BRITISH COLUMBIA UTILITIES COMMISSION

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Resource Planning Guidelines

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PURPOSE AND SCOPE OF THE RESOURCE PLANNING GUIDELINES

The Commission's mandate to direct and evaluate the resource plans of energy utilities is intended to facilitate the cost-effective delivery of secure and reliable energy services. The Resource Planning Guidelines (the "Guidelines") outline a comprehensive process to assist the development of such plans.

The Utilities Commission Act ("UCA") was amended in 2003 to provide the Commission with a mandate to implement the policy actions of the Provincial Government's November 2002 energy policy, "Energy For Our Future: A Plan For BC" ("Energy Plan"). Amendments to Section 45 of the UCA expand upon and clarify the planning requirements of utilities and the Commission's role to review filed plans to determine whether expenditures are in the public interest and whether associated rate changes are necessary and appropriate. The additions to Section 45 of the UCA are as follows:

45 (6.1) A public utility must file the following plans with the commission in the form and at the times required by the commission:

(a) a plan of the capital expenditures the public utility anticipates making over the period specified by the commission;

(b) a plan of how the public utility intends to meet the demand for energy by acquiring energy from other persons, and the expenditures required for that purpose;

(c) a plan of how the public utility intends to reduce the demand for energy and the expenditures required for that purpose.

(6.2) After receipt of a plan filed under subsection (6.1), the commission may:

(a) establish a process to review all or part of the plan and to consider the proposed expenditures referred to in the plan;

(a) determine that any expenditure referred to in the plan is, or is not at that time, in the interests of persons within British Columbia who receive, or who may receive, service from the public utility, and

(b) determine the manner in which expenditures referred to in the plan can be recovered in rates.

On the basis of subsection 6.1, the Commission will require that any resource plans filed under paragraph 6.1, (a), (b) and (c) be prepared in accordance with the Guidelines.

The Commission requires consideration of all known resources for meeting the demand for a utility's product, including those which focus on traditional and alternative supply sources (including "BC Clean Electricity" as referred to in the Energy Plan), and those which focus on conservation of energy and Demand Side Management ("DSM").[1] Resource planning is intended to facilitate the selection of cost-effective resources that yield the best overall outcome of expected impacts and risks for ratepayers over the long run. The process aids in defining and

[1] *Demand Side Management* may be defined as a deliberate effort to decrease, shift or increase energy demand. Utilities develop DSM programs to encourage customers to enact DSM measures. Because of measurement difficulties and uncertainty about consumer behavior, DSM programs should be evaluated before and after implementation to determine their full impacts.

assessing market-based costs and benefits, while also entailing the assessment of tradeoffs between other expected impacts that may vary across alternative resource portfolios. Such impacts may be associated with objectives such as reliability, security of supply, rate stability and risk mitigation, or specific social or environmental impacts. In sum, a resource planning process that assesses multiple objectives and the tradeoffs between alternative resource portfolios is key to the development of a cost-effective resource plan for meeting demand for a utility's service.

In most circumstances, Certificates of Public Convenience and Necessity ("CPCN") applications should be supported by resource plans filed pursuant to Section 45 of the UCA. The Commission expects that resource plans will help facilitate the review of utility revenue requirements and rate applications.

The Guidelines do not alter the fundamental regulatory relationship between the utilities and the Commission. The Guidelines do not mandate a specific outcome to the planning process, nor do they mandate specific investment decisions. The Guidelines provide general guidance regarding Commission expectations of the process and methods for utilities to follow in developing plans that reflect their specific circumstances. More specific directions regarding resource plans will be provided to utilities on a utility to utility basis. Further directions may address issues regarding the elements of the resource plan or the underlying methodology. The Commission will review resource plans in the context of the unique circumstances of the utility in question. For this reason, the Guidelines do not distinguish between the circumstances of small and large utilities or between transmission and distribution utilities, nor do they prescribe specific planning horizons or approaches to resource acquisition. Although the Guidelines are not prescriptive in that sense, after review of a resource plan the Commission expects to be prescriptive on a utility by utility basis, as necessary, to facilitate cost-effective delivery of a reliable and secure supply that meets demand for a utility's service.

