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Hydro's Asset Management Plan a Model Winner

An asset management plan that sells itself

- ✓ to users on the basis of its useability and
- ✓ to senior executives on costed benefits

has to be a winner in anybody's books.

There are any number of elements in the Hydro Electric Corporation's winning entry, submitted by Ken Gray, that can usefully be employed in other agencies, councils, or private sector companies.

- 1] Costed Benefits
- 2] Simple, clear, measurable, goal
- 3] Assessment of current situation in simple terms
- 4] Project objectives for the asset management strategy development
- 5] Project outcomes from the asset management strategy development and
- 6] Development of tools of application (condition assessment and reporting)
- 7] Attention paid to risk and costs
- 8] A project plan
- 9] Stakeholder Management Process, and
- 10] The next steps to be taken

All of this presented in a well-written document, with well-selected illustrations and appropriate photographs, makes this project accessible even to those without a knowledge of hydro-electric generation. It is a model of how a competition entry should be presented and is a most justified winner of the Sinclair Knight Merz Award for Excellence. (cont. p. 170)

SINCLAIR KNIGHT MERZ

Award for Asset Management Excellence

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Strategic Asset Management

The Hydro's Winning Asset Management Plan

The executive summary states the case simply and succinctly (in just 250 words).

Executive Summary

The Hydro Electric Corporation (Hydro) is in the process of developing strategic Asset Management Plans for the future management of critical elements in its electricity supply chain. The asset management plans will eventually aggregate to become Total Asset Management Plans for our 27 power schemes.

This report describes the first of these strategic asset management plans which has resulted in an overall cost saving in the order of \$3 million (30%) of the pre-study projected expenditure over the next 10 years.

The management plan was completed to provide a comprehensive assessment of transformer condition and risk exposure to the business, and to recommend future maintenance and management strategies to minimise life cycle costs.

A key initiative of the plan is the development of life cycle management for transformers. The emphasis on the life cycle is to enable the service life of transformers to be more accurately predicted and provide a basis for future asset management strategies.

All management strategies have been developed around this life cycle and the assessed condition of the transformer.

By adopting this asset management plan over the next 10 years, the Hydro will:

- Extend the nominal transformer service life by 13%
- Achieve a maximum reduction of risk exposure in the order of 60%
- Marginally reduce transformer refurbishment expenditure, but rearrange priorities

- Significantly defer transformer replacement expenditure by 68% due to its life extension
- Reduce the existing 79 transformers to 64 and maintain an average transformer age profile of 35 to 40 years.

Having a clear goal helps.

The Generation Division's business goals include developing and executing long term strategies to maintain the service potential of aging hydro plant *for as long as they are a commercially viable power source in Tasmania.*

Passive civil assets comprise about 80% of the cost structure, not subject to the normal wear and tear that rotating or electrical components experience. This, combined with a clean operating and low seismic environment, as is the case in Tasmania, and the life of these civil assets can be measured in hundreds of years, whereas the remaining 20% of assets have lives measured in decades or less.

The Challenge

The challenge for the Hydro is to take full advantage of the high initial investments in the civil assets by developing advanced asset management plans for those shorter-life electrical and mechanical assets to achieve maximum plant reliability, manage risk and optimise life cycle costs.

Assessment of current situation

- Less than optimal maintenance practices in the past
- Limited quality knowledge of condition and performance
- Aging assets approaching the at-risk phase of the life cycle
- The magnitude of lost income due to asset failure

Project objectives for the asset management strategy development

At project conception the following strategic objectives were set:

- Develop high-level corporation policies for the future management of critical switchyard assets
- Assess the condition of all hydro power transformers
- Determine a strategic asset management plan based on the power transformer policy, quantifying business risk exposure and strategies to mitigate risk to an acceptable level
- Develop life cycle management strategies for transformers
- Produce an optimised projected refurbishment and replacement expenditure profile for transformers over the next ten years
- Develop a user-friendly condition assessment and prioritisation tool for field personnel and management reporting

Both senior management approval of the plan and ownership of the recommendations by field personnel would measure project success.

Key Hurdles overcome in the path to success included

Switchyard policies

No switchyard policies were available, from within or external to the Hydro, which described asset management objectives in terms of performance, compliance, risk management and the life cycle costs, or detailed the principles required to achieve the objectives. Policies were drafted for all key assets and final approval obtained after extensive discussions with stakeholders and management

Research/ information gathering

A study of technical papers and discussion with national transformer experts to obtain contemporary transformer assessment philosophy produced limited information. Little condition assessment criteria was found to exist for hydro generator transformers so a high degree of engineering initiative and judgement was necessary to develop an asset management plan for hydro power transformers.

