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Community Decision-Making In A Project Environment

by

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ABSTRACT

This thesis is an analysis of decision-making by affected community residents in a natural resources development project which impacts the social and physical environment. The study reviews past projects to assess how public participation, which allowed the affected area residents to make decisions in areas where they were directly affected, was carried out.

The results of a longitudinal study conducted on the Keephills Power Project in Alberta and personal experience with a project are used to examine the relationship that exists between decision-making by an affected community and the success of a project.

Public participation in projects is a relatively recent initiative. To date, public participation has generally consisted of soliciting input on attitudes toward projects rather than soliciting specific concerns and allowing the project to be guided by the community, including how public concerns could be mitigated.

The results of this study indicate that affected residents not only appreciate having some degree of decision-making delegated to them, they expect it as their right and will support a project if they see merit in the project and are allowed some choice in how the effect on the local population is handled.

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INTRODUCTION

1.1 PROBLEM

Whenever industrial projects are located in areas occupied by people who are content with their lifestyle there is potential for conflict. Should the proponents of a project take the local residents into consideration in the planning process for any project? A more philosophical question that could be asked on this topic is: Who has the right to decide what is best for the affected people? Another way of looking at the situation is from the viewpoint of: Who has the obligation to ensure that the concerns of local people are not ignored in the process of proposing, planning and carrying out a project? Whatever process is undertaken to deal with the concerns, it may or may not resolve conflicts. Nevertheless it is important that all viewpoints be discussed and an understanding be reached on what the issues are.

The author believes this to be important because the affected community and the proponent of the project will be putting their viewpoints, relative to the project, in front of the public and a regulatory body which acts on behalf of the public. This takes place through the public hearing process for projects that require the

approval of a regulatory authority, and in the media for all non-regulated projects that attract the attention of an interested public.

In this approach, the project proponent and the affected community can act as partners who respect each others' interests and strive to achieve a situation where all parties benefit, or they can act as adversaries where it becomes a choice between one side or the other. The author believes it is in the best interest of the affected community and the project proponent to attempt a partnering approach, unless each party to the process is so opposed to the other that there is no room for compromise. If this latter situation were the case, it may be appropriate to consider other approaches to solve the impasse.

In studies of several projects, and especially the Keephills project carried out by TransAlta Utilities Corporation[1], the author has developed the perspective that allowing the affected community to have a place in the project team, and having the community make decisions where it is directly affected, results in a project that is more successful[2] than where this process has not been used. The process whereby the public can play a role in a project is called public participation.

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[1]TransAlta Utilities Corporation was formerly named Calgary Power Limited. The company changed names in 1980.

[2] A successful project is defined by the author as a project that proceeds from conception to completion for the purpose intended, on a predetermined schedule and budget.

Goldenberg (1984) defines success of a public participation program related to the degree the public have directly influenced policy and played an active role in decision-making. While this definition is valid from the perspective of the affected community in all cases, and the proponent of a project that proceeds to completion, it does not satisfy the needs of the proponent where public participation stops a project.

Another aspect of success is that it has the potential to change with time. For example, a project that was over budget or late on schedule initially can become successful with time if it meets or exceeds operating expectations and there is a continued need for its output. Conversely, a project that was judged successful initially can turn sour in people's perception if it does not live up to expectations. For example, if it has some long term pollution associated with its operation.

It is sometimes difficult to judge success in the classicial project management criteria of cost, schedule, quality and safety because for new projects, such as an oil sands plant, for example, when the initial budget is set there are many unknowns. It is only later, when all the demands are known and the engineering virtually complete, that the schedule and budget can be considered realistic for first time projects. With repeat projects, such as gas

plants and power plants, it is easier to define the scope and, therefore, easier to measure success in terms of cost, schedule, quality and safety.

These concepts should be kept in mind when project success is being evaluated. The perception of success changing as time moves on is particularly intriguing in the context of initial and continued public participation and public decision-making in projects, but is, however, beyond the scope of this thesis.

The challenge is that not all participants in a project perceive public participation in the same way. HERA (1987) found in their research on the Keephills project that:

> "Public participation, as defined by the residents of Keephills, means the involvement of local residents in decision-making activities related to the Keephills Power Project."

For the present research, this will be the definition used although at times there may be slight variations of the definition of the concept. For the affected community, there will always be some things that the community residents think should be done differently than is being proposed by the project proponent, and they would very often like to have more influence on aspects of the project which

affect them. Even within the community, there is likely to be diversity of opinion on how issues should be resolved.

From the company side there may be a tendency to view public participation as interference with progress, and therefore the company may be reluctant to support it to any great extent. It may also be difficult for technical professionals to realize that the "facts", as determined by themselves, are not always the deciding factor in resolving issues. This strikes close to the heart of the problem that many companies have with the concept of public participation which allows communities to participate in project decisions. It was stated very well as follows:

> "Any individual's decisions will be determined not only by the facts as discovered by research but also by his values, which determine the import of the facts for him." (Sellitz et al, 1961)

The "facts" themselves can be in dispute if the individual doubts the motivation or ability of the person providing the "facts". As evidenced by pulp mill issues before the public in Alberta and much discussed in the media, the Edmonton Journal and the Calgary Herald (winter, 1989-1990), the facts depend very much on who provides them. Before people with technical education and skills can provide information to an affected non-technical public, they

must accept that the public's perception of "common sense" may be more important to them than empirical research results.

This "common sense" approach may be more noticeable in a rural community where a farmer is his/her own business manager, project manager, sales person, purchaser and labourer for all activities and projects that are necessary for the operation of their farming or ranching business. The skills they develop for their own use look similar in many respects to the skills that the engineers and project managers employed by the proponent are relying on as their technical expertise. The proponent may have to deal with the possibility that the affected residents will see this "common sense" experience as being equal in all respects to the education and experience of the technical specialists. The author found support for this analysis of the proponent's attitude in the literature (Goldenberg, 1984, p. 34).

This does not mean that the affected population does not have valid expertise. Today most people in our society have the education and experience to comprehend complex documents and the ability to apply their own background and experience to what they understand the proposal to be. They are able to make accurate assessments of what their exposure to the project will be, and how likely it is to affect their lifestyle and property.

In human interaction, perception creates an individual's reality. In making this assertion, the author has no intent of diminishing the importance of the technical expert or the research results and evidence provided by technical experts. The intent is to draw attention to the possibility that the evidence may not be perceived objectively as sensitive issues are resolved, and all parties are ready to identify and define the issues similarly, or at least appreciate other definitions of the situation. People do not always trust research results to the same degree that they trust their senses and their preconceived notions. People may also believe that the proponent's experts are less than objective in gathering and presenting their evidence. The potential for this to happen is magnified greatly when the parties to the discussion do not see the problem in the same way or are not even looking for solutions to the same problem.

As an example of how different perspectives on a situation will highlight different problems, consider a case where the project proponent is putting a great deal of effort and research into environmental studies and mitigation proposals for a new plant. The project proponent is attempting to show that the environment will be affected minimumly by its project. The affected area resident may look at the same proposal for the project and see his home disappearing and his livelihood and lifestyle changing. For these two parties to share in problem solving, they must first go

through a process that will lead them to agree on what the problems are.

The author does not believe the proponent's technical support staff are alone in the need to broaden their thinking. Affected communities will need an understanding of how the research process works and the importance that professionals attach to the integrity of their work. Although they may wish it did not affect them directly, affected communities also need to appreciate the role of development in our society.

This thesis is an analysis of decision-making by affected community residents in a natural resources development project which impacts the social and physical environment. The study also reviews past projects to assess how public participation allowed the affected area residents to make decisions in areas where they were directly affected.

Using the project to construct and operate an electrical generating plant at Keephills, Alberta as a framework for studying public participation, the author will show that the Keephills Power Plant project was successful by the definition given earlier, and that a factor in the success achieved was a public participation process that gave the affected community authority over some decision-making aspects of the project.

1.2 BACKGROUND

Although some reference will be made to projects such as pulp mills and dams, the focus of this study is to investigate the social processes which occur when an electrical generating plant is developed. To understand the context of the problem identified, it is necessary to have some understanding of the physical, cultural and regulatory environments to which electrical generating plant projects are subject to in Alberta.

When an electrical generating plant is proposed for construction, the search for a location for the plant is an attempt to find the optimum mix of many factors such as:

- surface topography for cooling ponds and canals;
- sub-surface geotechnical conditions for foundations and buried services;
- access to services such as shops and suppliers;
- infrastructure such as roads, railways;
- labour availability;
- system conditions of the Alberta Interconnected electrical grid;
- proximity to fuel and water supplies;
- environmental issues, and
- social issues.

This lists only a few of the factors in site selection. Because every project and site is unique, the list of potential factors fluctuates and is virtually limitless. Due to the focus of this study and the complex nature of site selection, the author is not ranking them in order of importance. Each project will assess the various factors and assign weights to them. While there may be some stability in the rank order of each factor, there is considerable variation over time and space. The nature of site selection is such that every party to the project has their own priority for ranking the factors in order of importance. This is true within the proponent's organization where there may be differences between the soil scientists and the hydrological engineers who both have their own needs. It is also true that the affected community will have different rankings. The differences within the project tend to be of a technical or engineering nature while differences between the proponent and the affected community will be based on broader social and economic or environmental issues.

Electrical generating plants and their associated cooling facilities, fuel handling systems, roads, railways, and transmission lines take up space that is often being put to some other use at the time the generating plant project is being proposed. Thus there are often many parties interested in the effect the proposed project will have on the property and lifestyle of residents in the vicinity of

the proposed project site. To fully comprehend the differences among the various stakeholders, a complex matrix would have to be developed which would allow each party to indicate their relative weighting. While this would aid comprehension, it is unlikely it would align the parties in any significant way.

The challenge faced by a proponent of any project today is how to strike a balance among all the factors affecting a project, as well as dealing with the concerns raised by various interest groups who feel the project will affect them, such that the proposed project is acceptable to the political body that regulates it as well as the community it is intended to serve. In the process of balancing these factors, the issue that is often least understood and most discussed is the effect the project will have on the residents. These effects may be either real or perceived.

Mr. Vern Millard, a past chairman of the Energy Resources Conservation Board, discussed the ability of the existing hearing process to address the balancing of these factors in a paper on public involvement and environmental negotiation (Millard, 1987). He noted the following deficiencies in the public participation process:

"1. It is formal and adverse which frequently exacerbates conflict between the parties rather than resolving it;

2. It does not provide for a full exchange of information or a forum to deal effectively with the concerns of the affected public; as a consequence the concerns of the public frequently remain even after the process is complete and the decision rendered;

3. It results in a win/lose situation with the public almost always the loser."

Mr. Millard stated in another presentation that "The current system can be relied on to provide the parties with a decision but it has serious limitations in solving the problems or concerns of local people."

While these concerns exist for almost any industrial or commercial development, it is of special interest where an electrical generating plant is concerned because legislation allows the proponent to act in a unilateral fashion. For example, land can be expropriated on the grounds that the construction and operation of the facility will benefit a majority of the citizens in a geo-political region. Examples of other types of projects that fall into this category would be highways, railways and airports. The Expropriation Amendment Act, 1981, Section 27 (2) states: "The Surface Rights Board has jurisdiction with respect to expropriations

under this Act authorized under or pursuant to (a) Section 31 of the Water Resources Act, or (b) the Hydro and Electric Energy Act with respect to power plants." In the case of the Keephills Power Plant, as would be true of any power plant or transmission line in Alberta, once it was approved by the Energy Resources Conservation Board it fell under Section 27 (2)(b).

Where the threat of expropriation exists in a proposed project, some of the conditions we have come to expect in interactions between people are changed. The concept of voluntary behavior is placed in jeopardy. For example, the concepts of a "willing buyer and a willing seller" that govern most transactions are not required where there is a perceived benefit to society at large. Despite this, there is still a need to complete a project once the public hearing process has determined that the project is required. There is also the political and social reality that if a project is too controversial at the time of application to the regulatory authority for approval, it may be perceived and then defined as being more negative than positive and, therefore, not approved by the regulators.

The Camrose-Riley project is an example where a proposal for a generating plant met with considerable objection from the local community. The objection, related to taking farm land out of production for the project, and fears about the ability of

the proponent to carry out adequate reclamation after mining, led the Provincial Cabinet to direct the proponents wishing to carry out a development in the area to seek another site. In fact, the proposed Camrose-Riley six unit project was subsequently broken into three separate two unit projects in other parts of the province; two units at Keephills, two units at Sheerness near Hanna and two units at Genesee west of Edmonton in the County of Leduc.

There are other examples of projects that have been stopped or delayed because they were surrounded by controversy. The author believes that these problems are due to a lack of public involvement and public participation in the early stages of these projects. One of the major problems in these projects is a less than adequate Environmental Impact Assessment. The author believes that with a public participation process in place early in the planning stages, this problem would not have occurred, or could have been overcome if the projects were truly necessary. These examples are the Al-Pac Pulp Mill project near Athabasca in Alberta, The Old Man River Dam project near Pincer Creek, Alberta, The Point Aconi Power project in Nova Scotia and the two dams in the Souris Basin near Estevan Saskatchewan. It is entirely possible that not involving the Cree Indians of northern Quebec in any meaningful way in the second phase of the James Bay Hydro Electric project will result in conflict and/or cancellation unless the Government of

Quebec makes a unilateral political decision and coerces the native population into accepting the conditions of the project.

Although there are many issues involved in the selection of a project site, it is interesting to note that when there were two competing proposals for a gas processing plant in the Caroline area in Alberta, the ERCB approved the project that, in the author's opinion, had the most complete public participation program as well as the proponent with a history of encouraging public involvement.

The challenge faced by the proponent today is how to carry out the construction and operation of an electrical generating plant acceptable to the residents of the affected area. The local residents are the people who feel the most immediate and most dramatic effect of the project. If the proponent has carried out the project site selection properly and is forced to construct on a less than ideal site, the effect of that decision will have an impact on the proponent, the residents of the designated area and the proponents customers.

1.2.1 Public Participation Program

One method of mitigating the effect of a project on area residents is for the proponent to initiate a public participation program. This program can take many forms but, to be effective,

there must be agreement between the proponent, the affected community and any other parties to the process as to what the intent, structure, goals and rules for the participation are. It is the author's experience that if this is not sorted out and agreed upon at the outset, there will be considerable time spent and hard feelings created in sorting it out later.

The following statement by Prokop (1981) is an indication of how difficult the public participation process can be, not only for the proponent and community, but also for the individual charged with the responsibility of making the process work. Mr. Prokop was summing up a roundtable discussion on public participation held in November of 1981 in Toronto, Ontario. The participants in the discussion were from the electric utility industry in Canada.

> "Often, a public participation practitioner finds it difficult to achieve a balance in his loyalties. He has a certain responsibility to the utility who is paying his salary and a responsibility to the public he is dealing with. The objectives of these two groups are often in conflict. The practitioner, therefore, must ensure his loyalty is to the process to ensure that the opportunities are provided for input and that public concerns are heard."

This does not mean that the public participation practitioner has no other loyalties or obligations than to the process, but that if the practitioners stray from the goal of truth seeking and open communications between parties to the process, they will not be very effective in making the process work. The most important thing to glean from this statement is that the public participation practitioner must work to the highest professional standards if the process is to be effective.

1.3 RELATIONSHIP BETWEEN DECISION-MAKING AND SUCCESS

It is the hypothesis of the author that allowing a community affected by a construction project to have some decision-making authority in areas where their livelihood and lifestyle are affected will help improve the relationship that exists between the project proponent and the community affected by the project. The result of this process will be a project that is more successful than a project where this process was not used. The authors definition of success is stated in Footnote 2 on page 2.

To examine this relationship the author will investigate several projects that had little or no decision-making authority delegated to the community and several projects that incorporated decision-making into their structure. If the hypothesis is correct there should be (1) a higher level of acceptance by all parties that their concerns were addressed and (2) a higher degree of success with the project in the cases where decision-making was delegated to the affected community.

The consequences of delegated decision-making could be indicated in several ways. The company and the community may be closer to having a common position during the public review process conducted by the regulatory authorities. This will be because they have "bought into" the project for their own reasons.

