¹¹⁶ Perrins, 15.

recommendations gleaned from public opinion likely came as a slight surprise to the provincial government.

Days after the release of the consultations report, Minister Boyd responded, “For us, this is a yellow light. It’s not a stop, or a go.”¹¹⁷ The Saskatchewan government remained reluctant to accept the results of the consultations, likely due to the nature of the issue. The anti-uranium movement provided the strongest voice during the consultations and the province recognized the impact they may have on the process. The government knew this outcome remained a possibility, given Saskatchewan’s history, and the response from Boyd reflected this. The possibility of nuclear power in Saskatchewan tempered even further when Premier Wall suggested that cost may be the issue with regard to nuclear energy, “I think cost, even for (nuclear) proponents and supporters, is the most important considerations...even for those who are comfortable with the health and safety, comfortable with the environmental implications, the cost issue is still there.”¹¹⁸ Wall stated that pursuing nuclear energy may force the province to rule out the pursuit of other new energy sources and he preferred SaskPower to not be reliant on a single energy source. The economic downturn also proved catastrophic for the government. Trying to justify massive spending in a volatile economic climate created political problems. Although, he still believed that nuclear energy remained a possibility in the future, his statements implied that the public consultations in combination with the economy delivered a severe blow to government aspirations. The anti-uranium movement proved effective in preventing the nuclear energy process from moving forward, forcing the province to rethink its strategy of whether nuclear energy remained a possibility for the future. In December 2009, the provincial government delivered a final verdict of shelving nuclear energy for the short-term. Minister Boyd explained, “when you look at all of those kinds of things – cost drivers, demand, all of those things – we are of the view that [nuclear power] is simply not something that meets with the need of Saskatchewan at this particular time.”¹¹⁹ However, he maintained that nuclear energy should remain a possibility in the future, possibly as soon as 2020. Whether the economic downturn or negative public consultations played the key role in the provincial government’s decision remains to be seen, but the political and economic climate altered enough to stop the process for uranium cycle expansion once again.

¹¹⁷ White, Patrick, “Public cautious about nuclear power,” *The Globe and Mail*, September 18, 2009.

¹¹⁸ Wood, James, “Nuclear power costly: Wall,” *The Saskatoon Star Phoenix*, September 17, 2009.

¹¹⁹ Hall, Angela, “No, for now, on nuclear,” *The Saskatoon Star Phoenix*, December 18, 2009.

5.7 Bargains During the UDP Process

Following the Saskatchewan Party taking power, the government set to work establishing a network of bargains to evaluate and possibly expand the uranium industry. In keeping with its election promise, the Wall government went to work building connections with both the industry and the community. The province wanted to ensure an open process took place in the assessment of the uranium industry and created the UDP in an effort to accomplish this task. The UDP panel consisted of individuals from academia, the energy sector, the uranium industry, environmental groups, First Nations, and municipal and rural representatives. These individuals aimed to evaluate and make recommendations for the future of the uranium industry. The composition and intent of the UDP panel marked a sharp contrast to the process during the Blakeney era.

The variety of actors involved in the recent process enabled the Wall government to conduct an open analysis, looking at all avenues of expansion in the uranium industry. As opposed to the Blakeney government, which selected a refinery as the beginning of the process, the Wall government emphasized the necessity to begin the process open to all possibilities. Before the UDP came into existence, however, the provincial government hinted that nuclear energy provided the most viable option for Saskatchewan and the UDP recommendations correlated with the Wall government's predictions. The openness of the process, therefore, can be debated but the intent of including the diverse groups of actors in the UDP panel can not be ignored.

In focusing on expanding the uranium industry for the first time since the 1970s, the Wall government wanted to avoid the mistakes made in past attempts. The lack of familiarity and coordination between government and industry during the Blakeney era played a significant role in the failure to construct a uranium refinery in Saskatchewan. Today, mining corporations such as Cameco and Areva and the provincial government have normalized working relationships. Although most of these relationships revolve around regulatory and taxation policies, the familiarity between the state and market simplifies the process of creating new agreements. Because pursuing nuclear energy became the new policy objective the connections the province held with Cameco became invaluable with their links to Bruce Power, a major nuclear energy producer in Ontario. Cameco first acquired 15% interest in Bruce Power in 2000, which it expanded to 31.6% in 2002. The direct link with Cameco and the subsequent links to a nuclear

energy producer in Bruce Power placed Saskatchewan in a position to make a serious attempt at nuclear energy.