Develop a life cycle asset management plan

A transformer life cycle curve was required to develop a management plan. While generic life cycle curves were readily available, this hurdle was not overcome until a preliminary report became available from the Canadian power industry on life cycle management of hydro assets. Limited information from this report, together with engineering judgement, delivered the life cycle curve.

The condition based management plan for hydro power was then developed by applying engineering judgement and bringing together the life cycle curve, the expected stages in a transformer's life, and the recently developed condition assessment criteria and condition quality index.

Stakeholder Management Process

Presentations were made to stakeholders during the transformer study and again soon after the report was issued. The success of the final presentations was measured by surveying attendees.

A very high degree of positive response was received with all stakeholders finding it relevant to their work and anxious to find out more, as evidenced in statements like the following:

“An excellent approach to a study on generation assets on behalf of asset owners. I see this work as invaluable and I feel it should be extended to all other key asset groups”

and

“I back the report 100% and intend to implement the recommendations ASAP or to budget. I fully understand the ramifications of the do nothing syndrome. An excellent report.”

What the users liked was (1) clear strategic directions (they could *understand*) and (2) the development of user tools: the condition assessment criteria and the condition quality index, which meant they were not just being exhorted to do something, they actually had the tools to do the job. ■

Trends in
Property Disposal
in Australia, Canada, and around the World

- ***How are other countries managing their property disposals?***
- ***What problems do they face?***
- ***What direction are they trending?***

This article by Liz Fox, of Ottawa, Canada, reviews Australia (Commonwealth, New South Wales, Queensland, Victoria), Canada (Federal, Alberta, British Columbia, New Brunswick, Nova Scotia, Ontario, Quebec, Saskatchewan), Switzerland, the United Kingdom and the United States.

The study was completed August 1998.

“Property Disposals no longer an in-house activity”

The majority of the countries studied no longer require in-house public servants to manage the disposals of Government real property. Disposals in Commonwealth countries, such as Australia and the United Kingdom have been handled by private sector agents for some time, albeit under the management and co-ordination of “in-house” government teams.

“Crown Corporations taking a more commercial approach”

Almost all governments reviewed have moved to using Crown Corporations or partnership approaches with the private sector. Only the Federal Canadian Government, among the countries surveyed, had two separate organisations, a departmental organization and a Crown Corporation required to undertake disposals for a Government.

“Few centralised property managers left”

With the exception of the Canadian Federal Government and the Provinces of Nova Scotia, New Brunswick and Switzerland, which have appropriated funds for facilities to be managed centrally, almost all countries have moved to a commercial basis, including most large Canadian Provinces which are serviced by Crown Corporations.

“Australian Governments moving away from property ownership”

Property reforms in the Australian Commonwealth Government have resulted in more rigorous ownership assessment reviews and divestment activity. The aim is to achieve the Government’s goal to move towards non-ownership of real property and to move the Domestic Property Operations Group (established May 1998) to an advisory role to Government and best practice resource for departments and agencies.

“New Focus on Strategic Planning, Audit”

In recognition of the need for a strategic planning and coordination body after the impact of decentralisation and devolution, Australia (CW, NSW, Qld.) are in various stages of establishing Cabinet-level strategic planning and co-ordination bodies. Whole-of-government financial and administrative benefits in regard to the sales program are pursued through the establishment of a Commonwealth Property Committee. In Victoria (Australia) the Government Land Monitor agency was established to audit cases where properties are valued in excess of \$250,000.

Similarly, while the UK Government is in the process of deciding whether to transfer all assets to the private sector, there is a growing recognition of the need to consider the cost to the exchequer as a whole. Consequently the UK is moving towards an increased emphasis on internal co-ordination.

In the Australian CW and NSW governments, strategic planning and co-ordination activities include the establishment of registers of property holdings, including occupancy rates, space usage densities and all costs as a means to monitor, benchmark performance and assess the application of appropriate "incentives".

"Canadian Federal Government moving against the global trend"

Globally, the trend towards establishing strategic management frameworks to manage property holdings, usage and disposal, is not fully reflected in current Federal Government management practice in Canada. Although the Bureau of Real Property Management (BRPM) was established 10 years ago as the strategic property unit in Canada's Treasury Board (Budget Office), it has over the last three years lost its higher focus and reverted to managing operational transactions.