The community may feel a part of the project during the implementation and operational phases, and could aid in solving any ongoing operational problems that arise between the community and the plant. By this the author means that as the community sees the project being constructed and placed in continuous operation, they may perceive problems or opportunities for improvement. To take any action that would result in a shared solution to the problem, the community would have to believe that they were a part of the process and/or that the role they play is important in the process of completing the project. This result would be indicated by a continuing willingness to be a part of the process through participation in committees and meetings.

This relationship between decision-making by the community and project success is evident in the Keephills case study outlined in Chapter 3.

1.3.1 Canadian Values

The author believes there is also a fundamental value in our society that people want to have a feeling of control over events that affect them, and want to feel they have made choices. This includes all things from consumer products and services to

participation in government at the highest levels, and would certainly include a project in their community.

An indicator of this value is the current trend toward improved quality of service in business. At present, many corporations are undergoing change to move the company and its employees toward a way of doing business that allows customers and clients choices in services and delivery of those services. This means discussing what is available and what the customers needs are rather than telling them what is best. For the reasons stated, the author believes that the concept of allowing a community to participate in decision-making in areas that affect them is merely good sense and in keeping with one of society's more fundamental values.

A question that might be asked on this point is: If this is such good sense, why has it not always been done? The author believes the answer is that society is in a continuous state of change. The way corporations handle their affairs, including the planning of projects, is also changing. This change is not confined to such issues as public participation but is evident in approaches to environment, employment and virtually all aspects of corporate life. Another indicator of this trend is the responsiveness and responsibility of organizations to the public (e.g., the placing of public members on the governing councils of professional

associations to ensure that the public view is not lost to the associations and that the public have input at the appropriate level in the decisions of the professional associations). The Association of Professional Engineers, Geologists and Geophysicists of Alberta have members of the public on their governing council to ensure public participation. This person is not a member of the professions that make up the Association, but an outsider who functions to put a public perspective on the councils' deliberations. These ideas are supported by a presentation entitled "How to Achieve Customer Excellence" by Kenneth B. Johnson of KASET to a Customer Relations Conference in Florida in April, 1988. He states that people today take basic services for granted and demand that extra services and choices be made available, and that they prefer to make these choices for themselves.

Margaret Wight (1988), in her thesis on memberships in public participation, also supports the theory that Canadian values include the desire for people to have some control in the decisions that affect their lives. This can be seen in the response to Item 2, Table 5, page 67 of her thesis. 91.6% agreed or strongly agreed with the statement: "Individuals and groups should be more involved in policy decisions rather than leaving it to elected officials."

In Item 1 on the same table, 87.2% agreed or strongly agreed with the statement: "Involving local individuals and groups

in decision-making is better than government and industry officials making decisions for local individuals."

The author's view is further supported by the statement "...public participation programs are some times put in place in response to a perceived demand by the powerless to participate actively in the decisions that directly affect them... ." (Goldenberg and Frideres, 1986)

The same article goes on to say that decision-making, while being the highest level of participation, is not widely used. "Finally and least commonly, there are those few public participation programs in which an effort is made to involve the public, not as spectators but as actors, in the decision-making process at all stages."

1.4 ALBERTA PLANT CONSTRUCTION ENVIRONMENT

To aid in understanding how the public participation process, or lack thereof, can affect a project it is essential to have some understanding of how power plant projects are planned and implemented in Alberta. Although examples from many parts of Canada are used in this study, the main case study is an Alberta project and therefore this section will be confined to Alberta.

1.4.1 Current Situation

The process by which electrical generation projects are approved in Alberta is adversarial. What the author means by adversarial is that a project is proposed by one party (proponent), and there is a public hearing process where other parties (interveners) present evidence and speak for and/or against the proposal. This argument takes place before a panel (board) that sits in judgement.

The part played by the proponent in this process is dictated by the nature of the generation component of the electrical utility industry which is to plan, to construct and to operate generating plants for the benefit of their customers, investors and in the public interest. A supply of electrical energy at a reasonable cost is a strong attraction to investors looking for a region to locate

industrial plants of virtually any type. In this context a project to keep the supply of electrical energy secure and reasonably priced attracts growth to the Province of Alberta. An example of this at work is the Magcom magnesium plant at High River. This was an attempt in economic diversification which was heavily reliant on a secure supply of reasonably priced electrical energy.

A major factor in the process of establishing a plant is the long lead time[3] of approximately seven years to put a conventional coal fired electrical generating plant into service from initial planning. This long lead time is coupled with an "obligation to serve" the public in their need for electrical energy[4] and capacity[5].

"Obligation to serve" means that as consumers increase their electrical consumption, it is required that the supplier of the electrical service have sufficient capacity to fill that need. For a natural monopoly such as a full service (generation, transmission and distribution) electrical utility, there are no other sources of supply for most customers and, therefore, unless service interruption and "brown outs" are acceptable, the utility must be

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[3] "Lead time" is the term used to describe the time required between the date the decision to propose a project and the date of putting the project in service.

[4] "Energy" when used in the context of electrical energy refers to the quantity of electricity per unit time.

[5] "Capacity" when used in the context of electrical capacity refers to the ability to serve a given load.

capable of supplying the customers' needs in exchange for their natural monopoly rights.

A "natural monopoly" exists when it would be economically and practically unacceptable to have competition in a particular sector of the economy. For example, it would not be practical to have two or more light rail transit systems operating in Calgary to provide competition and choice for the customers. Reasons for this are the physical space requirements and capital cost that must be recovered through fares. The same set of factors are at work in the case of water, sewer, gas and electric utilities. For this reason monopoly situations are acceptable in our society, but they are controlled through various forms of regulation. In the case of power plants in Alberta, the Energy Resources Conservation Board (ERCB) controls the approval to construct and operate, and the Public Utilities Board (PUB) controls the cost to the consumer of the power generated by the completed project.

In Alberta, the need for more generating capacity is identified through a forecasting process undertaken by each generating utility separately and then jointly through the Electric Utility Planning Council (EUPC). If the requirement for more generation is to be met through conventional pulverized coal fired plants, then the need must be identified approximately seven years in advance of when the plant would be required to operate.

The seven years results from approximately two years used to plan, prepare an application to build and operate, and to carry out the hearing and approval process. Added to this two years is a further five years for detail design, procurement, construction and commissioning. This five year time span is determined by the long delivery items such as the turbine generator sets and the steam generator. The next section describes the process in more detail.

1.4.2 Application and Approval Process

There are several related processes that must be completed in the course of getting a permit to construct an electric generating plant. Before a formal application takes place there would be informal contact with the ERCB to make them aware that an application was being planned. The application usually takes the form of a letter to the chairman of the ERCB requesting permission to construct and operate an electrical generating plant for reasons that are outlined briefly in the letter. Typically, this letter is accompanied by several volumes of information setting out the technical data about the plant and its associated facilities. This would include information on cost, schedule, basis of design, staffing levels and any such detail as was determined at this stage of project development. Information on the load requirement that was the driving force behind the application would also be included.

It should be noted that in Alberta there are sometimes competing proposals prepared in this same manner submitted by other electrical utilities. This is possible because the transmission system in Alberta, known as the Alberta Interconnected System (AIS), collects energy from all generating plants and delivers to all parts of the province. A utility is allowed to have enough capacity to serve its own customers but the day-to-day operation of the AIS is on the basis of economic dispatch. The plant with the lowest incremental cost is first on and last off as the electrical demand changes throughout the day and year. This means that as the use of electricity increases (day) the energy will be supplied by increasing the output of the lowest cost source that is available. As the use of electricity decreases (night) the output of the highest cost source will be reduced. In its simplest terms "Economic Dispatch" means that the demand is always supplied from the lowest cost source without regard for who owns the generating source.

In addition to the plant approval, the transmission system to conduct the energy to market also requires ERCB approval. The Hydro and Electric Energy Act also governs transmission lines. The transmission line typically has a shorter lead time and is handled as a separate project. If the application for the plant is approved there is ample time to select a route and apply to construct and operate a transmission line to conduct the energy

from the plant to the load centre. In future, this time is likely to become longer if public concern continues to grow about power line related issues.

The Clean Air and Clean Water licences are issued by Alberta Environment who could call separate public hearings but have, in the past, combined their hearing into the ERCB process in the interest of making the overall process as efficient as possible.

A Socio-economic Impact Assessment (SIA) is carried out for the proposed project. The SIA defines the area that will be affected by the project and assesses the impact of the project on the social and economic structure of the affected area. At the time the SIA is conducted, the project has been proposed and there has been a public disclosure of the plans. However, no hearing has been held yet and no approval granted. This creates a great deal of uncertainty and apprehension in the affected community and the team carrying out the SIA will have to deal with this as they work with the residents. This task is not easily accomplished because the areas and influences for all impacts are not the same. For example, groundwater quality and reclamation of disturbed surface topography will be a major concern to people near the plant and mine while the effects of the plant on employment opportunities will be of interest to a larger area because of limited trades and labour availability in a localized region.

The types of issues the SIA cover are represented by the following examples:

- Data on the work force required for construction and operation.

- Trades and labour availability accessible to the project.

- Loadings expected on schools, roads and other infrastructure.

- Timing of the various impacts.

- Projected expenditure in local area and projected spin-off benefits.

The SIA includes any and all information that is known or presumed about the social impact of the project, along with the parameters used and any assumptions included in the results presented in the report. It becomes a public document and forms a part of the proponent's evidence and, as such, the proponent may expect to be cross-examined on it at the public hearing.

Another study that must be carried out is the Environmental Impact Assessment (EIA). This is usually a separate document that becomes part of the proponent's evidence and the proponent is subject to cross-examination at the hearing on its

contents in the same manner as the SIA. The EIA is prepared to document the studies into the effects the construction and operation of the proposed plant will have on the environment. It would examine impacts on air, water and soil and predict expected emissions and waste streams from the plant along with requirements for water use and consumption. Included will be the proposed mitigative measures to ensure that the plant meets or exceeds the guidelines and regulations for any emissions or waste streams.

The application and supporting documents are the result of a long process of selecting what type of plant is required, when it is required, where it should be located and studies specific to the proposed site. These studies would address all issues of interest to the ERCB, the proponent and the interveners. The following issues are typical examples:

- Site selection and justification for the selection
- Costs for the project based on preliminary data
- Operating and maintenance projections for the plant
- Staffing requirements for construction and operation
- Historical and comparative data from other projects

This is very much a team effort in that it would be unusual for a proponent to have all the necessary expertise on staff, and would therefore be engaging a diverse team of consultants, each addressing their own field of expertise.

As part of a proponent's normal operation, studies are continually being carried out on technologies, sites, fuels and other areas necessary to ensure that their knowledge is current and that they are in a position to make timely and correct decisions on planning to meet the needs of the system. Many of these studies form part of the back-up to the application. An abbreviated flow chart of the process for taking a generation project from conception to completion is given on Figure 1 (page 33). Figure 2 (page 40) and Figure 3 (page 41) are more detailed models of typical projects.

The Public Hearing Process before the ERCB

When the ERCB receives an application to construct and operate a generating plant it advertises that information along with a date for a public hearing. If there is no response from the public the ERCB may waive a public hearing and make a decision on information filed with the application and on its own knowledge and experience. The usual case in projects of the magnitude of a generating plant would be for parties affected by the project, or having an interest in the project, to register as interveners. The

ERCB then holds a pre-hearing conference to lay out the ground rules and to establish a schedule for processing the application. The proponent then sends copies of the application and back-up information to the registered interveners.

The interveners represent a cross-section of the electric power consumers and can be as varied as customer groups and individuals, other utilities either with supporting or opposing interventions or with competing applications, municipal utilities that are wholesale customers, industrial customers, trade unions, and affected community groups or individuals. Some of the applications will be in support of the application and some will be in opposition to it. It is normal for organized interveners to be represented by legal counsil, although some individual interveners choose to represent themselves. The proponent will be represented by council. If the Board considers that an intervention has added some necessary dimension to the hearing, the intervener's costs will be paid by the proponent. If no new evidence is brought to light or if the Board considers that the intervention contributed nothing, the intervener will have to bear his/her own cost. The reason for this is to prevent frivolous interventions that waste time and run up costs.

Abbreviated Flow Chart for Project Development

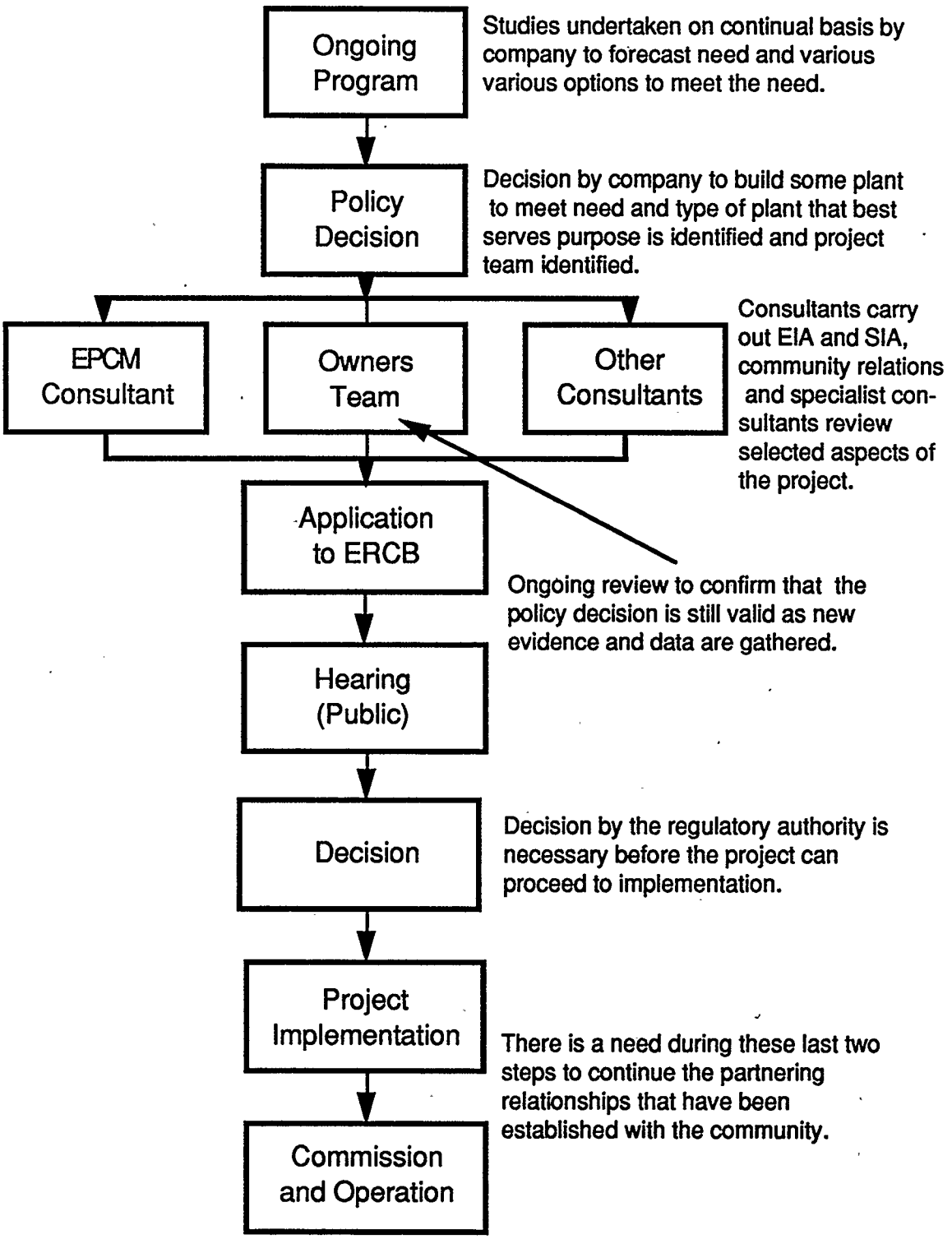


Figure 1

All correspondence is between the councils representing the various interests and the ERCB, with copies sent to all registered interveners and the proponent. The ERCB, with the aid of its technical staff, will review the application and supporting documents and send the proponent a list of deficiencies, if any, found in the material submitted. These deficiencies are reviewed and responded to by the proponent in supplementary documents attached to the application and which become part of the evidence.