Beyond the strengthened relationships with industry, the province also focused on ensuring sufficient input from the public and non-government organizations. The Wall government wished to emphasize the importance of input in the process from sources other than state and industry, including individuals from the First Nations community, Greenpeace, and urban and rural representatives in the UDP panel. During the creation of the UDP, however, individuals from the environmental community argued that participation in the process remained futile and that the decisions on nuclear energy had already taken place. At the end of the evaluation, to little surprise, the UDP recommended pursuing nuclear energy, but this recommendation gained greater legitimacy due to the diversity in the panel.

After the UDP recommendations became available to the public, the provincial government initiated the public consultation process. As promised by the Wall government, the public consultations gave both the general public, as well as organizations not included in the UDP, to voice their concerns, approval, and disapproval on the conclusions made in the UDP report. The consultations process indicated a predominantly negative public view towards nuclear energy, reducing the likelihood the province might pursue this form of energy. At the same time, the economic prospects for Saskatchewan began to diminish. The global economic downturn precipitated a similar downturn in Saskatchewan, further damaging the viability of nuclear energy. And in December, 2009, the provincial government stated that nuclear energy no longer remained in the current policy agenda and would be addressed at a later date.

The bargains during the recent attempt to expand the uranium industry exemplified the shift in governance styles from the 1970s to 2000s. The Wall government put emphasis on the importance of industry's role in developing the uranium industry, although this emphasis partly came out of necessity. As the relationship between state and industry evolved over the past decades, the interconnectedness between the two entities ensured cooperation. In addition to the strengthened role of industry, the provincial government also focused on new bargains with communities and non-governmental organizations. Giving representatives from a third segment of society a seat at the table traditionally reserved for state and industry marked a change in governance in Saskatchewan, as well as at the global level. Broadening the range of input in the policy process allows for a more informed process but, more importantly, gives greater

legitimacy to the resulting policy. For the Wall government, the value of legitimacy in any process involving the uranium industry could not be underestimated, particularly with regard to the process of past attempts to expand the industry. Had the economic circumstances played in favour of expansion, the steps taken by the provincial government may likely have proved successful.

CHAPTER SIX CONCLUSION

6.1 Summary

Saskatchewan's rich uranium history traces back to the 1930s, with the first discovery of the mineral in the province. After twenty years of dormancy, the Canadian government displayed interest in the Saskatchewan uranium reserves to supply the American and British weapons programmes during and after WWII. This became a major federal initiative and the Saskatchewan uranium era began.

For the next fifty years, the uranium mining industry was only modestly important to the provincial economy. After experiencing steady growth for over a decade, the industry hit an all-time low in demand after the end of purchases from the United States and Great Britain. Saskatchewan felt the effects of the downturn in the global market and, along with the rest of Canada, reduced the number of active mines. Shortly thereafter, the creation of OPEC and the embargo it placed on oil forced governments to reevaluate their energy supply. OPEC drove oil prices to record highs, and states looked to alternative sources for energy security. Nuclear power emerged as a popular alternative in Western nations, putting uranium back on the map.

The renewed strength of uranium allowed the Saskatchewan government to reassess its uranium policy and its place in the uranium industry. During the 1970s, uranium upgrading responsibilities rested with Ontario, a fact the Blakeney NDP government hoped to change. The Saskatchewan government revised mineral policy and created a new, pro-business Crown corporation, SMDC, to attract new uranium ventures to the province. Eldorado Nuclear, a federal Crown interested in constructing and operating a new uranium refinery, became one of the initial targets of the new policy and Saskatchewan became a potential site. The province and Eldorado Nuclear began discussions on how to proceed and developed a three-phase site assessment process. After Eldorado Nuclear indicated it had selected the most viable location, the province requested alternative sites remain in contention. This request stemmed from the growing anxiety in the public. As a result, the two parties failed to come together before the federal inquiry on the viability of a Saskatchewan site. During the inquiry the public hearings encouraged mobilization of a well-organized anti-nuclear movement in the province. Because of the combination of disagreement between the provincial government and strong concern from

the general public, the federal inquiry could not approve a refinery for the province. The option for value-added expansion was shelved for over 25 years.