1. Identification of the planning context and the objectives of a resource plan

Key underlying issues and assumptions that inform the planning context should be identified and discussed (e.g., reliability and security issues, risk factors, major uncertainties). Objectives include, but are not limited to: adequate and reliable service; economic efficiency; preservation of the financial integrity of the utility; equal consideration of DSM and supply resources; minimization of risks; compliance with government regulations and stated policies; and consideration of social and environmental impacts.[1]

2. Development of a range of gross (pre-DSM) demand forecasts

In making a demand forecast, it is necessary to distinguish between demographic, social, economic and technological factors unaffected by utility actions, and those actions the utility can take to influence demand (e.g. rates, DSM programs). The latter actions should not be reflected in the utility's gross demand forecasts.[2] More than one forecast would generally be required in order to reflect uncertainty about the future; probabilities or qualitative statements may be used to indicate that one forecast is considered more likely than others. The energy end-use categories[3] used to analyze DSM programs should be compatible with those used in demand forecasting, so that at any point a consistent distinction can be made between demand with and without DSM on an end-use category-specific basis. Thus, the gross demand forecast should be structured in such a way that the savings, load shifting or load building due to each DSM resource can be allocated to specific end-uses in the demand forecast.

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[1] Bonbright, Danielsen and Kamerschen, (Principles of Public Utility Rates, 1988, Ch.8, p.165) suggest that the rates set by utility commissions invariably involve some discretionary judgment about the extent to which broader social principles should influence ratemaking. Because of social and environmental impacts, the rates charged by utilities may be allowed to deviate from those that would result from a rate determination based exclusively on financial least cost. The objectives to be addressed may be identified by the utility, intervenors, or government. The BC Utilities Commission interprets its jurisdiction as extending only to consideration of environmental and social impacts that are likely to become financial costs in the foreseeable future.

[2] In other words, gross forecasts represent an attempt to simulate markets in which the utility did nothing to influence demand. Of course, this is not entirely possible. Utilities will continue to require rate increases and existing DSM programs will affect demand as will already ordered rate design changes. However, the assumptions made with respect to these factors in estimating future gross demand should be clearly specified so that the effects of these assumptions may be distinguished from the effects of future utility actions designed to influence demand.

[3] The term *End-use categories* is intended to mean energy consumption by categories of end-user, such as industrial, commercial, or residential. Guideline No. 2 does not prescribe *end-use forecasting* or *end-use modeling*, but rather requests that forecast outputs and DSM results be organized and checked according to end-use categories.

3. Identification of supply and demand resources

Feasible[5] individual supply and demand resources, both committed and potential, should be listed. Individual resources are defined as indivisible investments or actions by the utility to modify energy and/or capacity supply, or modify (decrease, shift, increase) energy and/or capacity demand.

4. Measurement of supply and demand resources

Each supply-side and demand-side resource must be measured against the objectives established under Guideline No. 1. This includes identifying utility and customer costs (life cycle costs, impact on rates, etc.), associated risks, and lost opportunities.[6] Characterizing the feasible supply and demand resources could also include reporting how these resources perform[7] relative to specific social and environmental objectives. This can facilitate a more comprehensive understanding of the tradeoffs between objectives as they may be associated with various supply and demand resources. Supply and demand resource cost estimates should represent the full costs of achieving a given magnitude of the resource. These cost estimates may be represented as supply curves; i.e. graphs showing the unit costs associated with different magnitudes of the resource.

5. Development of multiple resource portfolios

For each of the gross demand forecasts, several plausible resource portfolios should be developed, each consisting of a combination of supply and demand resources needed to meet the gross demand forecast. The gross demand forecasts and the resource portfolios should cover the same period, generally 15 to 20 years into the future.