The interveners review the documentation submitted with the application with the assistance of technical experts from their own staff or consultants. They prepare and submit any questions they have on the evidence filed. These questions usually address perceived errors or omissions in the documents or raise contrary points of view on some of the evidence. These questions are researched and answered in writing by the proponent. In some cases there are supplementary questions and they are responded to using the same procedure.

The proponent must then prepare his panel of expert witnesses who will be subjected to cross-examination on the evidence that has been filed. This panel is made up of people who should collectively be able to address any issues that are raised. The panel must familiarize themselves with all the evidence filed and any other work or studies in support of the filed documents in

order to put themselves in a position to be cross-examined at the hearing.

If any of the interveners choose to file evidence either for or opposed to the application, they must also be prepared to submit this evidence to cross-examination by the proponent and the other interveners. It follows then that they also must go through a similar process of preparing their witnesses by reviewing all relevant documents. The hearing takes place after the information requests (questions) and information responses (answers) have been exchanged and any supplementary exchange of information is complete.

In the hearing the proponent presents a panel of witnesses that are cross-examined by the interveners. The "Board" consists of three members of the ERCB and the hearing is held in a courtroom-like setting. The panel is examined on the proponent's evidence which consists of the application, the information responses (answers to written questions), and any testimony they give in response to cross-examination. In public hearings before the ERCB, evidence is not given under oath. Any intervener that makes a submission, either for or against the application, is subject to cross-examination by the proponent. The ERCB has its own council and technical staff at the hearing and will cross-examine the witnesses. All dialogue is recorded by a court reporter and a

transcript is produced of the proceedings. All parties receive the transcript daily. If an answer is not available, the witnesses may undertake to produce it later. These undertakings are responded to at the start of each days proceedings and read into the record. A hearing of this nature lasts several days.

Decision Process

At the close of the hearing the ERCB takes away the evidence to consider what its decision will be. In arriving at its decision the ERCB must consider all the evidence submitted and weigh that against its mandate to ensure that the energy resources of the province of Alberta are used wisely and for the benefit of all Albertans. The ERCB will have prepared its own forecast of electrical energy requirements and will compare this with those submitted by the parties to the hearing. The ERCB is independent of the political process in the province and, therefore, their decision is based on the evidence, experience and knowledge of the Board. There is usually a span of several months before a decision is announced.

If the decision is favorable to the proponent (i.e., the application is approved), an "Order in Council" is issued along with a ministerial order from the Minister of Environment under the Clean Air and Clean Water Acts. With the orders in place the proponent can proceed to the execution phase of the project.

Execution Phase

The execution phase of a generating plant project lasts approximately 60 months. During this time, the detailed engineering, procurement, construction and commissioning are carried out. This time could be extended depending on whether an increase in the scope of work results from an increase in environmental concern by the public. For example, if scrubbers are required to clean the stack emissions further, the time required for execution would increase.

These projects normally follow what has been called a "fast track" approach. All this really means is that earlier phases of construction may be completed while design is still underway for the later stages. For example, the site clearing and early earthwork can be completed without the mechanical and instrumentation drawings being finalized.

This fast track approach to project management is important to keep in mind because it serves several purposes and introduces new risks. One purpose is that a shortened project duration allows the decision to be made later on whether to proceed with or abandon the project. This is advantageous because as time between commitment to an application and commissioning the plant

is shortened, the forecast of energy requirement that drives the need for the project has a higher probability of being accurate. The other major advantage to a shortened project execution phase is that the cash expenditure pattern is shortened and the interest during construction (IDC) will be less, resulting in a lowering of the overall project cost.

The other side of the fast track issue is that it means all decisions must be timely and once the project is committed to execution, there is very little time for prolonged decision-making. Thus, if some decisions are to be shared with or delegated to an affected community, they must be considered very carefully so as not to jeopardize the project schedule. This means that where decisions involve anyone outside the managing organization, lead times must be found in the schedule to allow the necessary discussion to take place.

The proponent must also be sincere in the commitment to shared decision-making if this form of participation is chosen. To invite a community to share some decision-making as to layout and architectural detail for a building for example, and then to have the proponent make that decision on its own would result in community backlash and an unwillingness for the community to participate in other partnership processes involving the project.

In summary the process is as follows:

Pre-Project Activities

- Identification of need
- Examination of all possible alternatives
- Selection of possible sites
- Environmental and socio-economic studies
- Public disclosure of preliminary plans
- Commence public participation process
- Technical studies and preliminary engineering
- Preparation and filing of an application to the ERCB

In addition to the activities listed, there are other processes underway such as financing, land acquisition and the other planning that must proceed in parallel at this phase of the project. These types of activities are similar in all projects, whether an electric generating plant or a space shuttle. They are best identified by referring to Figure 2, the "Project Wheel" (Project Planning and Controls, course notes U of C) and Figure 3, the Linear Representation of Project Phases (Project Management Specialization U of C).

Relationship and Timing Between Project Elements

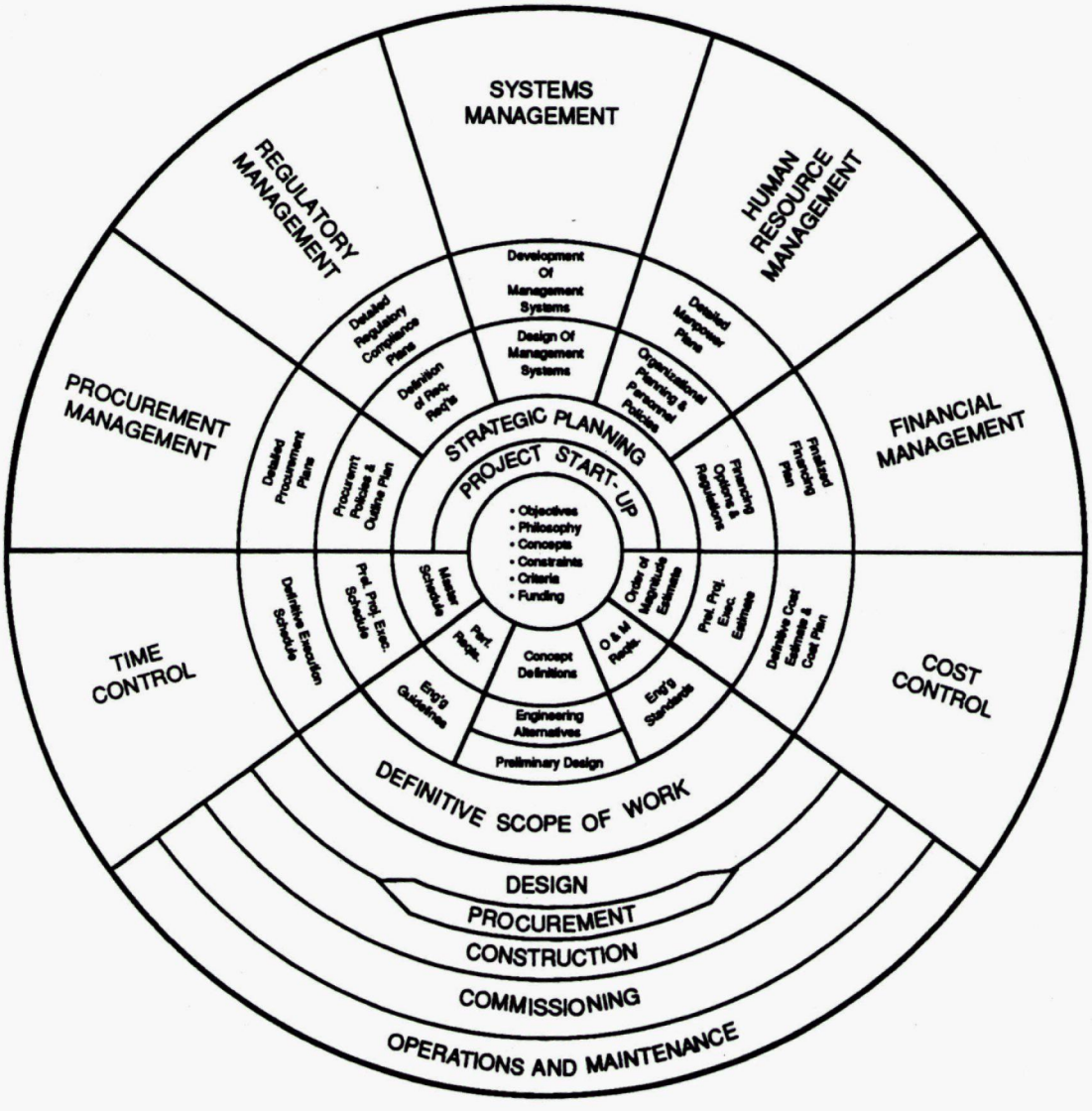


Figure 2

Dimension Of The Project Management Process

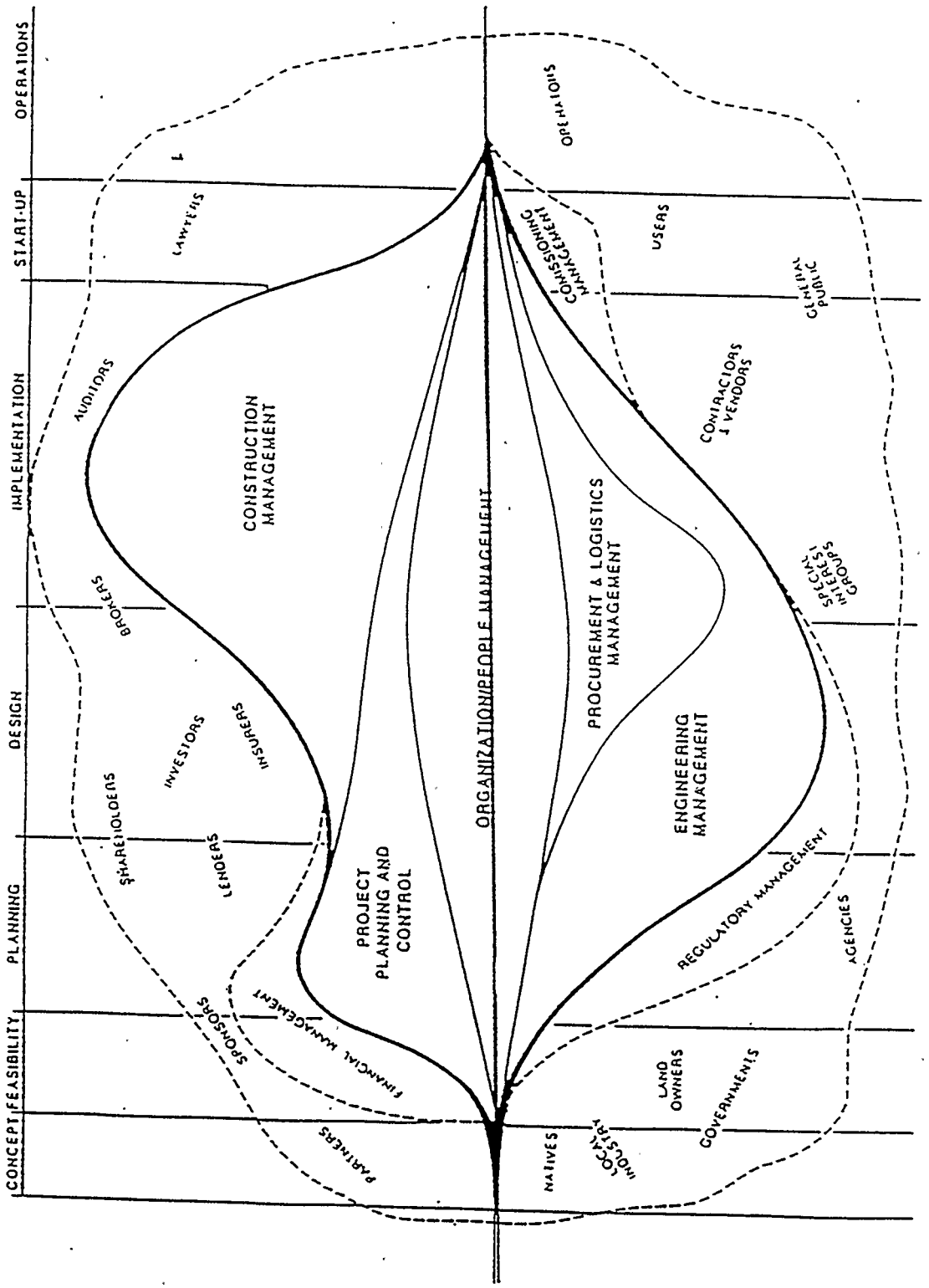


Figure 3

The Wheel (Figure 2) demonstrates what is involved in taking a project from concept to commercial service. This process starts in the centre with development of the concept and works its way outward on all spokes simultaneously, with many parallel activities being managed as the project moves toward its operational phase. The wheel would be enhanced if a public participation segment were added to it. If you could imagine another segment starting in the center and radiating outward through and including the operations and maintenance phase. If this segment were called public participation then the wheel would more accurately represent projects that incorporate public participation as part of this process. This graphically represents the complexity of scheduling and communication problems that must be overcome in keeping a project on schedule. Public participation processes which involve decision-making by an affected community must be disciplined to work within the overall project structure, if proponents are ever to endorse them.

In the linear representation (Figure 3), the curves represent the levels of activity for the various aspects of the project. The levels of activity are indicated by their distance from the horizontal axis. The many stakeholders are shown within the outer dashed line representing the project boundary. Some of the stakeholders such as contractors, insurers and auditors, for example, have a traditional and naturally defined role in the project.

The role of others, such as natives, landowners and the general public are less easily defined in function and timing within the project structure. It is toward this latter group that a public participation initiative is targeted.

Regulatory Activities

- Requests for information by the ERCB and interveners
- Information responses by the proponent
- Formal public hearing before the ERCB
- Recommendation by the ERCB and the decision by the Lt. Governor in Council

Project Activities following approval

- Design
- Procurement
- Construction
- Commissioning
- Operations and Maintenance

The public participation process continues throughout the project life cycle and into operation at a level that is appropriate to each phase.

1.4.3 Emerging Trends

Much of the current focus in the planning for future generating plants is on the search for shorter lead time options and options that are more environmentally acceptable than the plants that have been built in the past. Historically, each power plant constructed in the province of Alberta has been the best the industry could build at the time of its construction, and for the type of plant that it was. The trend towards more environmental awareness in the general population, and the activism that has resulted, is changing the concept of who the affected community is. What effect this trend will have on the project environment is not yet understood.

In the opinion of the author, the need for public participation will increase and even be brought forward to the earliest planning phase, rather than starting when a project and a specific affected community has been identified.

CHAPTER 2

REVIEW OF OTHER PUBLIC PARTICIPATION LITERATURE AND SELECTED PROGRAMS

2.1 GENERAL

A review of the literature available on the subjects of public participation, decision-making, the field of service quality[6] and empowerment of people[7] was carried out. There are numerous articles written on empowerment of people and on the subject of "Quality of Service". These articles clearly identify that people want choices and want to make decisions and, to the greatest degree possible, want to control their own destiny. This literature does support the opinions expressed by the author on Canadian values in Chapter 1.3. (K. Johnson, 1988)

The concept of people having the ability to make choices and decisions is referred to in recent literature as "Empowerment" and an article by PARACOMM, 1991 discusses empowerment as follows:

---

[6]Service Quality is taken commonly to mean the total service package that goes with a transaction. This includes the quality of the product and the quality of the service that delivers the product.

[7]Empowerment of People is taken to mean giving authority to people to make decisions. For example, empowerment of an employee would mean the employee makes more decisions or a higher level decision without prior consultation with a supervisor.