In the following two decades, the Saskatchewan uranium mining industry continued to grow. As uranium mined in the province continued to supply energy and medical demands around the globe, SMDC and Eldorado Nuclear merged assets to create Cameco Corporation. Control ultimately passed from state control to public control through series of divestitures. Cameco grew into the largest high-grade uranium producer in the world, making Saskatchewan the largest uranium producer.

The 2007 provincial election ushered in a new round of discussions of uranium expansion. The Saskatchewan Party hoped to revisit the issue of value-added uranium development and, after taking control of the provincial legislature, created the Uranium Development Partnership to evaluate potential growth in the industry. The UDP submitted a report to the provincial government and advised expansion into the nuclear energy industry, a recommendation welcomed by some and rejected by others. The Saskatchewan government went to work on the recommendation, displaying public support for nuclear expansion and engaging in discussions with potential reactor operators such as Bruce Power. At the same time, the anti-nuclear movement worked to gain support amongst the undecided public. Before any decision making could occur, the government promised a public consultation process to gauge opinion throughout the province in an effort to learn how to move forward with nuclear energy. The public consultations revealed strong skepticism throughout the province and, once again, showcased the organization of the anti-nuclear movement. Due to global economic events, the strength of the provincial economy also ebbed after the submission of the UDP report, raising doubts over the ability of the government to finance this massive project. The combination of the consultation process and the weakened economy leaves the future of Saskatchewan nuclear power in limbo. The events over the past two years, though, provide interesting comparisons to the expansion attempt of the Blakeney era.

6.2 Discussion and Implications

Despite mining uranium for over fifty years, only two substantial attempts at expanding the value-cycle have been made in Saskatchewan. While some might argue neither was successful because the economic and commercial case simply did not support the initiatives, the

processes that unfolded reveal much about how governing processes have changed in Saskatchewan over the past quarter century. These two attempts give insight into the nature of provincial politics and the politics of the uranium industry. Both attempts, the uranium refinery and the nuclear reactor, emerged initially in the face of positive economic conditions and strong political leadership; nonetheless, differences in their respective processes could spell different outcomes between the refinery, which ended in failure, and the nuclear reactor, the outcome of which is yet to be determined.

A key distinction between the refinery efforts and the pursuit of a reactor stems from the circumstances which drove their specific avenues of expansion. On the one hand, although the Blakeney government first looked at any option for value-added expansion, the refinery proposal became the single option for the Saskatchewan government after it recognized Eldorado Nuclear's need for the facility. The process, therefore, was structured largely as a project-based endeavour, somewhat analogous to Teisman's phase model. On the other hand, the Wall government desired expansion in the uranium industry after analysis and evaluation of all possible options of energy supply. From this evaluation, conducted by the UDP, the current government accepted the recommendation of pursuing nuclear energy. These two events illustrate examples of the evolution in governance and of the changing role of the provincial government, as it appears to be operating more with a streams or rounds style of policy making.¹²⁰

In the refinery era, the provincial government carried out decision making in a state-centric manner. The decision to court Eldorado Nuclear came without an election mandate or any other form of public approval, a fact that became apparent when the attempts to purchase land for the refinery surprised the public. In the state-centric model the decision-making process remained closed, further limiting the input to and the options for government. For the Blakeney government, the refinery process held two outcomes - success or failure, construction or termination. The closed, rounds-based policy process prevented the state from adapting to changing circumstances, severely limiting the options for the Saskatchewan government.