6. Evaluation and selection of resource portfolios

For each of the gross demand forecasts, the set of alternative resource portfolios that match the forecast are assessed against the objectives. Analysis of the tradeoffs between portfolios and how they perform under uncertainty will facilitate determining which portfolio performs best relative to the stated objectives. This process will lead to the selection of a set of preferred resource portfolios, each portfolio matching one of the gross demand forecasts.[8]

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[5] Feasible resource options are defined as those options consistent with the objectives of the resource planning process, as established under Guideline No. 1. For example, government policy may rule out a particular technology or form of energy.

[6] *Lost opportunities* are opportunities that, if not exploited promptly, are lost irretrievably or rendered much more costly to achieve. Examples can include cogeneration opportunities that are available but not taken when renovating a pulp and paper mill, or additional insulation that is not installed in a new house.

[7] Performance measures may be quantitative or qualitative.

[8] Guidelines No. 4 through No. 6 may require an iterative process to account for any interdependencies.

7 Development of an action plan

The selection process in Guideline No. 6 provides the components for the action plan. The action plan consists of the detailed acquisition steps for those resources (from the selected resource portfolio) which need to be initiated over the next four years in order to meet the most likely gross demand forecast. The action plan should include a contingency plan that specifies how the utility would respond to changed circumstances, such as changes in loads, market conditions or technology and resource options. For resources with considerable uncertainty, the action plan should incorporate an experimental design and monitoring plan to allow for hindsight evaluation of associated market impacts and full resource costs.

8 Stakeholder input

Although utility management is responsible for its resource planning and resource selection process, utilities should normally solicit stakeholder input during the resource planning process. Methods could include stakeholder collaboratives, information meetings, workshops, and issue papers seeking stakeholder response. Utilities are encouraged to focus such efforts on areas of the planning process where it will prove most useful and to choose methods that best fit their needs.

9. Regulatory input

To streamline the regulatory process, utilities are encouraged to seek review and comment from Commission staff during the various phases of resource plan preparation.

10 Consideration of government policy

A resource plan filed in accordance with the UCA and these Guidelines should be consistent with government policy, as it is expressed in legislation (e.g. efficiency standards) or in specific policy statements and directives. Emerging policy issues, such as increased control of emissions, may be addressed as risk factors.

11 Regulatory review

Upon receipt of a resource plan filed pursuant to Section 45, paragraph 6.1, the Commission will establish a review process, as necessary, pursuant to Section 45, paragraph 6.2. A review may provide, as the Commission considers appropriate, opportunities for written and/or oral public comment.

Taxpayers, miners to help pay for Yukon Energy

Friday, June 16, 2006
By Graeme McElheran *News Reporter*

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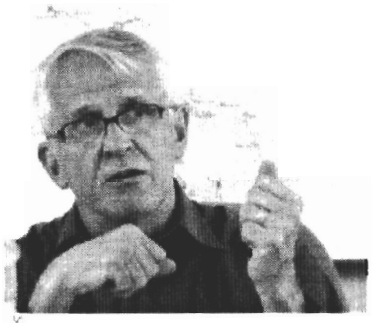

Jan Stewart/Yukon News

EYE ON THE FUTURE ... Yukon Energy's David Morrison announced the corporation's 20-year plan on Tuesday.

The Yukon Energy Corporation has some expensive plans for the future.

In a 20-year resource plan, released Tuesday, the corporation cites four projects to handle projected population and utility growth.

While Yukon Energy creates more hydroelectricity than its customers can use at a given moment, the territory is ill-prepared for a crisis, as it learned in January when a technical breakdown at Aishihik Lake caused power outages in much of southern Yukon.

"This system needs some investment, pure and simple," said corporation CEO David Morrison.

"We need to be able to lose a component (of the system) and still meet the load of all our customers."