> "Empowerment is natural where people are alive and experience being free to responsibly express themselves and their commitments in alignment with and in relationship to the organization's vision. It is also true, in my experience, that when people are <u>not</u> empowered, they are co-conspirators in a negative conversation..... ." (page 2)

Material on public participation was reviewed in the course of investigating the relationship between decision-making by an affected community and success in a project. The majority of the literature reviewed refers to decision-making in some form or other. The literature covers a wide range of topics such as labour/management issues (Blumberg, 1968), decision-making in group situations (Williams, 1976) and decision-making in public participation to develop programs for groups in Canada's north (Bowles, 1979). The literature also covered the issue of integrating environmental and economic factors into the decision-making process in a more effective way than has been done in the past, although this paper does not go into the issue of community decision-making.

In her paper "Negotiating a Monitoring Program", Rolf (1986) refers to impact monitoring as postponed decision-making but, in this case, the decision is negotiated as better information

becomes available rather than delegating decision-making to an affected population and relying on this judgement. Yves Phaneuf (1990) in "EIS Processes and Decision-making" outlines a mathematical method for arriving at decisions in transmission line routing. This is not a participative approach but rather a set of criteria by which a proponent can consistently make decisions. There is a level of veto in the criteria depending on the land use and the physical characteristics. This method has limited value in a world populated by non-mathematical people who rely on feelings, tradition and their own concept of common sense and fairness to make their own decisions.

"Public Participation in Resource Development After Project Approval" by Maureen Bush (1990) is a brief review of post-approval public participation in eight projects in western Canada. The levels of participation in these projects ranged from tokenism to delegated decision-making. While Bush draws a parallel between the openness of decision-making and success, she does not examine the relationship of a community being given decision-making power and project success. Bush notes that at Keephills:

> "...Post-approval public participation at Keephills has been effective. The community has had significant impacts on the decisions made, ensuring that community concerns were addressed throughout the development of the project."

Bush further notes that the cases examined were unsuccessful if a number of factors were not present. Among them were "if public participation had no possibility of effecting decisions".

Richard Smith (1976) in his paper "Community Power and Decision Making" draws a relationship between what he refers to as the MPO ratio and community power. He believes that the ratio of management and leadership to the total community is important. This ratio reflects the concentration of power in a community and the more concentrated the power the more effective the community can be in influencing decisions. Smith's theory may, in part, explain the success at the Keephills project where The Committee on Keephills Environment (COKE) represents the community and the power of the community is concentrated in the COKE executive.

2.2 PUBLIC PARTICIPATION

Before proceeding, it is important to define what is meant by public participation in the context that it is used in the electric utility industry in Alberta. A review of the definitions of public participation reveals a diversity of opinion as to what public participation is. The work of Arnstein and Blumberg to classify public participation on scales has been summarized in a thesis prepared at the University of Calgary (Wight, 1988) and puts the scales in a table of comparison. These scales refer to degrees of citizen participation in the case of Arnstein and worker participation in the scale developed by Blumberg (see Table 1). While these scales compare different groups of participants, they are similar, and from the research carried out by the author there is reason to believe that both scales would apply in the case of a group affected by a power generation project. As can be seen by reference to Table 1, participation at it's lowest level is simply giving out information in a unilateral manner and it progresses from there, in varying degrees, to giving full authority or effective control to the participating group.

TABLE 1

COMPARISON OF ARNSTEIN AND BLUMBERG'S SCALES OF PARTICIPATION

Arnstein's eight rungs on the ladder of citizen participation	**Blumberg's types of worker participation**
Non-participation types	
1. Manipulation	
2. Therapy	
Degrees of Tokenism	Co-operation
1. Informing	1. The right to receive information
2. Consultation	2. The right to protest decisions
3. Placation	3. The right to make suggestions
	4. The right to prior consultation
Degrees of Citizen Power	Co-determination
1. Partnership	1. The right to veto
2. Delegated power	2. The right to co-decision
3. Citizen control	3. The right to decision

The project at Keephills would fall into the highest levels of participation. There were specific issues where the decisions were shared and issues where the citizens in the community made the decision. The author does not believe there is any practical difference between the right to veto a decision on Blumberg's scale and citizen control on Arnstein's scale. In either case, if the affected community does not endorse a proposal, then a new proposal must be developed because acceptance or rejection of any proposal rests with the community. They can continue to exercise their veto until a proposal is more to their liking and, therefore, on Blumberg's scale the right to veto is effectively the highest level of control and, therefore, equal to Arnstein's citizen control.

Blumberg lists the right to co-decision and the right to decision as higher in degree of control than the right to veto. The author believes that where the right to veto exists, any further degrees of control are redundant. This scale would be more realistic with the right to veto at the bottom and the remainder of the scale in its current order. If this change is made, the levels listed under Degrees of Citizen Control in Arnstein would match the levels listed under Co-determination in Blumberg. The scales are constructed so that the closer the level of participation is to the bottom of the list, the greater the level of citizen control.

It is only the last three levels on either list that involve decision-making by affected communities and, in arriving at any particular decision, it is likely that the process involves all three levels. In this case, the level of decision-making authority the community has is only limited by the highest level.

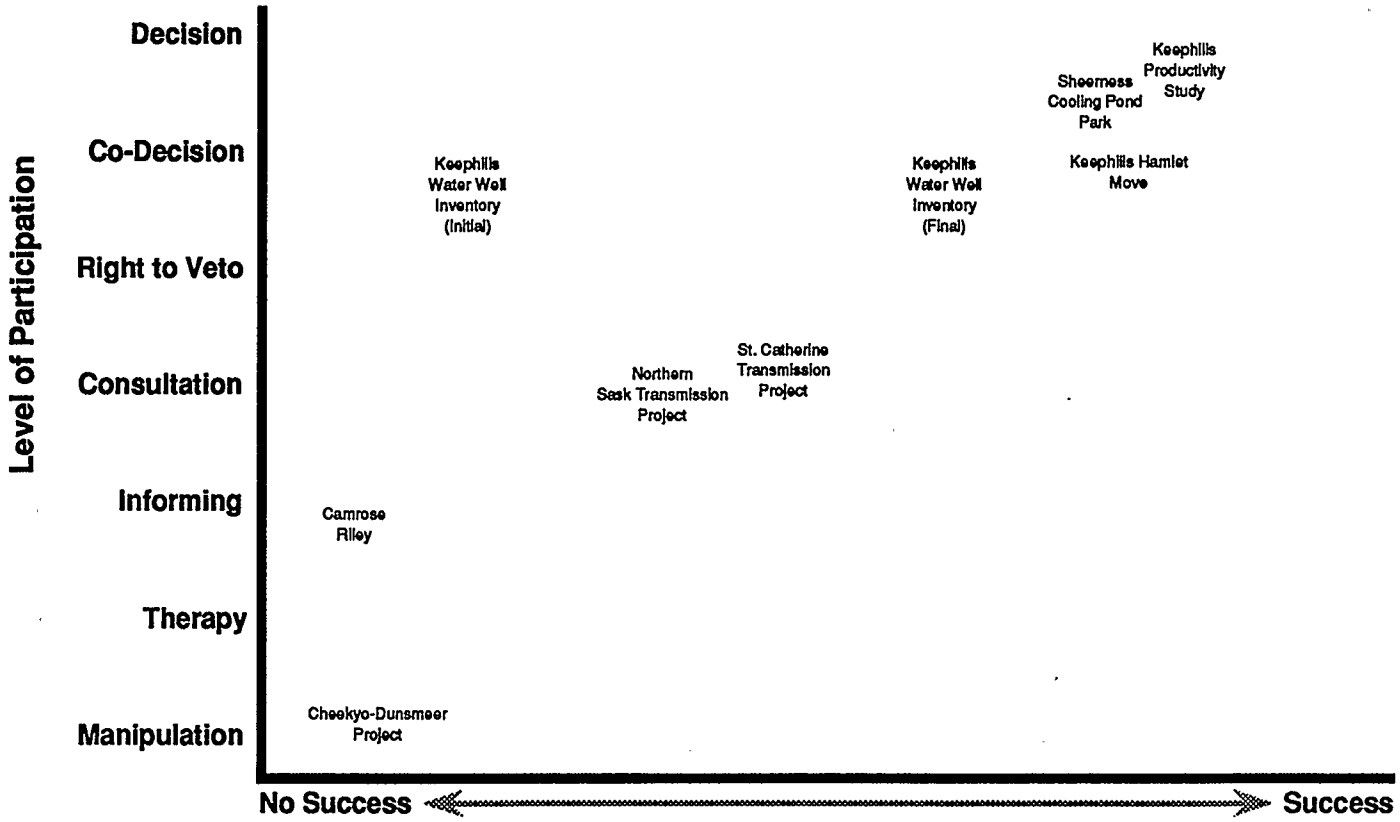
The definition of public participation by French (1960), taken from the thesis by Wight, covers all these quite well, although Wight confined this definition to Item 2 under Co-determination by Blumberg, The Right to Co-decision participation "refers to a process in which two or more parties influence each other in making certain plans, policies and decisions. It is restricted to decisions that have further effects on all those making the decisions and on those represented by them." (French, 1960:3)

Using this as a definition of public participation, several projects that claimed to have a public participation process in place were researched and compared to the scales by Arnstein and Blumberg. The relationship being examined suggests that, the further down the scale the public participation programs place, the greater the chance of the projects being approved and completed successfully. However, there are numerous other reasons why a project can fail to be approved or completed successfully, but the area of public acceptance is the first hurdle a project faces once the proponent has decided to proceed.

Examples of projects that had some level of public participation are reviewed in the following section. These examples are not all Alberta examples or power plant or mine projects but they will serve to illustrate the relationship between decision-making by the affected community and success in the project. The graph (Figure 4) on the following page summarizes these results.

Figure 4

RELATIONSHIP BETWEEN PARTICIPATION & SUCCESS



2.3 CASE STUDIES

2.3.1 St. Catharines Transmission Line Project

The St. Catharines Transmission Line Project was to construct and operate a transmission line in the Niagara Peninsula area of Ontario. This area abounds with natural features such as the Niagara Escarpment and the Bruce Trail. There is a population of approximately 370,000 people in a surrounding area of 700 square miles, and other significant features such as the Welland Ship Canal.

It is significant to note that, while Ontario Hydro had a clearly stated goal of soliciting information from the "public" for this study, they had no intention of giving up any decision-making authority to the affected residents. The goal was to solicit comments and concerns, but Ontario Hydro would make the decisions. Their program goals are stated as follows:

> "a) To ensure that the Regional Municipality of Niagara, City of St. Catharines, City of Niagara Falls, City of Thorold and the Town of Niagara-on-the-Lake and the departments for which they are responsible were informed of all the aspects regarding the study on a continual basis to ensure that these authorities had an opportunity to express their comments and concerns.

b) To ensure that other publics whose interests might be affected had been identified and advised in person (where possible) of the nature and purpose of the study and to have their comments considered prior to decisions being made by Ontario Hydro." (Ontario Hydro, 1981)

This program was basically informational in nature with Ontario Hydro soliciting feedback on their plans before making a final route selection. The program was centered around a Municipal Liaison Committee made up of politicians and civil servants from the areas that could be affected by the project. The following elements were contained within the program:

" - Personal (Face to Face) Contacts
To advise area residents of the nature and purpose of the study, to gain their comments and suggestions, and to identify them and others who might be interested in the project.

- Information Centers
Held at key stages during the study. Open to all members of the public.

- Project Mailing List
  A list which was enlarged and updated throughout the study and used to distribute project status reports and notices of upcoming information centers.

- Project Background Package
  An introductory information piece used at the beginning of the study to provide interested publics with documentation about its nature and purpose.

- Status Reports
  Reports issued on three occasions during the study to advise interested publics of project progress and to notify them of the person to whom they could address their questions, comments or concerns.

- Newspaper and Radio Advertisements
  Used to publicize information centers.

- News Releases and Calls to Local Media
  Used to identify project milestones and to ensure that local news media were aware of upcoming meetings or the events which had occurred at previous meetings.

- Letters to Potentially Affected Property Owners
  Used to notify them of upcoming information centers." (Ontario Hydro, 1981)

This program would at best fit into the Co-operation category on Blumberg's scale. On Arnstein's scale it it would fit under Degrees of Tokenism. It meets the test of informing and consultation required by Arnstein and the right to make suggestions that Blumberg requires. The result was a route selection that, while not satisfactory to all, could be said to be the result of public involvement and the transmission line was built. A further result is that there was much better understanding within the affected population of how the process of route selection works, and what factors are involved in the decision-making process, even though the affected communities did not make the decision. By the definition the author adopted for a successful project, this project could be considered successful.

2.3.2 B. C. to Vancouver Island Transmission Line

On October 26, 1978 B.C. Hydro made a public announcement of a consultants report regarding a proposed transmission line to Vancouver Island. The proposed route was to go between Cheekyo on the mainland and Dunsmuir on Vancouver Island. Although B.C. Hydro's internal planning process had been broadened to what they referred to as "open planning", whereby those affected by a project would have complete information and the opportunity to express their concerns, this was the first knowledge the residents of the affected area had of the project.

> "The selection of the Cheekyo-Dunsmuir alternative was not directed to a public justification forum. No mechanism existed for public debate of how best to meet the forecasted needs for electricity on Vancouver Island. The public became involved with the project when the utility announced the project as the selected choice of supply, and started the process of environmental and route investigation study by selecting the study area and assigning Beak Consultants to conduct Phase 1 studies.
>
> Should B.C. Hydro have chosen generation of power on Vancouver Island by hydroelectric or thermal electric, the debate of project need and justification would have taken place as part of the licensing procedure; no such licensing format was necessary for a transmission line." (Kujala, 1982)

The justification issue for this project brought the concerned residents into direct conflict with the Provincial Cabinet. B.C. Hydro is a provincial corporation and, at the time, was very much a tool of the provincial government. Tremendous stress was placed on individual cabinet members who became targets for a powerful lobby from interest groups in the communities affected by the project. These interest groups were largely representing geographical areas affected by the project such as island residents and regional districts, for example. As a result of the experience

gained on the Cheekyo-Dunsmuir project, changes were made to the Public Utilities Act and the Provincial Cabinet has created a new process to deal with project justification.

This case is one where the expert planners from the proponent justified the need for a supply of electrical energy and capacity on Vancouver Island and could not understand anyone questioning their right or ability to decide the best method to meet that need. In this case Kujala (1982) listed the concerns of the public in the following six points:

"- The justification for the choice of the project to solve the energy supply of Vancouver Island was made without the public having access to the decision makers.

- The public saw use of herbicides along transmission routes as a hazard within their watershed areas since many of their domestic water sources were not protected by a registered water licence.

- The routing was thought to be through environmentally and socially sensitive areas and the study area too small.

- The provincial government and B.C. Hydro were perceived as withholding information and manipulating the public.

- The cost for the project increased rapidly. There was concern that B.C. Hydro would have to generate and sell power for export to repay debt.

- B.C. Hydro provided load forecast information based on data and statistics that were unavailable to the public. There was a difference between the forecast produced by B.C. Hydro and the one produced by the provincial governments Energy Commission."

The Cheekyo-Dunsmuir project participation program would rank under Non-participation types on Arnstein's scale and, in particular, perhaps under Manipulation in that it was not participation at all. On Blumberg's scale it would not register at all. The author has ranked this project on the lowest level of the scales due to the withholding of information and the fact that the decision makers were not available to the public. The project to build a transmission line fell under an act of the B.C. Legislature where participation was not required and, therefore, none was forthcoming from the utility. The pressure that resulted and the subsequent change to The Public Utilities Act may have been avoided by voluntarily putting a meaningful participation process in place and having the public take part.

This project was ultimately built amid much controversy. The public participation project was ranked by the author as unsuccessful because B.C. Hydro's intent was to build the project using their normal approval process and to win public support. In fact, the result was that there was so much controversy the approval process for transmission projects was changed.

