NEWFOUNDLAND AND LABRADOR HYDRO
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BY HAND July 24, 2006

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road
St. John's, Newfoundland & Labrador
A1A 5B2

Attention: Ms. G. Cheryl Blundon,
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Application for the Approval of the Deferral of Expenses associated with the Repair of the Unit 2 Boiler at the Holyrood Thermal Generating Station as a Major Extraordinary Repair

Please find enclosed the original plus ten (10) copies of the above-noted application together with supporting affidavit, draft order, and the 1991 Peat Marwick Report report, "Accounting for Major Plant Replacements and Repairs".

We trust that you will find the enclosed to be satisfactory.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Legal Counsel

Encl.

c.c. Mr. Peter Alteen - Newfoundland Power
Mr. Thomas Johnson - Consumer Advocate
Mr. Edmund Stuart - Aur Resources Inc.
Mr. Joseph S. Hutchings, Q.C., Poole Althouse &
Mr. Paul Coxworthy, Stewart McKelvey, counsel for Industrial Customers

IN THE MATTER OF the
Public Utilities Act (the "Act"); and

AND IN THE MATTER OF an
Application by Newfoundland and
Labrador Hydro ("Hydro"), for the
approval of the deferral of expenses
associated with the repair of the Unit 2 Boiler
at the Holyrood Thermal Generating Station
as a Major Extraordinary Repair.

TO: The Board of Commissioners of Public Utilities (the "Board")

THE APPLICATION OF HYDRO SAYS THAT:

1. Hydro is a statutory body corporate existing pursuant to the *Hydro Corporation Act,* c. H-16 of the Revised Statutes of Newfoundland and Labrador, 1990, as amended, and is a public utility within the meaning of the Act.

2. Hydro is the owner and operator of a 466 MW (net) heavy oil-fired thermal generating station situated at Holyrood (the "HTGS"). On January 6, 2006 Unit 2 of the HTGS tripped due to the failure of a boiler tube at the approximate mid-section of the east boiler wall. Hydro immediately requested authorization of the Department of Government Services to open the boiler for inspection.

3. The boiler manufacturer (Alstom Power) was brought to site to inspect the boiler so as to determine the cause of the failure. It was determined that the failure was caused by hydrogen damage resulting from under-deposit

corrosion of a boiler tube. Through the inspection it was also discovered that there were approximately twenty other boiler tube blisters at the same general elevation.

4. Alstom Power then performed an evaluation of the complete boiler to determine any temporary repairs that could be effectively made prior to permanent restoration, to provide Hydro with a plan to replace all damaged boiler tubes that were substandard according to applicable regulations, and to determine appropriate specialized testing to be undertaken during the next scheduled maintenance outage to ensure the long-term reliability of the boiler.

5. During the winter of 2006, Hydro undertook repairs of the boiler tubes in accordance with a work plan approved by the Department of Government Services. Also during this period, Hydro ordered waterwall panels to be installed by Alstom Power during the May 2006 scheduled maintenance outage.

6. During the May 2006 maintenance outage, specialized testing was undertaken through which it was determined that there was degradation of several other tube sections that required replacement in order to ensure long-term reliability. An order was then placed for these waterwall panels that Hydro plans to install in August of 2006.

7. In accordance with a recommendation of Alstom Power, Hydro plans to carry out chemical cleaning of the waterwall tubes in Holyrood Unit 1 in October of 2006.

8. The estimated cost for the boiler tube (waterwall panel) repairs that have been determined, to date, to be required to ensure the long-term reliability of Units 1 and 2 are as follows:

-	Temporary repairs	$214,300
-	Waterwall replacement (initial)	984,650
-	Waterwall replacement (subsequent findings)	675,000
-	Chemical Cleaning	700,000
-	Analysis	168,000
-	Total	$2,741,950
Related to Unit 2 (2006)		$2,223,060

9. Hydro has considered the nature of the repairs and associated work to be carried out and has determined that this is an operating expense, not a capital project, as these works do not meet the asset replacement or asset betterment criteria.

10. In its report dated April 13, 1992, the Board recommended that the accounting treatment policy for extraordinary repairs set out in pages 17 – 18 of a Peat Marwick Report be adopted with a $500,00 threshold. The

policy holds that where the expenses for repairs that are not capital in nature, that are unexpected or unplanned, and that would cause rate shock or a shock to Hydro's earnings were they to be recognized in one year, may be deferred over an extended period of time. A copy of that report is attached hereto as Schedule "A".

12. By Order No. P.U. 2 (2005) the Board followed that extraordinary repair policy in the approval of the deferral of Hydro's Asbestos Abatement Plan costs for the HTGS.