Yukon Energy already has money in its annual budgets for the less expensive projects, he added.

But taxpayers and mining companies will have to bear some of the more expensive costs.

The most expensive proposal is to build a transmission line between Carmacks and Stewart Crossing, along the North Klondike Highway.

The $32-million project would link the territory's two major power grids: one in the south, between Whitehorse, Aishihik Lake and Faro, and one in the north, between Mayo and Dawson City.

The Carmacks-Stewart line would provide hydroelectric power to Pelly Crossing, which currently burns diesel fuel for power, and possibly to two new mines scheduled to open in the near future.

Yukon Energy already has a power purchase agreement in place with Sherwood Copper Corporation, which plans to strip an open pit copper mine at Minto this summer and launch production in 2007.

And Yukon Energy is "confident" that Western Copper will begin production at Carmacks Copper by 2008, said Morrison.

Yukon Energy will likely ask the Yukon government to pay half the tab, or roughly $15 million, he said.

The mines will likely have to pay a portion of the construction costs as well, he added, without giving an estimated sum each mine would be asked to pay.

The next most expensive proposal is to build a third hydro turbine at Aishihik Lake.

The Aishihik facility currently produces about 30 megawatts of energy with two turbines.

Combined with about 24 megawatts from the Whitehorse hydro facility and power from community diesel generators from Faro to Haines Junction, the southern grid currently produces a maximum allowable peak load of 68.7 megawatts.

Building a third turbine at Aishihik, for $7 million, would boost production of the southern grid by seven megawatts.

The third proposal is not intended to boost production, unless there is an emergency.

Yukon Energy wants to overhaul three 35-year-old Merlee diesel engines at Whitehorse for $6.3 million, adding 12,000 hours of life to the machines and holding 11.4 megawatts in strict reserve.

"We keep the diesels turned off," said Morrison.

"That's part of the idea here.

"We refurbish them, but we keep them as a backup."

The fourth proposal would not boost production either, but it would allow more control of the Marsh Lake reservoir.

Yukon Energy is seeking an amendment to its water licence that would allow it to open the floodgates at Marsh Lake later than August 15, possibly raising the lake surface by 0.3 metres higher than is currently allowed.

The extra water would increase winter power at the Whitehorse hydro facility by 1.3 megawatts.

However, Yukon Energy expects to hear concerns from cottage owners around Marsh Lake.

"There may well be some shoreline erosion protection that's needed," said Hector Campbell, director of resource planning and chief information officer for Yukon Energy.

Consultation with Marsh Lake residents will commence this summer, said Morrison.

Yukon Energy will hold public consultations for all four

proposals, before any of them proceed, he said.

Morrison admitted that summer is not the ideal time to do public consultation.

But Yukon Energy is under the gun to get at least one of the projects moving forward, he said.

Yukon Energy has promised to do its best to pipe power in to the two mines by 2008.

It will take about a year to construct phase one of the Carmacks-Stewart transmission line, from Carmacks to Pelly, said Morrison.

If Yukon Energy wants to begin construction by spring 2007, it will need all the requisite permits, including an assessment from the new Yukon Environmental and Socioeconomic Assessment Board, in less than a year.

Once they start buying power from Yukon Energy, the mines should serve as downward rate drivers, since they'll be purchasing lots of electricity for about $6 million per year, said Morrison.

But none of the proposals necessarily need mines in production in order to make economic sense for the territory's future, he said.

However, "we wouldn't necessarily do some of these if there is no mining," said Morrison.

Yukon Energy doesn't plan to expand its wind power program.

The two windmills atop Haeckel Hill contribute very little power to the Whitehorse-Aishihik-Faro grid.

But there are also no plans for major power-generating projects, said Morrison.

"There are no plans in here to build a great big dam or a coal-fired generating plant," he said.

The 20-year plan was offered to the Yukon Utilities Board for approval on June 1.