It is interesting to note that:

> "...Should B.C. Hydro have chosen to generate the power on Vancouver Island by hydroelectric or thermoelectric processes, the debate of project need and justification would have taken place as part of the licensing procedure; no such licensing format was necessary for a transmission line." (Kujala 1982)

2.3.3 Saskatchewan Power - Northern Grid

In the 1970's, there was a growing need for electrical power in northern Saskatchewan. This growth in load was coupled with a rise in the cost of diesel generation. In view of this situation, Saskatchewan Power Corporation (SPC) undertook to study the economic and technical feasibility of creating a Northern Grid. The study was treated as a project. A team called the Northern Grid

Task Force was set up to carry out the feasibility study project and the project objectives were stated as follows:

> "- To determine how best to reinforce existing power line systems in the north.
>
> - To determine how to replace diesel generation with power line service for as many communities as possible.
>
> - To determine how to provide transmission line service to five uranium mine locations, one potential limestone mine and one potential graphite mine.
>
> - To determine the locations of Northern Grid interconnections with existing transmission and generation facilities.
>
> - To determine what methods of accomplishing the above four objectives would be most socially, economically, technically and environmentally acceptable." (Grant, 1982)

In conjunction with this work, SPC would also develop a public participation process. Their philosophy of public participation is stated as follows:

> "The Public Participation Program is structured on the twin principals of fairness and interdependence. Fairness leads us to the view that the best decisions socially are those that benefit most, if not all citizens, in the short and long term. The process of making the decision can be as important as the decision itself." (Grant, 1982)

To achieve the goal of an effective public participation program, the task force was to "consult with and involve the various publics" in the feasibility study.

In working toward the goal, the task force and its support staff:

"- Informed the various publics affected by the project:

  (i) about the concept of the project and,
  (ii) at each stage of the feasibility study;

- adapted the public participation process to the special attributes of the publics involved;

- Involved the people of northern Saskatchewan in the Task Force's decision-making process by receiving input from those to be directly and indirectly affected in the form of statements of

views and concerns, expert opinion and suggestions;

- Increased project planning and effectiveness through the Task Force's understanding and responsiveness to the needs and concerns of the various publics and in particular the directly affected publics;

- Initiated a mutual education process between the people of the area and the Task Force at the conceptual stage of planning in order to establish the facts, discuss the concerns, propose solutions and evaluate alternatives;

- Documented the public participation process and through this, provided data to researchers working on the analysis of social and economic impacts." (Grant, 1982)

In achieving their goal of soliciting input and hearing the concerns of the affected people, there were numerous workshops, interviews, open houses and public meetings held. The results of these contacts with the public are expressed in the following list compiled by the Task Force:

1. Consultation - Northerners not only want to be informed but also wanted to help direct the Northern Grid Study.

2. Power Supply - Northerners want rates and a power supply the same as southern Saskatchewan.

3. Community Change - Northerners want to control the community changes due to development projects.

4. Employment - Northerners want jobs and job training.

5. Compensation - Northerners want those hurt by development to be justly compensated.

6. Environment - Northerners want the power lines, if built, to do as little damage as possible to the environment.

7. Provincial Supply - Northerners want a say in the planning of future power development and distribution in the province.

8. Corporate Relations - Northerners want the power company serving them to be sensitive to northern needs.

The ultimate decision was in the hands of the Department of Environment and SPC but there can be no doubt that by having a public participation process in place the study team was made aware of factors that they may well have been blind to had there not been a public participation program in place.

> "The Participation Program on the Northern Grid brought out pertinent concerns and attitudes in many different forms from many different people. Some indignant, some questioning, some hoping but all very interested in how this proposed project may change their lives." (Grant, 1982)

The public participation program put in place by SPC was designed to support a feasibility study for a proposed project rather than for a project to construct some physical plant. There are differences in the way decision-making can be delegated to the affected people in each type of project. In a construction situation the public may wish to have an affect on such decisions. For example, as how the schedule is carried out, what is constructed, how they are protected from the project and local land acquisition policy. In a feasibility study such as SPC carried out, the decisions made by the public may result in the project never being constructed.

In the context of a project to conduct a feasibility study, allowing the affected residents to participate in developing the terms of reference would qualify as decision-making, in the opinion of the author. Having input to the study through questionnaires and meetings would not be considered decision-making.

This difference would place decision-making at the lower end of the scales developed by Arnstein and Blumberg, while input through interviews, meetings, open houses and questionnaires would be in the mid-portion of both scales. There was no partnership decision-making or delegated power.

The SPC public participation program that was reviewed through the Northern Grid Feasibility Study would fall under Degrees of Tokenism on Arnstein's scale and Co-operation on Blumberg's scale.

Ultimately, the input received was used. A Northern Grid is scheduled to be complete in late 1991. Much of the work was broken into packages small enough to be tendered by native groups and local northern contractors. Programs were in place to assist the local people with their bid process and training was made available and mandatory for the crews on the job.

2.3.4 Generation Projects

The examples in this section are related primarily to projects for the generation of electricity.

In 1980 Ontario Hydro carried out a study of North American utilities to determine what their participation programs

were for transmission line route selection and generating plant siting. They found that only three utilities (14% of those surveyed) "Engaged in a joint planning process, i.e., putting priorities on community values, developing alternatives, sharing decision-making." (Ontario Hydro, 1980) This would put only 14% of the utilities in North America in the bottom portion of the scales of public participation developed by Arnstein and Blumberg.

On the generating plant side of the electric utility industry there have been public participation processes in place for the Keephills generating plant in Alberta and Ontario Hydro's Atticoken generating station in Northwestern Ontario. There has recently been active public participation in the addition of a recreation facility on the cooling pond at the Sheerness generating plant in Alberta. These programs differ from each other in the degree of participation and in the result of the participation effort. These are discussed in more detail in this section and the Keephills project public participation program is expanded as a case study in Chapter 3.

Most public participation processes have focused on the public disclosure and information distribution aspects of participation and, as such, are somewhat limiting as far as public decision-making is concerned. The only projects identified as having an element of decision-making by the public that resulted

directly in tangible actions within the project are the Keephills and Sheerness projects.

Sheerness

At Sheerness a committee of citizens with the local municipal authority (Special Areas Board), the Town of Hanna and a member from the project proponent were able to plan and fund a recreation facility on the Sheerness plant cooling pond. This is the first time this has happened on a cooling pond in Alberta other than at Genesee where it was required by the County of Leduc in the development permit and constructed at the proponent's cost. The plan to put a recreation facility at the Sheerness cooling pond was driven by the Special Areas Board (SAB). In the area of Hanna, the nearest community to the Sheerness project, there is a scarcity of water and especially bodies of water suitable for recreation. This need was recognized by the SAB and it approached the utility owners with a plan to develop a park on the north shore of the pond. The SAB was able to come to an agreement with the owners to have the lease agreement between the owners and the Alberta Government for the pond to be changed to accommodate a recreation facility. The SAB would save the owners harmless from any affect of the recreation facility and any costs of development. A committee was set up with representation from the SAB, the managing owner, the provincial government and the Town of Hanna to carry out the development.

Decisions on this park project are made by the committee. The main interest the owner has in this park project is that it be a benefit to the area as a recreation facility for local residents and for tourism, and that the primary use of the pond as a cooling facility for the generation process is not jeopardized by this joint use. The first stage of the park, named Prairie Oasis Park, has been completed and was opened in a joint ceremony in 1988. With the provision that the primary use of the pond as a cooling facility for the Sheerness plant is not at risk, all decisions related to the park are made by the committee.

The decisions by the committee and the progress to date have resulted in development of a beach, a small marina, tree plantings, picnic sites and a number of camping sites for overnight camping. The pond is used for water skiing and sail boarding. Future plans call for expansion of the park, a concession and canoe rentals.

The participation process of putting this facility in place on the cooling pond meets the Test of Partnership on Arnstein's scale and the right to Co-decision on Blumberg's scale. Further development of the facilities falls under Citizen Control and The Right to Decision because the company does not affect these decisions so long as the primary use of the pond is not at risk.

The Sheerness cooling pond recreation facility project's participation program would rate as Co-determination on Blumberg's scale and as Degrees of Citizen Power on Arnstein's scale.

Public participation is sometimes mandated by the regulatory authority as part of the project approval process and, in some cases, it is voluntary. Where public participation has been mandated, as in the case of the Keephills project, it is worded so as to encourage a consultative approach to problem solving. The intent does not seem to be directed at forcing the utility management to give up their decision-making rights and responsibilities, but to ensure that the rights and responsibilities of the affected communities are considered. Whether or not public participation has been directed by the regulators or has been voluntary by the participants is not crucial to this thesis, only how levels of participation relate to success as defined by the author.

To date, this recreation initiative by the SAB, with the cooperation of the owners and the provincial government, has been very successful. The author believes this project supports the position that public decision-making and a successful project are directly related.

2.4 SUMMARY

This chapter has reviewed what the literature has to say about various types of participation and the desire of people to shape their own destiny to the greatest extent possible.

The case studies are supported by the literature, as is evidenced by the relationship between success and participation shown in Figure 4. The relationship drawn in this figure builds on the work of previous investigators such as Blumberg, 1968, Arnstein, 1971 and Wight, 1988.

At Cheekyo-Dunsmuir there was very little by way of meaningful participation and no decision-making with the result that the participation effort initiated did not achieve the goals of the proponent. In the Northern Saskatchewan and St. Catharines projects the level of success of the program was higher because the initiative to involve the public was carried out earlier in the project and the public could still influence change. The work by Goldenberg and Frideres, 1986 supports the notion that the public want to participate in meaningful ways.

In the Sheerness Cooling Pond project the public not only made decisions but, in fact, initiated the project through the community leaders. The concentration of power may have been a

contributing factor in the higher level of success of this project compared to other projects such as the Northern Saskatchewan, St. Catharines and Cheekyo-Dunsmuir projects. Smith (1986), in his "Community Power and Decision Making" paper, would seem to lend support to this explanation. In the Cheekyo-Dunsmuir project the participation effort may have been doomed from the start because it began with the assumption that all the decisions were made. Almost all the literature on decision-making contains the thought that the participants in the process must feel that they have the power to actively participate and to influence decisions.

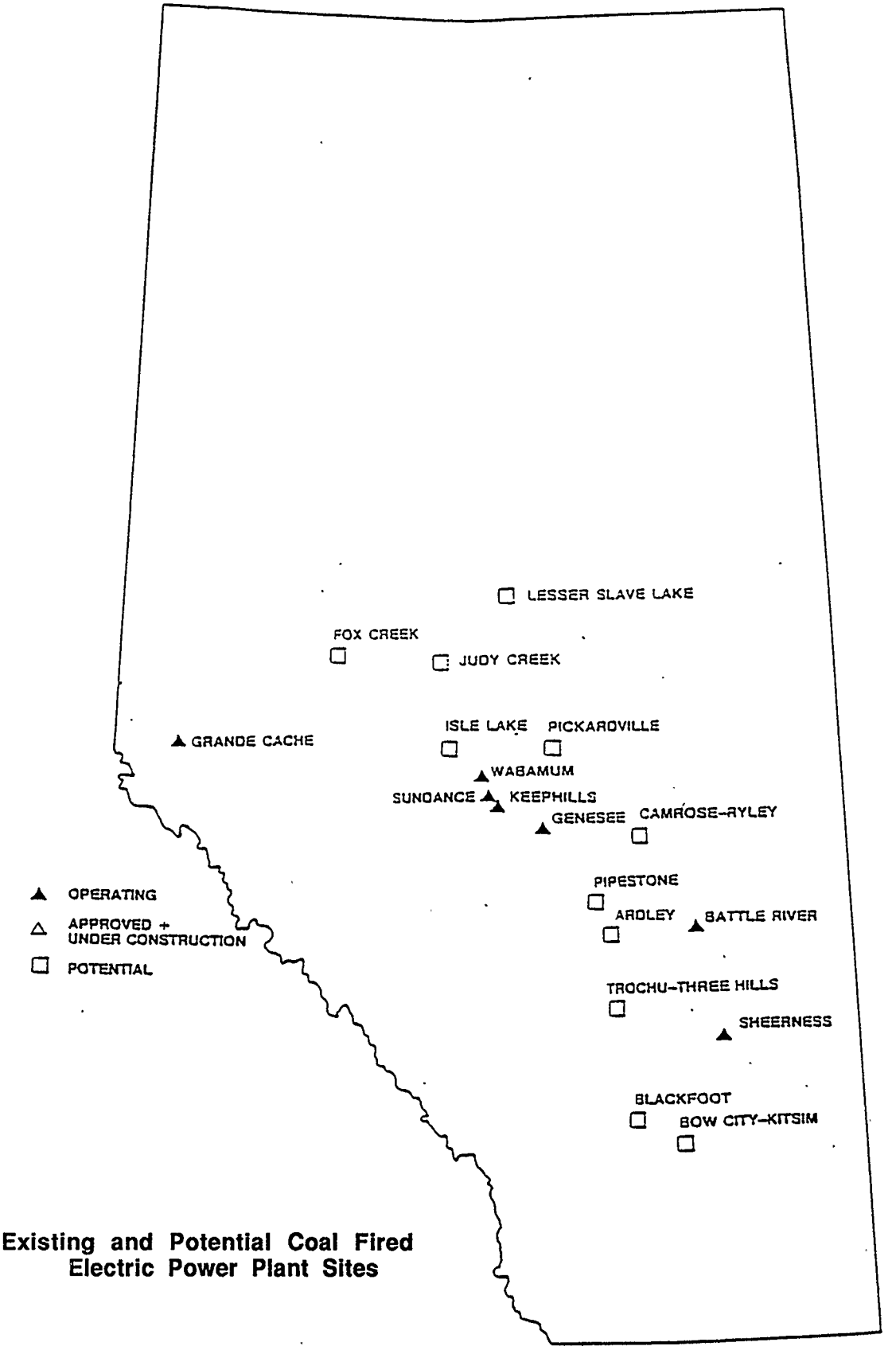
CHAPTER 3

CASE STUDY - KEEPHILLS PROJECT

3.1 HISTORY OF THE KEEPHILLS PROJECT

The Keephills power project is a coal fired steam electric generating plant in the County of Parkland #31, approximately 60 km west of Edmonton and southeast of Lake Wabamun in a rural ranching and farming community. The site location is shown on the map in Figure 5. This map locates the site in relation to other existing and potential plant sites in Alberta. Figure 6 is a population distribution map for Alberta. The Keephills site is on the western edge of the large circle surrounding the Edmonton area. The third map, Figure 7, shows the various soil types in the province of Alberta. The Keephills project is in an area of Gray Wooded Soils. Camrose-Riley, which will be referred to later, is in an area of Black Soils.

The generating plant project at Keephills is a case study where decision-making authority has been exercised by the affected community with the full support of the proponent, TransAlta Utilities Corporation. Since this is the project that will be used to support the hypothesis that there is a direct relationship between community decision-making and the success of a project, some specific background and history on the project and area are important.