13. The estimated expenditures for Unit 2 in 2006 ($2,223,060) are considerable and would a significant adverse effect on Hydro's earnings were they to be expensed in the year in which they were incurred, therefore, Hydro is proposing that the boiler tube repairs be treated as an extraordinary expense in accordance with the approved policy and that the expenses be deferred over a period of five years as depicted in Table 1 (with the total revenue requirement impact as shown in Table 2):

Table 1
Deferred Charges & Amortization
($000's)

	2006	2007	2008	2009	2010	2011
Opening balance	0	2,075	1,630	1,185	740	295
Additions	2,223					
Amortization	148	445	445	445	445	295
Closing balance	2,075	1,630	1,185	740	295	0
Average Balance	1,038	1,853	1,408	963	518	148
Return on Ratebase (7.47%)	78	138	105	72	39	11

Table 2
Total Revenue Requirement Impact
($000's)

	2006	2007	2008	2009	2010	2011	Total
Total	226	583	550	517	484	306	2,666

13. Hydro requests that the Board make an Order approving the 2006 costs of $2,223,060 associated with the Unit 2 boiler tube repairs as a major extraordinary repair such that the costs of those repairs are amortized over a five year period with a total estimated cost, including financing, of $2,666,000, and that the unamortized balances be included in rate base.

DATED at St. John's in the Province of Newfoundland and Labrador this 24th day of July 2006.

Geoffrey P. Young
Solicitor for the Applicant,
Newfoundland and Labrador Hydro,
whose address for service is
500 Columbus Drive,
P.O. Box 12400
St. John's, NL, A1B 4K7
Tel: (709) 737-1277
Fax: (709) 737-1782

IN THE MATTER OF the
Public Utilities Act (the "Act"); and

AND IN THE MATTER OF an
Application by Newfoundland and
Labrador Hydro ("Hydro"), for the
approval of the deferral of expenses
associated with the repair of the Unit 2 Boiler
at the Holyrood Thermal Generating Station
as a Major Extraordinary Repair.

TO: The Board of Commissioners of Public Utilities (the "Board")

AFFIDAVIT

I, James R. Haynes, Professional Engineer of St. John's, in the Province of Newfoundland and Labrador, make oath and swear as follows:

1. THAT I am employed by Newfoundland and Labrador Hydro, the Applicant herein, in the capacity of Vice-President, Regulated Operations, and as such I have knowledge of the matters and things to which I have herein deposed, and make this affidavit in support of the Application.

2. THAT I have read the contents of the Application and they are correct and true to the best of my knowledge, information and belief.

SWORN TO BEFORE ME in the City of St. John's, in the Province of Newfoundland and Labrador, this 24th day of July 2006.

Barrister Newfoundland and Labrador

James R. Haynes

(DRAFT ORDER)

AN ORDER OF THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

IN THE MATTER OF the
Public Utilities Act (the "Act"); and

AND IN THE MATTER OF an
Application by Newfoundland and
Labrador Hydro ("Hydro"), for the
approval of the deferral of expenses
associated with the repair of the Unit 2 Boiler
at the Holyrood Thermal Generating Station
as a Major Extraordinary Repair.

WHEREAS Hydro is a corporation continued and existing pursuant to the *Hydro Corporation Act,* is a public utility as defined by the *Public Utilities Act*, and is subject to the provisions of the *Electrical Power Control Act*, *1994*; and

WHEREAS in its report dated April 13, 1992, the Board of Commissioners of Public Utilities for Newfoundland and Labrador (the "Board") recommended that the accounting treatment for extraordinary repairs as set out in a Peat Marwick report on the matter for Hydro be adopted and implemented with a $500,000 threshold minimum amount; and

WHEREAS Hydro is the owner and operator of a 466 MW heavy oil-fired thermal generating station situated at Holyrood (the "HTGS") which in January 2006 suffered a failure of a boiler tube causing an outage to the 175 MW generating Unit 2, requiring repair before it could be brought back into operation; and

WHEREAS Hydro has, with the assistance of the boiler manufacturer, investigated the nature of the failure and of the required repair, has determined that the repair is non-capital in nature, that it was not a foreseeable or expected failure; and

WHEREAS the estimated cost for the boiler tube repairs that have been determined, to date, to be required to ensure the long-term reliability of Unit 2 are $2,223,060; and

WHEREAS as the estimated expenditures would have a significant adverse affect on Hydro's earnings were they to be expensed in the year that they were incurred, Hydro has proposed to treat the boiler tube repairs at the Holyrood Thermal Plant as a Major Extraordinary Repair with the costs to be incurred in 2006 to be amortized over a five-year period; and

WHEREAS on July 21, 2006 Hydro applied to the Board for approval that its repair of the failed boiler tube and associated repairs at its Holyrood Thermal Generating Plant be treated as a Major Extraordinary Repair; and

WHEREAS Hydro proposes that the unamortized balance of the deferred project costs be included in rate base; and

WHEREAS the Board has considered the application and the materials filed therewith.