"Four models currently in operation"

Model 1. Government Department (GD) Services

Definition:

Countries in the Government Department (GD) Services group embody the traditional approach to asset disposal since the establishment of their laws governing the use and disposal of real property. They have exclusive and mandatory agents for the disposal of government-owned assets operating under

appropriated funding with sales proceeds going to a government fund for either general revenue, debt reduction, or financing community projects.

The identified countries in this category are: Canada (New Brunswick, Nova Scotia), Switzerland and the United States.

Trend: No change in current directions

With the exception of the United States, which is currently undertaking a review of the Property Act for the purposes of identifying initiatives to promote Federal real property asset management, beyond the current focus on disposal, there appears to be no movement to change existing disposal practice. One exception is Nova Scotia, which is looking at implementing charge backs for the costs associated with operating and disposal of properties.

Issues: 1. "A lack of business like incentives"

Major issues related to the current system of disposal in New Brunswick, Nova Scotia and the U. S. cover a number of similar concerns, notably *lack of business-like incentives* to improve the management of real property holdings.

2. "More options needed"

The U.S. cites limited alternatives short of disposal and is looking for ways to improve underperforming assets by increasing flexibility and options at the pre-excess state, such as expanding the use of exchange and out-leasing transactions and pursuing the use of public/private partnership ventures. Nova Scotia, Canada cited the cost of operating the buildings until Real Property can dispose of them.

Model 2. Government Commercial (GC) Services

Definition:

Government Commercial (GC) Services re-

semble the previous model in terms of traditional, historic policy approach to government disposal but are becoming more commercial. Governments in this group do not have exclusive and mandatory agent status for the disposal of government-owned assets.

Property disposal can be carried out on behalf of a custodian department through several agents – the GC group itself, an independent agency or Crown Corporation (as in Canada), a private sector real estate company or the custodian department. Proceeds can be directed to a Consolidated Revenue Fund (CRF) but generally, there is some form of revenue return to the disposing custodian.

The identified countries in this category are: The Canadian Federal Government, and Australia (Queensland).

Trend: Private Sector favoured

Private sector agents tend to be chosen for properties that warrant a sophisticated marketing strategy.

The Canadian Federal Government has two agents providing disposal services: the arm's length Crown Corporation, the Canada Lands Company, and Public Works and Government Services' (PWGSC) Real Property Services (RPS). The value of having two agents (in-house government and private sector or Crown Corporation) performing similar roles is questionable given global trends towards the private sector model. RPS has moved from managing buildings to managing performance.

Issues: 1. Need for better reporting and information on a broad departmental wide basis

Canada's RPS is dealing with the loss of its service provider role at the same time as it is seeking to move to a more strategic advisory role to clients. Stakeholder feedback indicates the need for a reliable, centralised source of strategic advice and support to custodians

both for real estate and issues such as aboriginal title/interest in Crown lands. Departments are seeking "better reporting, feedback on disposals and for information on a broad departmental wide basis".

2. Insufficient incentives to declare surplus

An issue is insufficient incentives for custodians to declare surplus assets as they see the revenue-sharing arrangements to be unfair. Other concerns relate to the issue of accountability as custodians are responsible for the full lifecycle management of their property, including responsibility for environmental and asset integrity aspects of custodianship, but have little authority to undertake real property transactions.

**Model 3.
Independent Agency/
Crown Corporation (CG) Services**

Definition:

Agencies in the Crown Corporation (CG) model operate almost exclusively as mandatory and sole disposals agents to their respective governments (exceptions are Canada Lands Company Ltd and British Columbia Buildings Corporation which compete with other agents.) Proceeds from real property are used firstly to pay off disposal costs and associated debt, and the remainder is returned to the Province or CRF.

In this category are the Federal Government of Canada, the Provinces of British Columbia, Ontario, Quebec, Saskatchewan.

Trend: Need for Crown Corporations being questioned

Crown Corporations are fairly recent creations. Current trend is to question the continuing need for a Crown Corporation to perform activities already undertaken by the private sector.

Issues: Efficiency hampered by environment

Crown Corporations are required to obtain best value for disposal of Crown lands, and thus generate benefit for the Crown but are vulnerable to policy changes, as well as the economic and political environment. For example, devolution of property management (and environmental clean up) responsibility to provincial departments in Ontario, loss of CC's authority to retain all revenues from sales and transfer of all real property back to the Ontario Government has fuelled a move from a CC to a private sector operational model where the intention is that, in five years, Ontario Realty Corporation will become an optional service.