Existing and Potential Coal Fired Electric Power Plant Sites

Figure 5

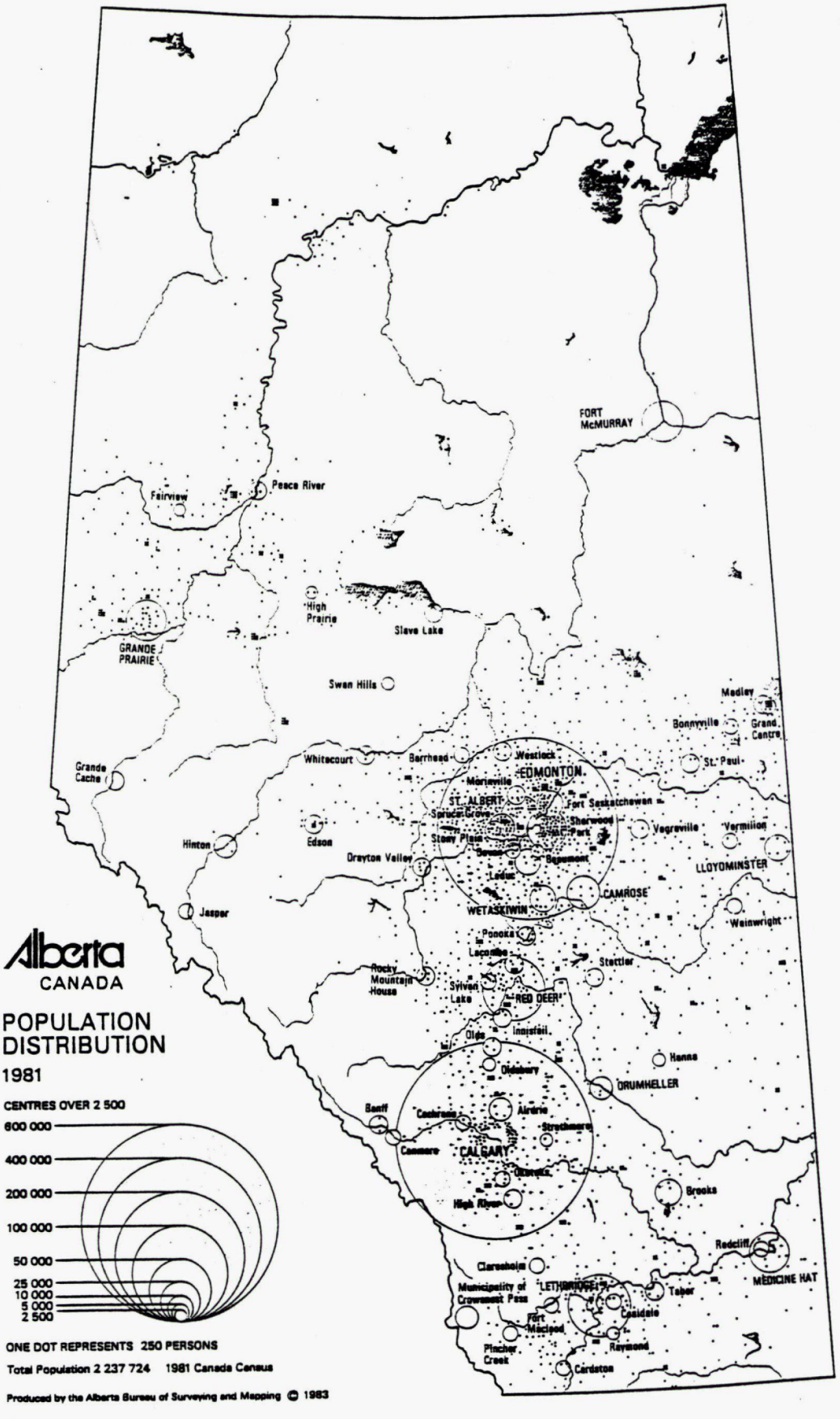

Alberta
CANADA
POPULATION
DISTRIBUTION
1981
CENTRES OVER 2 500
600 000
400 000
200 000
100 000
50 000
25 000
10 000
5 000
2 500
ONE DOT REPRESENTS 250 PERSONS
Total Population 2 237 724 1981 Canada Census
Produced by the Alberta Bureau of Surveying and Mapping © 1983
FORT McMURRAY
Fairview
Peace River
High Prairie
Slave Lake
GRANDE PRAIRIE
Swan Hills
Medley
Bonnyville
Grand Centre
Grande Cache
Whitecourt
Barrhead
Westlock
EDMONTON
St. Paul
Morinville
ST. ALBERT
Fort Saskatchewan
Spruce Grove
Sherwood Park
Vegreville
Vermilion
Hinton
Edson
Stony Plain
Devon
Beaumont
Drayton Valley
LLOYDMINSTER
Leduc
CAMROSE
Jasper
WETASKIWIN
Wainwright
Ponoka
Lacombe
Stettler
Rocky Mountain House
Sylvan Lake
RED DEER
Olds
Innisfail
Didsbury
Hanna
DRUMHELLER
Banff
Cochrane
Airdrie
Strathmore
Canmore
CALGARY
Okotoks
Brooks
High River
Redcliff
Claresholm
MEDICINE HAT
Municipality of Crowsnest Pass
LETHBRIDGE
Taber
Coaldale
Fort Macleod
Raymond
Pincher Creek
Cardston

Figure 6


Fort Chipewyan
High Level
Fort McMurray
Peace River
Grande Prairie
Grande Cache
Jasper
St. Albert
Edmonton
Lloydminster
Camrose
Wetaskiwin
Red Deer
Drumheller
Lethbridge
Medicine Hat
Alberta
CANADA
SOILS
BROWN SOILS
DARK BROWN SOILS
BLACK SOILS
DARK GREY AND
DARK GREY WOODED SOILS
GREY WOODED SOILS
BROWN WOODED AND
ACID BROWN WOODED SOILS
UNDIFFERENTIATED MOUNTAIN COMPLEX
Produced by the Alberta Bureau of Surveying and Mapping © 1983

Figure 7

In the area of Lake Wabamun west of Edmonton there were two existing coal fired thermal electric generating plants. These plants are referred to as "mine mouth" plants because they are located next to the sub-bituminous coal mines that supply their fuel.

The Wabamun plant has four generating units totalling 582 megawatts (MW). This plant is located on the north side of Lake Wabamun and is supplied by the Whitewood Mine. Cooling water is supplied from Lake Wabamun.

The Sundance plant has six units totalling 2100 MW. The plant is located on the south side of Lake Wabamun adjacent to the Highvale Mine. This plant draws its cooling water from a cooling pond, and the water for the cooling pond is supplied from the North Saskatchewan River, approximately 15 km to the southeast. The level of suspended solids in the water in the pond must be kept to a level of less than two times the suspended solid content of the water in the North Saskatchewan River. This is accomplished by returning a portion of the cooling pond water to the river in exchange for fresh make-up from the river.

Both plants are equipped with pollution control equipment to mitigate the effect of the plant operation on air, water and soil. The plants are designed and operated in compliance with current regulations. These plants were mainly built during the

1960's and 1970's, with the Wabamun plant actually being started in the 1950's.

The 1970's were a period of heavy immigration of people to Alberta and of industrial expansion fueled by speculation that oil prices would continue to rise. There were plans for numerous heavy oil and tar sands plants and a sense of growth and prosperity in the province. The utilities were affected by this because they had an obligation to serve the need for any additional energy or capacity on the electrical system.

A decade after the Sundance plant was started and while work was still underway on planning and the regulatory process for the last two units (Units 5 and 6), a need was identified for more generating capacity in the province. Planning was started for a six unit plant with a total capacity of 2250 MW. This would be located in the Dodds-Roundhill area northeast of Camrose, Alberta where a site had been identified for a mine mouth plant with a cooling pond supplied through a 60 km pipeline from the North Saskatchewan River.

In the proposed Dodds-Roundhill project there was very little community involvement in planning at the conceptual stage. The planners in the head office put their plans in place and information did not flow to the affected area residents until the

proponent was almost ready to file an application with the ERCB for permission to construct and operate the proposed generating plant. This approval would carry with it the right to expropriate the required surface rights.

There was a public outcry that valuable agricultural land would be destroyed by the proposed plant and mine and that the people most affected would have the least to say about their future. There were also doubts expressed about the ability of the proponent to reclaim the land to its former capability after strip mining to remove the coal.

In August of 1976, the Provincial Cabinet in Alberta determined, and advised the utility and public, that no approval would be granted for the Dodds-Roundhill site. The Dodds-Roundhill site was originally named for the area around the proposed mine, but was later renamed the Camrose-Riley site to better reflect the fact that a greater economic and social area would be affected by the the plant and mine site and the associated cooling facilities.

At this time, the Provincial Government also introduced a new coal policy which the Government of Alberta is applying to coal resource development projects. This newly introduced coal policy required proponents of a development to disclose their intentions to the public at a very early stage in planning.

Previously, the usual procedure was to wait until planning was virtually complete before disclosure and this was what had happened at Camrose-Riley.

TransAlta Utilities was told that the Camrose-Riley project was unacceptable at the time due to concerns about post mining land reclamation. This decision forced the company to seek a new site for its proposed generating plant.

The site chosen was originally referred to as the South Sundance site. It was located in the Keephills area southeast of the Sundance Generating Plant and approximately half-way between the Sundance plant and the North Saskatchewan River.

The plant would contain two units of 400 MW each and have a cooling pond similar to the one at Sundance supplied from the North Saskatchewan River. The fuel supply would be from an extension of the Highvale Mine which was already providing the fuel for the Sundance plant. The site had the potential to support six units in total, assuming they were all similar to the first two.

The mine permit area extended from the south side of Lake Wabamun toward the southeast and almost to the North Saskatchewan River. Within the permit area and approximately half-way between the proposed plant site and the river lay the Hamlet of

Keephills. The location can be identified by referring to Figure 8. The area within the dashed line is the area that the community of Keephills identified as their community. It defines the affected area for the purpose of this public participation program and this case study.

The Hamlet of Keephills had seven permanent residences. One of these residences was a teacherage. The community included an elementary school, an Alberta Government Telephones exchange and a community hall owned by the Keephills Athletic Association. This hamlet was the focal point of the larger Keephills community, an area of farms and ranches containing about 100 families. Approximately 70% of the families were related by blood or marriage to others in the area (HERA, 1987), and there was a strong sense of community among the residents. In addition, about 20% of these residents were employed in the existing plants and mines or had relatives and friends that were employees there.

While there was no "special interest group" in place at the time of the public disclosure, there was the Keephills Athletic Association, to which most residents belonged, which facilitated a strong sense of community. This, coupled with solid experience in the construction and operation of the plants and mines, was sufficient to build a strong community lobby to represent the community concern regarding the proposed project.

Map of Keephills Mine Permit Area

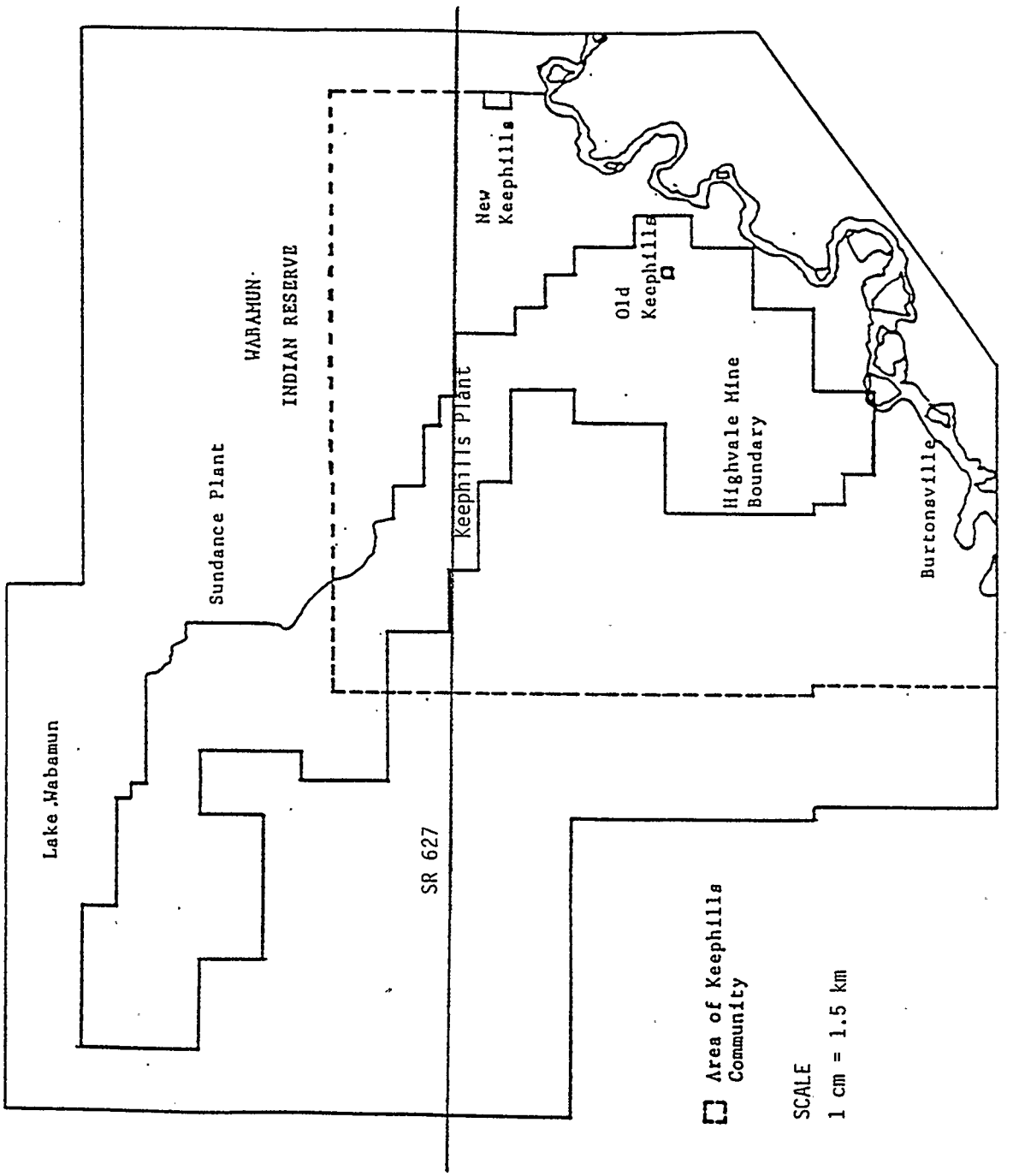


Figure 8

At the time of the Keephills disclosure there were no formal support programs in place to inform people affected by developments how to deal with a large and sophisticated proponent. By support programs the author means programs by agencies of government that would educate residents on the processes involved in plant approvals, expropriation, surface rights act proceedings and the like. The proponent is advised by legal council in these matters, but there was no formal program available to advise the affected community. The sort of advice the community needs is that the individuals had recourse to the Surface Rights Board on land that was acquired through expropriation and they had rights either as individuals or as part of a group to intervene at the ERCB hearing.

Individuals were largely on their own when it came to acquiring the specific knowledge and expertise to ensure that they would be considered an integral part of the project with rights and needs, and that they could have some influence on the success or failure of the project.

The main source of input to the community was Human Environment Research Associates (HERA) of Calgary. HERA was a group of sociological consultants that were hired by TransAlta Utilities Corporation to interact with the community residents at a very early stage in the project initiation phase. HERA was able to

bring to the project the combined knowledge and experience of the four principals in their organization.

Two months after being denied permission to proceed with the Camrose-Riley project, TransAlta was in the Keephills community informing the residents of their interest in constructing and operating a plant in the area and extending the Highvale Mine into the community. In parallel with this public participation process and, to a great degree, independent of it, TransAlta company had landmen in the community to purchase the land necessary for the project.

In November of 1976, three months after the Camrose-Riley project was denied, the company submitted an application to the ERCB for approval to construct and operate the Keephills Generating Plant. The area residents' initial reaction toward the project was that it was acceptable to the community but there were concerns about what would happen as property was acquired by the company and the mine was expanded into the area. Part of the acceptance may be a reflection of the area residents' familiarity with the current mine and generating plant operation in the Lake Wabamun district.

3.2 KEEPHILLS POWER PROJECT STEERING COMMITTEE

One of the recommendations made by HERA was for a joint committee to interact on project issues of interest to any or all affected parties. This committee would be made up of representatives of the community, the company and the various levels of government. The company was committed to working with and supporting such a committee. This commitment was made in the Environmental Impact Assessment (EIA) filed with the application. The company stated to the community and the Board that it would honor this commitment if the project was approved. If the project were not approved, the committee would not be necessary.

The community wanted to have its own representative group and TransAlta encouraged this because it would allow the community to speak with one voice. The company could then respond better than it could to a multitude of opinions. The group formed by the community was the Committee on Keephills Environment (COKE). According to Gary Prokop, the project representative for TransAlta who was with the company throughout all the pre-operational phases of this project, this was "the first community advisory group established in Alberta to advise on a specific resource development project". COKE was to organize the intervention for the Keephills community at the ERCB hearing. The general objectives of COKE are stated as:

"(a) To protect the interests of the people in the community of Keephills to the best of its ability in respect to the South Sundance Thermal Project (later re-named the Keephills Power Project).

(b) To provide a spokesman to represent the organization in any activities pertaining to the South Sundance Power Project.

(c) To provide a platform and vehicle whereby any person or organization may request views or ideas be brought to the attention for the community, Calgary Power Ltd. or government in respect to said project.

(d) To advise and assist any landowners, renters or others directly or indirectly affected by the South Sundance Thermal Project.