IT IS THEREFORE ORDERED THAT:

1. Hydro treat the costs associated with the Unit 2 boiler tube repairs at the Holyrood Thermal Generating Station, at an estimated cost of $2,223,060 ($2,666,000 including financing), to be carried out during 2006 as a Major Extraordinary Repair and that it accumulate and amortize the actual expenses for the repairs together with interest, for a five-year period.

2. Hydro include the unamortized balance of the deferred Unit 2 boiler tube repairs costs in its rate base.

DATED at St. John's, Newfoundland and Labrador this day of , 2006.

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KPMG Peat Marwick Stevenson & Kellogg
Management Consultants

SCHEDULE "A"

Project Report

ACCOUNTING FOR MAJOR PLANT REPLACEMENTS AND REPAIRS

JULY 1991

Prepared for

Newfoundland and Labrador Hydro
Columbus Drive/Capt. Whealan Drive
St. John's, Newfoundland
A1B 4K7

Submitted by

Andrew Elek
Principal

Toronto
July 22, 1991
1797/AE/ss

Contents

I

Overview

This report summarizes the findings of a study on the accounting treatment of extraordinary expenditures on unforeseen repairs or replacements of assets owned and operated by electric power utilities.

Unforeseen repairs or replacements are defined in this report as activities required to restore the physical condition and operation of the utility's plant to levels consistent with the utility's standards of service, after an unexpected failure or damage. In contrast to unexpected failures or damages, expected failures are those occurring as the result of wear and tear. If not prevented through routine maintenance or repairs, expenditures caused by such failures or damages are normally considered maintenance expenses. Whereas expected failures or damages can usually not be associated with a single event, unexpected failures or damages are usually associated with single identifiable causes.

These are the principal categories of events or causes leading to unforeseen repairs or replacements:

- Natural disasters, such as storms, floods, landslides, earthquakes or other unpredicted environmental causes.
- Acts of violence, such as vandalism, arson, terrorism or sabotage.
- Changes in the regulatory regime concerning environmental, health or safety conditions, requiring replacements of certain assets.
- Human errors, accidents or other emergency conditions occuring within the operation of the power system.
- Externally caused accidents (e.g. by vehicles, birds, etc)
- Errors or misjudgments committed in the past, in the design, specification, manufacturing or installation of equipment or structures.

Whereas the first five categories of causes can be clearly defined, the last category may be subject to considerable engineering judgment. Normally, there is a reasonably wide range of time around the estimated end of the "expected" failure-free average service life of a piece of equipment or a structure, within which the failure may actually occur, without being considered "unforeseen". A failure or damage can only be considered

unforeseen or premature when it occurs before the beginning of that range. When such a failure occurs, judgement has to be exercised regarding the length of time between the failure and the end of the asset's estimated service life, in order to decide whether the failure can be considered "unforeseen".

Once it has been established that a particular failure or damage was "unforeseen", the question arises whether the costs of repairing or replacing the asset, in full or in part, should be treated as an operating expense in the utility's income statement in the year in which the repair or replacement was made, or should this expenditure be capitalized, i.e. included in the utility's balance sheet.

This report addresses that question.

In order to develop guidelines for the expensing or capitalization of extraordinary expenses related to unforeseen failures or damages Peat Marwick Stevenson & Kellogg (PMS&K) conducted a survey of North American electric power utilities. Twenty utilities were approached of which 17 provided responses, at varying levels of detail. In aggregate, the details provided by the respondents were sufficient to develop a comprehensive assessment of industry practices, suitable for being used as background for the development of recommended guidelines for Newfoundland and Labrador Hydro.

Chapter II describes the various ways in which power utilities keep property records and the ways in which they use them for the purpose of depreciation and asset retirements. It further describes the various ways in which repairs or replacements can be applied to a particular asset. For example, are they applied to the entire asset or only to certain parts of it? Generally, Chapter II discusses the approaches that can be taken when the boundaries of a repair or a replacement do not match the boundaries of the property records. Chapter II also comments on those cases in which the value of an asset is enhanced through the extraordinary repair or replacement.

Chapter III describes the general principles applied to the accounting treatment of expenditures on repairs or replacements and the particular application of the principles to extraordinary expenditures caused by unforeseen repairs or replacements. Chapter III further addresses the possible approaches used for writing off parts of the equipment or structures due to damage or destruction, and provides a general logical framework for decision-making in the general areas covered by the report.

Chapter IV describes the utility survey and its results.

Chapter V summarizes the conclusions drawn from the survey and applies them to a logical analysis of the issues examined in this study. Based on the conclusions, Chapter V provides recommended guidelines on the treatment of Newfoundland and Labrador Hydro's extraordinary expenditures on unforeseen repairs and replacements.