**Model 4.
Private Sector
(PS) Services**

Definition:

Governments using private sector services exclusively have agreed a range of benefits (ie management, operational efficiencies and maximization of property value) associated with contracting out disposal activities to the private sector. The contracting out is viewed as a "partnership" arrangement enabling the government to move from the previous service provider role to a more strategic planning and co-ordination role across whole-of-government.

Identified countries in this category are: Australia (CW, NSW, Qld, Victoria), Canada (Alberta), and the United Kingdom.

Trend: Increased reliance on private sector

Based on the countries surveyed, there is a trend to increased reliance on private sector agents for the delivery of disposal services. Parallel to this is a trend to central government co-ordination and planning bodies to

oversight sales programs and provide strategic property advisory services to departments.

Issues: Emerging centralised co-ordination

In general terms, the government as custodian is responsible for the disposal of its Crown properties but uses panels of private sector agents, sales advisors, etc to implement the actual sales. In all cases, the agents' contracts are managed by in-house government teams. The emerging centralized co-ordination function stems from governments' concern over potential probity issues in relation to property sales and the need to ensure a strategic, whole of government approach to the management of public sector assets.

Conclusion

Globally, Governments' priority is on dividing real property ownership according to core and non-core property, divesting non-core property and promoting agency responsibility for real property management through life cycle asset management, performance measurement and benchmarking. In terms of the management structure required to perform these tasks, Governments, globally, are opting to "contract out" the real property disposal functions in the form of a partnership approach with the private sector.

Liz Fox is a Canadian who spent a few years with the New South Wales Public Works Department before leaving to join the Canadian Audit Department in Ottawa.

She has won a High Commendation from the judges of the International Asset Management Competitions 1998-1999 for this entry. She may be contacted at <fox.elizabeth@hotmail.com>

Our judging panel for the Awards this year:

Our judges this year were drawn from the ranks of senior practitioners

- ✓ David Hope
- ✓ Jeff Roorda

and past winners of Competition Awards

- ✓ Simon Soon (1996 overall first prize winner)
- ✓ Phil Holloway (1997-1998 overall first prize winner)
- ✓ Bevis Kennett (1997 –1998 peer review winner)
- ✓ Michael Zissler (1997-1998 runner up)
- ✓ Neil Tucker (1997 – 1998 award winner)
- ✓ Linton Pike (1997 – 1998 award winner)

On Criteria

(Entrants were asked to establish the context, state the challenge or opportunity they faced, state the objectives/criteria for success/failure, show what alternatives they considered and argue why they chose the option that they did.)

Comments: “Alternatives needed to be covered to a greater extent so that the rationale for choosing the preferred option could be better dealt with”; “Objectives were not stated up front but instead hidden within the paper”; “Success and failure criteria not stated”; “Objectives not defined”; “Provided sufficient linkage between the asset management strategy and the organizational objectives to identify the challenge”:

On Action Taken

(Entrants were asked to describe the project, its costs and its outcomes)

Comments: “Documented process, gave good understanding of the issue, planning steps provided”; “Costs given in tabular form but needed to be expanded”; “diagrams given but not used to good ability in support of argument”; “No tangible benefits quoted” “Potential use of system and its data were expressed in the “future”, there was no evidence of this delivering the benefits yet” “only the costs of the project were given, therefore difficult to judge the benefit to the organization”;

International Asset Management Competitions 1998-1999

“WHAT THE JUDGES HAD TO SAY”

As convenor of the competitions I am delighted to see the quality being maintained and increased. This year we had over 100 inquiries, and 25 entries – which suggests that intending entrants are carefully considering what they submit. Also supporting this is the fact that this year, for the first time, all entries were qualifying entries.

To help intending entrants in the Year 2000 competitions, here are some of the judges’ comments. Overall, entries are improving in the statement of objectives and description of project. More attention needs to be paid, however, to costs and benefits.

On Value

(Judges were asked to assess the value of the entry to the organization and to others)

Comments: “The value to the organization is clear but what about the flow on benefits, has it inspired other initiatives or thinking?”; “the use of these guidelines to benchmark all public facilities could prove invaluable”;

On Style of Presentation

(Judges were asked to assess the style from the point of view of readability, interest, and astute use of illustration)

Comments: “clear and concise” “background paper gave good anecdotal examples” “good style and layout”, “diagrams were well balanced” however the judges pointed out that in some cases “it was not an easy read but had content”, “fonts too small”, “poorly articulated” “charts not tied to text”; “photographic examples could have been useful” “diagrams were well balanced, but needed more graphical information to see effect of improved systems, outputs, etc from database.”

And an important point for all intending entrants -

“considering the audience is international, it is advisable to explain terms and abbreviations”.