(e) In providing the aforementioned services this society must in no way come in direct conflict with other previously formed community organization's ability to carry out its operations.

(f) The association will not infringe or restrict an individual's right to represent himself in any area of the proposed project." (COKE, 1977)

COKE took its role seriously throughout the course of the project and this can best be seen in their submission to the ERCB regarding the project.

> "COKE does however see a role to play in the non-technical areas, especially if the development should proceed. Accordingly, COKE would at this time wish to receive assurances from the company and the government that the community will have a definite, active role in the planning process, with respect to the project itself and the programs developed to accommodate the community as a result of the development. COKE would also like an assurance that the cooperation from Calgary Power and the government levels will be as good, or better, after a decision is made, as before. With these assurances, Coke will endeavor to serve as a coordinating body to represent the concerns and interests of the Keephills community." (COKE, 1977)

Significantly, TransAlta was undergoing a change of attitude toward the whole area of public participation during this time. This change of attitude was driven in part by their experience at Camrose-Riley and in part was the early steps of a general move towards a higher level of customer service in all aspects of TransAlta's operations. Participation at the levels involved in the Keephills project was new to most of the management and staff and

they had to come to grips with this new concept of sharing decision-making and authority over some aspects of their project.

This shift in attitude and the subsequent project organization at Keephills is particularly important when considered in the context of the statement by Goldenberg (1984) "...in ten years of consulting experience it has been our observation that the "success" of public participation programs appears to be directly, systematically and clearly related to structural characteristics of the proponent organizations...".

As required by the recently legislated coal policy, TransAlta held the first public disclosure meeting in January, 1977. The company was represented by senior executives from its Planning and Project Management departments. This was unique because it exposed the senior people to the community and gave them an opportunity to learn first-hand what concerns residents had. It also put the decision-makers from the proponent in a position where they could be questioned and held to any commitments they made in responding to residents concerns.

Clearly, at the time, one of the main collective concerns on the part of the community was the future of the Hamlet of Keephills. The hamlet, while not large, was the social and cultural centre for a much larger rural population. The hamlet was located in

an area that was scheduled to be strip mined to supply coal for the Keephills Plant. There were also concerns of a more individual nature related to land, job opportunities and dislocation. There was uncertainty and confusion related to land acquisition, compensation for disturbance, lifestyle and livelihood. When HERA carried out the first of three surveys in 1978:

> "...nearly sixty percent of the respondents claimed that the project had no direct effect on themselves, while seventy percent claimed it had no effect on their family life. However, almost three-quarters felt the development had affected community life." (HERA, 1987)

The company understood the significance of the Hamlet of Keephills to the well-being of the larger community and sensed that this was a key factor to the future of the project. A commitment was made by the company to relocate the hamlet to an area outside the mine permit limits. A preliminary estimate for this relocation was made based on a preliminary scope of work.

The public hearing was held by the ERCB in March, 1977 and COKE participated as an intervener representing the Community of Keephills. Among the points raised by COKE in its intervention was the relocation of the hamlet and the acquisition of land by the company. The intervention was supportive of the application to

construct and operate a generating plant in the Keephills community. The company reinforced its commitment to relocate the hamlet.

In August of 1977, the ERCB recommended that the application be approved and an Order in Council was issued to TransAlta Utilities Corporation to proceed with the project. The Order in Council contained a clause requiring the company to establish a steering committee to oversee the relocation of the hamlet, the monitoring of construction and the reclamation of land after mining.

Three groups were required to participate in the steering committee. They were the County of Parkland, the Community of Keephills and TransAlta Utilities. The structure, membership and terms of reference were left to the discretion of the steering committee.

The three parties nominated in the ERCB decision set the process in motion by forming the Keephills Power Project Steering Committee, setting membership and developing terms of reference. There were to be seven voting members, two each from the County of Parkland and the company and three from the community. One of the community members acted as chairperson. A number of government agencies were invited to participate as advisory members. These were agencies such as Alberta Environment, Alberta Agriculture,

Alberta Energy, Utilities and Telephones, and the Yellowhead Regional Planning Council.

Initially the Keephills Power Project Steering Committee (Steering Committee) did not meet often. In fact, there were only two meetings in 1978. The residents of the area complained to the government about the inactivity of the Committee. This record improved dramatically as project activity increased and the Committee became involved in hamlet relocation.

The record of meetings of the Steering Committee is as follows:

YEAR	# MEETINGS
1977	1
1978	2
1979	9
1980	11
1981	7
1982	7
1983	6
1984	7
1985	7

Since 1985 there have been approximately four committee meetings per year. In addition to regular meetings there are sub-committees that meet to discuss land productivity studies and water well inventory studies. The initial slow start may have been a reflection of the level of activity in the project at that time, coupled with a searching for a means to make the Steering Committee operate effectively and efficiently.

In 1978, HERA conducted the first of three social impact surveys. These surveys were carried out in 1978, 1982 and 1985. There was a report produced covering each survey with a final report in 1987 summarizing and analyzing the results of this longitudinal study of the Keephills community extending for almost a decade.

These surveys indicate a low level of knowledge about the Steering Committee and a high level of knowledge about COKE. The purpose of the Steering Committee is to discuss problems and see that action is initiated through the appropriate organization and each member is to keep his own constituency informed. Therefore, the levels of knowledge found in the community seem appropriate to the author because it is up to the community to hold the people they elect to represent them accountable for reporting to them. If they were dissatisfied with their level of knowledge about the Steering Committee, they have the power and authority to change that by talking to their representatives.

As the SIA was being conducted, the work on the project itself was going ahead. The work on the construction phase of the project started in 1978 with site preparation work and was completed in 1984 when the plant was operating at full capacity. The relocation of the Hamlet of Keephills was carried out during this same time span.

Since that time the plant has operated as designed and has been recognized as one of the better performing plants of its type in North America. The hamlet has been in its new location for a decade and currently has nine residences. The school and hall are an active part of the community. COKE remains an active organization and has participated in several joint undertakings with TransAlta such as the productivity study. TransAlta usually supplies a guest speaker to the COKE annual meeting who speaks on a topic of interest to the community. The Steering Committee still operates as a forum for frank and open discussions on issues of concern to the parties involved.

CHAPTER 4

COMMUNITY DECISION-MAKING

4.1 INTRODUCTION

The author has developed two simple models to demonstrate the processes that were used to make decisions in the public participation initiative at Keephills. Some decisions were shared and arrived at through concensus, some were the community's decision and made by them alone with advice from others as and when they requested it. In all three case studies at Keephills, the productivity study, the water well inventory and the hamlet relocation, both modes of decision-making were active, depending on the decision to be made and the specific knowledge and interest of the community members involved.

Decision-making is a process that is well researched and documented. There are many models that describe the process as it applies to specific situations. The following diagram, Figure 9, is an attempt by the author to apply a model to the process of decision-making in the situation to which the case study applies. It must be borne in mind that models are usually over-simplifications when applied to situations involving anything as complex as people

and their actions. In this model, the proposal and response can come from either the proponent of the project or the affected community, depending on the issue. The flow of questions and responses is in both directions until the issue is understood clearly. The model indicates that both parties contribute equally to the decision. This is true in the case of the Keephills Power Project Steering Committee. Decisions are by consensus in the majority of situations in the case study.

In most of the projects reviewed in Chapter 2 these decision-making models would not be applicable because there was no decision-making involved in the public participation process used.

For the projects shown in Figure 4 the following table sets out how the models apply. If both models were used for various parts of a project it is listed under both models.

No Application of Models	Consensus Model (Figure 9)	Community Decision Model (Figure 10)
Camrose-Riley	Keephills Water Well	Keephills Hamlet
Cheekyo-Dunsmuir	Keephills Hamlet	Sheerness Cooling Pond
North Sask. Trans.	Keephills Productivity	
St. Catharines		

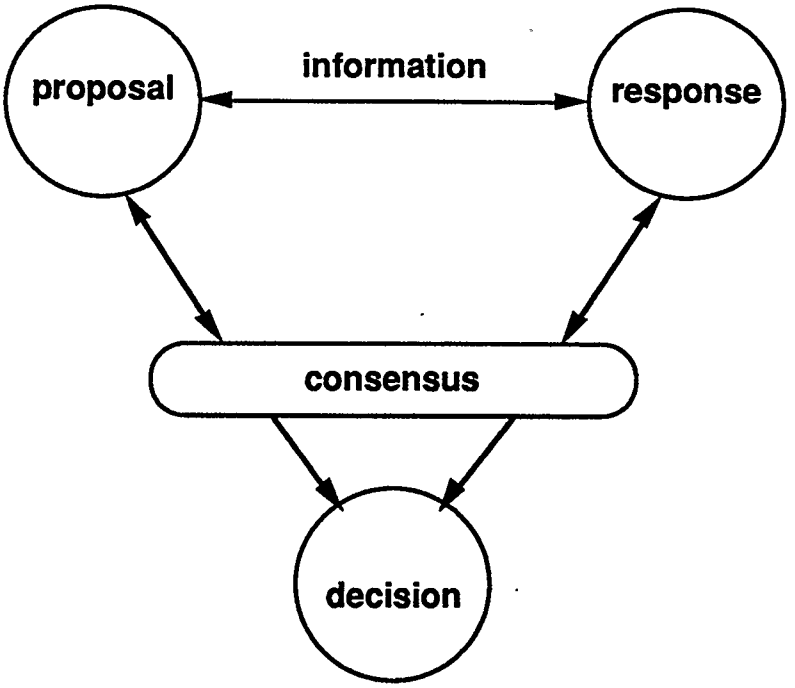


Figure 9
Consensus Model

Another model, Figure 10, is needed for a situation where the community makes a decision without the need to arrive at a consensus with the company. There were cases where the community was given the authority to make decisions, within certain parameters, as though they were the company. An example of this situation was the decisions that the School Board and the Keephills Athletic Association made surrounding the combined school and community hall facility. The two parties made decisions on layout, joint use and other issues such as the condominium agreement to operate the facility. The company was compelled to honor those decisions because the decision-making authority had been delegated to the community and the School Board.

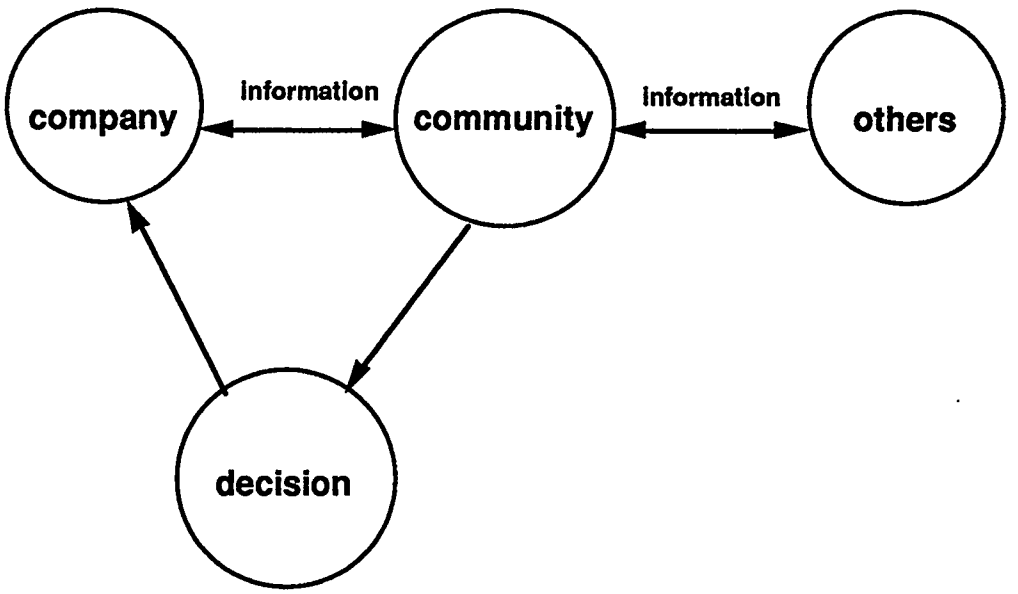


Figure 10

Community Decision Model

This model differs from the model in Figure 9 because no consensus is required here. The community gathers its information from the company and others as required. Although an exchange of information is usual, it is a courtesy rather than a requirement. The community is free to make its own decision and inform the company, who are bound by that decision.

Keephills

In the relocation of the Hamlet of Keephills and in the years following completion of construction of the plant the relationship between success, as defined earlier by the author, and community decision-making can be seen.

Three aspects of the Keephills project that best demonstrate the relationship between community decision-making and project success are:

- The relocation of the Hamlet of Keephills
- The Keephills Productivity Study
- The Keephills Water Well Inventory Study

These are all related in that they occurred in the Community of Keephills and resulted from locating a generating plant and mine in the area. The participants are the same organizations and largely the same individuals in all three cases. Each of these initiatives will be reviewed in the following sections. In all three cases there is a mixture of decisions made by the community alone and decisions made by consensus with the company.

Throughout these processes, communication is carried out through the Steering Committee or sub-committees formed on a task specific basis, for example, productivity or water wells. There is no one model that is more beneficial to the company or the community. Each situation must be resolved according to its own merits and the appropriate level and style of decision-making applied to it. When the decision is made and the situation resolved in a manner acceptable to all concerned parties, everyone benefits.

4.2 KEEPHILLS HAMLET RELOCATION

This section looks at the process of public participation and, in particular, the aspect of allowing a community to make decisions in a project through a review of the Keephills relocation. The relocation was the process of developing a community to replace the old Keephills hamlet which would be affected by the mine development and moving the community to the new location outside the mine permit area. In addition to the physical relocation of the residents and infrastructure, the loyalties of the larger community had to transfer to the new location for the community leaders to feel that a sense of community was maintained.

The situation in 1978, just before the relocation process started, was that the ERCB had approved construction and operation of Keephills Units 1 and 2 and TransAlta Utilities Corporation had made a commitment to relocate the Hamlet of Keephills to a new site outside the mine permit area.

In May of 1980, the ERCB deferred approval of an October, 1979 application by the company to construct and operate an additional two units at Keephills (Units 3 and 4). In this ruling, they decided that since coal mining south of Highway SR 627 (see Map Figure 8) and in the area of the Keephills hamlet would not be immediately necessary, due to the delay in construction plans for

the additional units at Keephills, there would be no need to relocate the hamlet to a site outside the permit area at this time.

The expectation of the community was that the hamlet would be relocated as originally scheduled and, in fact, planning was underway at the time of the decision by the ERCB on the Keephills Units 3 and 4 application. The company reviewed its commitment and options and decided that it would be as well to carry on as planned rather than delay the move of the hamlet. During the period of re-examination of the options, the community had pushed hard to continue as scheduled and therefore was pleased by the decision.

Three possible sites for the new hamlet were identified and tours were organized for residents to view the sites. After the sites had been visited by the residents a vote was taken and a site for the new hamlet chosen. The company acquired the land and attention focused on development of the site and moving the facilities.

The process of site selection is complex in that it was not practical for the company to purchase options on all possible sites and, even if they could, the community may see this as limiting their choices to the sites on which the company had options. The other side of this dilemma is that once the community has selected a site there can be no meaningful negotiation with the owner of the

property the community has selected. This owner will know he is in a position to ask what he wishes for the land and it would be difficult for the company to go elsewhere.

In fact, this is what happened in the case study. The community produced a list of preferred sites and the company was forced to purchase the property that headed the list. This process is detailed in the final Social Impact Assessment Report (HERA, 1987).

One side of community decision-making is that the community has its opportunity to participate in the decision and, therefore, must be content with their choice. The other side of community decision-making is that once the community has made their decision, the company is bound by its commitment to allow the community to have decision-making authority.

Beyond the parameters set out for the issue the community has the authority to decide, there is no guarantee the community will make the same decision the company would have made in the same situation and with the same information. This may be perceived by management in some companies as a loss of direct control, and it is. If a company is not prepared to accept both the positive and negative sides of the community decision-making process, they would be wise to leave it out of their public participation process.