Today, the process is deliberately more complex, underlining the evolution of governance structures and processes in policy making. In an issue as contentious as the uranium industry, Wall's Saskatchewan Party included determining the viability of uranium expansion as a major

¹²⁰ Teisman, 946.

plan of the party platform to ensure public awareness during the election campaign. By winning the election, the Saskatchewan Party judged that it had received a mandate from the public to pursue this policy. This election mandate, however, remained insufficient, and the government moved to the next step in the process, an independent viability study. The UDP report represented an evaluation of the uranium industry separate from government, a procedure common in the phase and rounds models of policy making in governance today. The UDP also served as an avenue for multiple actors from a variety of backgrounds to become involved in the process. The inclusion of individuals from the corporate sector, the environmental sector, and the community (including First Nations) exemplify a marked change from the refinery era. For the Wall government, the importance of giving more people a seat at the table rests both in the knowledge and the legitimacy these individuals bring to the process. Although both the refinery and the reactor eras reached the public consultation process, the federal government initiated the refinery hearings. In the process today, the provincial government planned public consultations from the beginning and kept the entire process relatively open and transparent throughout. The differences in the respective processes rest in the changes in policy systems over the past three decades.

The policy system in place today encourages, perhaps even requires, input from a broad range of actors into the policy process, particularly one as complex and involved as the uranium industry. During the refinery proposal the policy system allowed little collaboration between government, corporations, and communities and interest groups, and this resulted in a truncated policy process which severely limited potential for development. This system forced the Blakeney government uranium policy to live or die, with a specific project. Because the Wall government enjoys more flexibility with the evolution of the policy process, it is more able to adapt to changing circumstances, as seen with the shift from nuclear power to nuclear medicine and nuclear research. Although the older model of policy making allowed governments to force through policies more easily, not all policies were successful under this model (i.e. the refinery). A large part of this failure can be attributed to the public hearings, a sign of change in the policy system.

For both the refinery and reactor processes, the public consultations proved more problematic for government and industry than expected. Whether or not the Blakeney government fully recognized the potential impact that the anti-nuclear movement could bring to

the process during the hearings, this movement proved instrumental in ending the hopes for a Saskatchewan refinery. In contributing to the outcome of the policy process, the refinery public hearings emphasized the importance of direct citizen participation. Opening all policy debates to the public input remains impossible but, in the case of issues as contentious and complex as uranium and energy, gauging public support or opposition serves as a useful policy tool. How well public hearings gauge overall public opinion, however, is a debatable issue itself.

During the reactor process the Wall government assured the public that open consultations would take place and that the outcomes of these consultations would play into the final decision making. Despite planning the public consultations and knowing that the public consultations were one of the crucial components for the refinery failure, the provincial government appeared slightly surprised by the outcome. Polls leading up to the consultations displayed substantial levels of support for nuclear energy, yet support in the polls did not translate into support in the open forum. In the current situation, the result of the consultations may not matter, and may serve only as an excuse for other factors such as the unexpected provincial economic downturn and the large capital investment required for a nuclear reactor.

Before the nuclear energy consultations took place, the Saskatchewan government began to change its message with regard to uranium expansion, once the strength of the provincial economy declined. Nuclear energy slowly moved into the background. The speech delivered by Premier Wall to the Canadian Nuclear Association, though still supportive of uranium expansion, did not convey the same level of support for nuclear energy as expressed in earlier statements. After his speech, the government continued to put forth a positive message, but managing both corporate and public expectations became increasingly challenging to the nuclear development issue. Saskatchewan increasingly felt the effect of the recession in the global economy, and the government realized that selling a multi-million dollar reactor to the public seemed increasingly unfeasible. Although Bruce Power argued that the province could start the planning phase now and make payments a few years down the road, this type of commitment would permanently tie the provincial government to a nuclear reactor project, a potential problem without any future economic certainties. The possible combination of encountering weaker economic conditions down the road, and the tremendous amount of money committed to a contentious project could contribute to defeat for the current government in the next election. A nuclear reactor for medical purposes, therefore, presented the best option in the current circumstances. This type of

reactor would receive significant federal funding and selling a medical project to the public remains an easier task.