After selection of the location, there was considerable discussion around the issue of who would act as developer for the new hamlet. Some residents thought there was a profit to be made and wanted part of it, and others wanted nothing to do with it because their interest was in having a new hamlet with a minimum of disruption.

The decision to hire a community planner, and which community planner to hire was left to a committee composed of two social consultants, two local residents and one representative from the company. A long list of all those suggested was reduced to a list of five that were interviewed. A consensus was arrived at and a community planner was hired to lay out the 80 acre site into roads, building lots, school and related facilities. An architect was hired to work with the community and the School Board to design a school and community hall to replace those in the old hamlet. The outcome of the meetings with the architect was a plan for a combined facility that would be operated under a condominium agreement between the School Board and the Keephills Athletic Association. The Keephills Athletic Association is the community organization that owned and operated the community hall. They are the organization in the community with the widest range of representation.

TransAlta acted as the project developer for the new hamlet and, to some extent, as a facilitator to ensure that the process continued. An engineering consulting firm was employed to manage the work in the hamlet including construction of the school and hall.

The residents of the old hamlet were given land for land and square foot for square foot for their houses in the old hamlet. There was a minimum of 1000 square foot size placed on houses in the new hamlet to protect property values. Individuals received an allowance of $47 per square foot for construction of new houses and they arranged for and directed their own contractors. The company constructed roads, telephone lines, gas and electric service to the property line.

Day-to-day problems were solved as they occurred. This process took place between the consultants, the residents concerned and the company's representative from the plant construction site. The company's plant construction representative also acted as site representative for the hamlet project. In this capacity he was able to approve such changes as were necessary to keep the actual construction progressing smoothly.

The active participation of the community and their ability to make decisions on policy were instrumental in arriving at

the value to be allowed for home construction. The conditions for the move and the layout and design for the hamlet and its facilities were community decisions.

Referring to the document prepared by HERA at the conclusion of the longitudinal study in the Keephills area, we find the following statement.

> "Over the years, we have found that the community residents have positively responded to the public participation program put in place. They have increased their positive ratings of the program as well as affirmed that the program and philosophy used in this project are good models for other similar developments. Public participation in general is viewed as important for a variety of uses, including the protection of local interests and decision-making." (HERA, 1987)

The following statement is from the same document:

> "Throughout this process (hamlet relocation), issues with regard to the hamlet relocation were both defined and resolved through lengthy active public participation involving many, many hours and days of tedious homework and negotiation by members of the community, the staff of the utility and a great many consultants. The community residents volunteered their time and received no

> compensation, while all other participants were paid.
>
> As long as the project continues, however, the local residents of the area will be actively involved, along with the proponent, in monitoring impact, making decisions concerning their environment and implementing those decisions." (HERA, 1987)

It should be noted that, while the statement with regard to compensation for participating in the process through meetings and in other ways is true on the surface, much of the work and negotiation that took place was in the evenings and in the community. The non-community parties to this process spent much time away from their families and were not compensated for working beyond their normal work hours. There was a lot of dedication, effort given and sacrifice made by all people involved in the process, and the author believes that the recognition of each others' personal commitment is one of the reasons the process was successful.

From the concluding section in the same report we find the following statements regarding the approach to community decision-making taken by the company in the case of the Keephills Project.

> "TransAlta Utilities did make a crucial strategic decision in hiring social consultants to create and initiate a public participation program. More importantly, in the course of the project, TransAlta Utilities has demonstrated many times that they are prepared to be guided by outsiders in making decisions directly affecting corporate welfare.
>
> TransAlta Utilities decided to restructure its project organization; it delegated authority to the community and encouraged the community to become active in formulating the public participation program." (HERA, 1987)

This project was judged to be successful because it was completed on time and the community have stated to the author that they believe it to be successful from their perspective. There were problems from time-to-time throughout planning, construction and into operation, but these problems were discussed and resolved to the best of the parties' abilities to resolve them.

Initially, it was thought this hamlet move would cost about $1 million. As the project started and the scope of work was defined, the estimate was revised to about $4 million and this target was met. It is possible that participation and shared decision-making before any commitment to move the hamlet would have resulted in a better initial estimate of cost. It is doubtful if

that would have changed the commitment to this project. The hamlet move was a part of the overall Keephills Power Plant Project which came in on budget at approximately $648 million.

The hamlet move fits into the scales of participation by Arnstein and Blumberg as Partnership and The Right to Co-decision. Having met this test and been judged as successful the author has placed it near the upper right corner of the graph of Participation vs Success on page 54.

4.3 KEEPHILLS PRODUCTIVITY STUDY

One of the concerns the community residents had since the earliest planning stages of the project was the productivity of the land after mining and reclamation. An impediment to accurately determining the post-reclamation productivity, in relation to what existed before mining, was that no properly documented baseline data was available. The data that was available was from a site at Breton, a community about 40 km southwest of Keephills. This data dated back to the period from 1930 to 1952.

The company was reluctant to take the productivity data as given by the residents and reclaim to at least that standard without verifying that the data was valid. There was the further complication of determining what crops the productivity should be established for and on what land. The issue of land is important because productivity is influenced to a large extent by land management techniques. This discussion went on for several years beginning in 1983. To establish the productivity of the land in the area to be affected by mining and reclamation, the company hired an agricultural consultant. This consultant, in conjunction with the company and the community as represented by COKE, planned a productivity study.

One of the areas of great interest in an agricultural community such as Keephills is the land itself. The process by which land is taken out of agricultural productivity, mined and then returned to productivity occupied much of the discussion surrounding the decision to locate a plant in the community at all.

To mine the coal, the land is disturbed in the following manner. First the topsoil and subsoil are removed and stockpiled for future use in reclamation. Then the overburden is excavated and dumped on spoil piles on one side of the open pit. Next the coal is removed and taken to the generating plant. In some cases ash is returned to the pit. The overburden is dumped back in the pit and the subsoil and topsoil replaced.

This process takes several years from first disturbing the land to re-planting crops. Grasses and legumes are planted first and maintained for four to six years to build up the fibre in the soil. Cereal crops may then be planted in a forage/cereal rotation. After the land has grown cereal crops, the operator of the mine applies for a reclamation certificate and, if the Provincial Government is satisfied that the land is reclaimed to an acceptable standard, the certificate is granted.

To answer concerns about the reclamation of land after mining in the Keephills area, discussions were started toward

establishing the productivity of the land as it existed before mining. There were many views on what this productivity study should be. There were two basic schools of thought. One idea was that it should be a test of the capability of the land independent of how the land is managed. The other view was that land management is as important as the land itself and, therefore, cannot be ignored in the equation.

An additional problem was whose land to check, how many plots to use for the study and how would they be selected. There was some fear that the community would select the best and most productive land to test and use this as a benchmark for reclamation. The community fear was that the company would do the opposite and try to use poorer plots of land and thus set a lower standard for post-mining reclamation.

Discussion around how to deal with all these factors went on for several years until a joint committee comprising members of COKE and TransAlta was set up in 1985 to define parameters for a productivity study. Setting up a joint committee for this project was a recognition that more was needed than an expert from the company directing the work if it was to be credible and accepted by the community residents. This committee also selected the test sites and managed the study, including issuing an annual report on each years' results and progress. The annual report

is discussed at a COKE meeting each winter and the committee makes any adjustment in planning required for the next crop year.

The original five year phase of this study is complete and was conducted to the satisfaction of all the stakeholders. There are several sites that have been discontinued due to changed land use or new owners not allowing access to the sites. In these cases, the committee has been able to select replacement sites that are satisfactory from all aspects and all involved are content with the choices.

The only element that has changed in this process from the inception of the idea to conducting the study is the level of trust and decision-making that is being shared among the participants.

Once the community saw that the company was willing to let them be equal partners in the study, they realized that the company was not trying to influence the study results, but was engaged in a process of information gathering. When the community started to exercise its role in making decisions on how the study should be conducted, the company could see that their input was fair, valuable and aimed at achieving honest results.

The Keephills productivity study is a good example of how letting the people most affected by a project make some of the

decisions on the things that affect them can turn a stalled project into a successful one. This project has recently been extended for a further five years to ensure more complete data. It has also attracted participation by the University of Alberta for the extended time period. COKE is satisfied that the University of Alberta input has added an important element of documented research to the project and wish to continue this partnership.

The productivity study has proven to be an excellent vehicle for the exchange of ideas among the community, the company, the government through Alberta Agriculture and the University of Alberta. The Faculty of Agriculture at the University of Alberta have taken an interest in the productivity study project and now plays an active role in the direction the study takes. In addition to the experience and objectivity the University of Alberta people bring to the overall productivity study project, they are managing the pasture portion of the study for the subcommittee.

Each year in late June the Productivity Committee sponsors a tour of the productivity test sites. The participants are all there and the community residents are able to question them on any aspect of the productivity study. The author has attended these tours and witnessed lively discussions between the community residents, the university people and the agricultural representatives on test methodology and the application of results. Interest in these

tours increases each year and is one indication of the success of this project.

The cost data on this initiative has not been kept with the intent of comparing a community decision-making case to a case where the company dictates the decisions. Therefore, it is inconclusive for that purpose.

In discussion with John Hastie, the TransAlta Utilities supervisor for the Productivity Study, it was indicated to the author that without the level of participation that is in use here, TransAlta would spend time and money justifying their program to the community. With a partnership and co-decision process in place, an excellent program can be developed without going through a costly and adverserial justification.

This project fits into the scales of participation by Arnstein and Blumberg as Partnership and The Right to Co-decision. The author would class this as a successful project and support for the belief that a direct relationship exists between community decision-making and success in a project.

4.4 KEEPHILLS WATER WELL INVENTORY STUDY

Before the Keephills project was underway, TransAlta Utilities Corporation employed Monenco Consultants Limited to carry out a water well inventory in the Keephills community. This inventory was carried out in 1977 and was to establish baseline data on all existing wells. The hope of the community was that the base data would help establish the cause of well problems as the mining progressed. By this it is meant that if the well was good before mining and deteriorated as mining came closer, the mine and associated dewatering might be a possible cause. If a well was a poor producer before mining and remained poor, it would be unlikely that the mine would be at fault.

There has been a pronounced lack of faith in this inventory since it was first published in 1978. Land owners have had wells described as low producers in the inventory and claim the wells to be much better than described. There were cases of missing wells and data that was incorrect in other ways.

In 1988, the company and the community decided to inventory the wells in the community a second time. The company and the community each placed two members on a subcommittee and an independent hydrogeological consultant was hired and placed on the subcommittee. The function of this subcommittee was to

develop terms of reference for the water well inventory study. A consultant would then be hired to carry out the study in accordance with the terms of reference.

This study looked like the ideal public participation effort. The community participated fully in the development and had their ideas incorporated in the result. The community had authority equal to the company in the decision-making process and had equal access to the consultant employed to provide advice and support to the subcommittee. If a direct relationship exists between the degree of community decision-making and the success of a project, this project should have been implemented and completed successfully.

During the implementation phase of this project the persons gathering data misinterpreted the instructions with the result that the study was not carried out exactly as defined by the subcommittee. The person from the company who was responsible for directing the work thought the omission was a small one which technically made no difference to the end product. A decision was made, without consulting the subcommittee, that the work should continue without the missing element. The element of work that was not carried out as agreed was a measure of well drawdown over time and had been the point of some discussion during the development of the terms of reference in the subcommittee, with

the community viewing the issue one way and the company opposed. The company did agree with the community that this test would be included in the terms of reference for the inventory study. This breakdown occurred in spite of the excellent work that had been put into planning the study and in carrying out the remainder of the work. This breakdown serves to indicate just how much effort has to be directed into the public participation effort by all the people involved, and how easy it is for the process to fail due to a lapse in attention by anyone, at any phase.

The initial result was that the report had no value in the sense that the community did not believe the results. The project at this stage was not successful. The failure was not in the initial participation process, which was very well done, but in the lack of continued participation when the error was discovered. Had the project manager gone back to the community, reported the error, and had there been an open discussion of the available options, the project might have been successful even though the report probably would have read much the same.

The process of communication between the company and the community was continuous through the breakdown, and a process of correcting deficiencies was put in place. A usable report and process for updating the data has resulted. A new appreciation for

the process and the value of community decision-making has also emerged among the parties involved.

The cost and schedule data for this project is not conclusive enough to compare the community decision-making case to the case where the community is not involved in decision-making. There is no doubt that the extension of time required to produce an acceptable report has a cost attached. However, this is not qualified in enough detail to use for a comparison.

This project started as Partnership and The Right to Co-decision on the scales of participation developed be Arnstein and Blumberg. At the point the breakdown occurred, it was Therapy on Arnstein's scale and Blumberg has no rating at that low a level. The project is currently where it started on both scales and in the authors opinion, a success.

This current example of a public participation process that became misdirected for a time supports the authors belief that a direct relationship exists between project success and community decision-making, perhaps even more than the other projects that were examined because it tracks the process through success to breakdown and back to success in direct relationship to where the participation ranked on the participation scales.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

For the past 15 years the author has been employed in the electric utility industry in generating plant design, construction, commissioning and operational phases. During this time, there was an opportunity to see a generating plant develop from conception to full operation. This experience convinced the author that a project can benefit greatly by allowing the affected community to be a part of the project and to work cooperatively to influence decisions by the owner. In some cases, the community has been able to make decisions independently on aspects of the project that affect them directly.

There have been several examples that will serve to illustrate just what an impact this decision-making role can have on the outcome of a project. These examples were reviewed in more depth in the Case Study section.

The author believes that public decision-making is beneficial to a project and the example of the Keephills Generating

Plant project supports this view. This view is also supported by a review of the literature on this subject (Goldenberg, 1984 and Frideres, 1986). The dynamics and duration of a large project are such that many things can affect the success or failure of a project and it is sometimes difficult to show a direct cause and effect relationship between the public participation process used and the success or failure of the project.

There has been a tremendous shift in the attitudes and demands of society in the years since the first Wabamun unit was constructed in 1956. This process of change continues and, although each project is the best it can be at the time it is carried out, a process for continual improvement must exist. A proponent should not only be aware of changes to the plant construction environment, but should be pro-active and lead the move toward environmentally and economically better plants. The physical environment in which past plants were constructed was no different than it is now, but people's perceptions were much different. Environmental requirements were much less rigorous (e.g., emission standards were not as high as they currently are). People affected by the construction and operation of the plants were much less sophisticated and assertive in their demands to be considered as a part of the projects. It was more important to see development taking place than to personally guide that development.

Although specific data was not kept, the author is aware through his familiarity with the plants and their employees that many of the people affected by the development took jobs in the construction of the projects and their children were trained in the technical schools in Edmonton and Calgary to become part of the operating teams in the plants. These people have grown up with the plants and now some hold senior positions in the operation and maintenance of the plants. This is true of many projects and in some degree may account for strong local support for projects where the area residents perceive the benefits to more than offset any other factors. The public interest in projects today seems much wider than the local community, with groups such as Friends of the Earth and the Sierra Club likely to become part of the participation process in the future.

By looking at examples of projects that have been implemented in the past decade, it has been demonstrated that there is a benefit to a project proponent to take part in a public participation process for projects that affect the public (see Figure 4). By referring to the work carried out by Wight and the scales developed by Arnstein and Blumberg, the projects studied can be fitted into a broader frame of reference. The two models developed in Figure 9 and Figure 10 show the process by which decisions can be made. Either model can further the public participation process when applied to the appropriate situation.

This study fits one more piece into the overall effort to understand public participation and, more importantly, to make the public participation process a beneficial part of the overall project management environment.

5.2 RECOMMENDATIONS

The author's intent was to show that a direct relationship exists between community decision-making and success in a project through a study of several projects, but mainly through a study of the Keephills project and relying heavily on the author's own experience. It would be instructive to carry out a statistical study to support the largely anecdotal evidence relied on in this study. Further beneficial work might also be carried out in looking at the relationships between public decision-making and success as a project moves through time from concept until after de-commissioning and site cleanup have been completed.

There is a process of change going on in the project world. The main evidence of this is in the environmental movement. A statistical study of projects such as dams and pulp mills where there has been little or no public participation and where the projects are controversial or not proceeding to implementation would be of value if it looked at the same question the author addressed.

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