If the expansion of the nuclear cycle remains a possibility in the future, two critical areas need to be addressed. First, the Saskatchewan government must wait for the ideal economic conditions before moving forward. At the beginning of the current effort to bring nuclear energy to the province, the economic conditions appeared ideal: the international economy remained strong, and the Saskatchewan economy began to peak. If these conditions were sustained throughout the process, the Saskatchewan government would likely be in the planning and development stages of nuclear energy. Therefore, first and foremost, the provincial government needs the economy to re-strengthen before nuclear energy can even be considered. Second, the government needs a massive public information campaign. If the economy remained as strong as the pre-recession period a public campaign may not be necessary. In this scenario, the government possesses enough financial freedom to make an executive decision. However, ideal economic conditions remain unlikely to persist for an extended period of time and, therefore, shoring up more public support for a nuclear energy project may become necessary to win future elections. Although presentations made by the UDP during the public consultations favoured nuclear energy, a lack of information became the overwhelming response from those in attendance. While a public campaign would do little to change the minds of those firmly in opposition to the uranium industry and to the production of nuclear energy, it could gain support from undecided individuals. Government provided information on nuclear energy directly answers one of the major questions during the public consultations, and could prove a difference-maker in future attempts for nuclear energy and future provincial elections.

The refinery debate in the 1970s and the nuclear energy debate from 2007-2009 exemplify the changes in governance models and processes. The security structures during the refinery era continued to be driven by the Cold War and the bipolar system. Understandably, the state held control over regulation, as well as production and distribution during this period and the focus on security meant state control permeated the other two structures. Holding control over regulation and production meant that the state also controlled the institutions responsible for credit and knowledge. The provincial and federal governments financed the majority of uranium endeavours in Saskatchewan and as seen in the Blakeney government's attempt to expand the

cycle, resulted in a closed process. The lack of familiarity between the provincial government and industry created obstacles and disagreements in the process that could not be overcome.

The nuclear energy debate displayed a different style of governance, designed to avoid many of the problems associated with governance in the 1970s. From beginning to end, the Wall government aimed at keeping the process open and transparent. The lines of communication between government, industry and the community have improved over the years. The increased diversity of control over the four major structures removes traditional power from the state but creates improved conditions for relationships between state, market, and society. The state still controls the security structures, but leaving production structures primarily in the hands of the market and allowing academic institutions greater influence in the knowledge structures places emphasis on predictability and routine between the interconnected actors. Given more favourable economic conditions in 2008 and 2009, Saskatchewan might have begun the first stages of nuclear energy development. The failure of the recent nuclear energy process to move forward lies primarily with conditions set by outside economic forces, while the failure of the refinery process rests with the inability of the internal structures (state, market, and society) to cooperate and come to agreement.

6.3 Limitations and Areas for Further Research

This study compared the governance structures of two key events in Saskatchewan's uranium industry: the refinery debates and the nuclear power process. While the refinery debates ended 25 years ago, the nuclear power process continues. The joint submission from the Saskatchewan government and the University of Saskatchewan for an isotope reactor remains in consideration. The analysis in this thesis, therefore, ends before the current process has been completed.

Also, this thesis aimed at providing a complete story of the Saskatchewan uranium industry by concentrating on two key events within the story. Deeper analysis into these two events, such as structured interviews with relevant participants and mapping connections between pertinent actors, may elicit a fuller understanding of the governance structures, why specific decisions were made, and how outcomes emerged. As well, a question of efficacy in democratic participation and engagement enters this thesis, particularly with regard to the public consultations. Further research into which types of public participation (voting, open

consultations, referendums, polling, focus groups) elicits the most valuable input into a policy process may help inform how certain policy outcomes emerge.

Finally, the analysis in this thesis focused solely on the Saskatchewan uranium industry. Despite a notable change in governance structures and processes within the province, the outcomes were similar. To better gauge the significance of different governance structures, further research could include a comparison of foreign uranium industries. Looking at the governance structures and consultation processes in nations such as Sweden, Finland, Germany and France may offer a better comparison of governance models.

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