II

Units Of Assets

When the need for an unforeseen repair or replacement of an asset, or part of an asset, arises, several forms of action can be taken. They usually include the removing and disposal of an asset or part of an asset, followed by its replacement with a similar item. These are some of the variations of that general process:

- The entire asset, carried as a separate unit on the utility's property records, is replaced with an item "in kind". For example, a damaged transformer is retired and replaced with a similar new transformer.

- Only a part of an asset carried on the utility's property records as a separate unit is replaced. For example, tubes in a boiler are replaced with new tubes.

- The repair of an asset involves the replacement of only minor items and consists primarily of labour. For example, a damaged transformer is put back into service after the replacement of a few relatively minor parts.

- The damaged equipment or structure is removed and not replaced, as a reconfiguration of the power system can restore the service to its previous level without the particular asset.

As a result of the activities above, the value of the repaired or replaced asset may or may not be greater after the activity, than before. These are the alternatives:

- When an **entire asset** is replaced, it is usually replaced with a new item. As, normally, the expected service life of the new item is identical to the original expected service life of the asset it has replaced, the life of the asset functioning in that particular location in the system is extended by the replacement. Hence, the value of the plant is higher after the replacement than before.

- Conversely, a **part of an asset** may be replaced that can not function "on its own" i.e. in isolation from the total asset to which it belongs. In such a case, the fact that a new part has replaced an old part is immaterial and the life of the total asset is not affected by the replacement. Hence, the value of the asset is not increased by the replacement of one of its parts.

- In some instances, even if the useful life of an asset were not extended, a new part might be technologically different from the equivalent old part and, therefore, the asset might be **improved** through the replacement. For example, the capacity of the asset might be increased, its operating costs might be reduced, its maintenance requirements might be reduced, or the value of the asset might be enhanced in some other way. In that case the value of the asset has been enhanced not by extending its useful life but by improving its capabilities or efficiencies.

The most "fitting" of these alternatives must be selected before a decision is made regarding the accounting treatment of extraordinary expenditures on unforeseen repairs or replacements.

According to the considerations above, and confirmed by our survey, the following **criteria** are used by utilities in determining the most appropriate accounting treatment of the expenditures under examination in this report:

- Did the repair or replacement increase the value of the asset in one of the ways described above?

- Is the expenditure considered material, i.e. does it exceed a certain minimum threshold?

- Does the repair or replacement benefit future customers or only current customers? (An example of an expenditure that benefits only current customers is the premium overtime paid to install the replacement facilities for the purpose of speeding up the restoration of service.)

- If the extraordinary expense in question were to be recovered from the rate-payers in the year in which it occurred, would it create an "unreasonable" rate shock? (A rate shock might be considered unreasonable when it would create a significant upward movement of rates in one year followed by a downward movement in the following year.)

- Does the replacement involve an entire unit of property, as carried on the utility's property records, or only part of it?

The last criterion needs some clarification of terms. Distinction must be made between "property units" and "retirement units" as generally used in utility accounting practice. The following are definitions used by one of the surveyed utilities and considered particularly clear:

- **A Property Unit** is defined as one specific item of plant in service, being countable or measurable (such as a pole, a transformer or a pump), or a group of related items so associated on an operating or functional basis that the items are logically considered to form one assembly (such as a turbo-generator unit, a switchboard or a boiler).

- A **Retirement Unit** is defined as the smallest item of property which, on replacement, must be reported and accounted for as an addition, replacement or retirement through the medium of a capital work order when such an item is installed, removed, replaced or abandoned. Retirement units are frequently identical to property units, although in many instances a property unit may include one or more retirement units. Most retirement units may be described as readily identifiable, separately priced and separately useful.

The next chapter presents a logical framework for determining whether a repair or replacement should be capitalized, if so in what manner, and how the undepreciated book value of a removed damaged asset should be treated.

III

A Logical Framework

When an asset or part of an asset has to be replaced as the result of unforeseen events, two types of expenses are incurred:

- Actual expenditures on materials and labour required to fully or partially replace the asset and/or apply major repairs to it.
- Writing off the net book value of the previous asset that had to be replaced as the result of the unforeseen event.

Either of these expenses can be treated in one of the following ways:

- They can be considered as current expenses and shown on the utility's income statement for the year in which they occur.
- They can be capitalized and added to the utility's total assets shown on the utility's balance sheet as Plant in Service.
- They can be shown in the current and future years' income statements as partially deferred expenses and amortized over a limited number of years, while showing the unamortized portion of the original expenditures as a special reserve on the balance sheet.

After having decided on one of the accounting treatments above, a second set of options relates to the utility's ability to recover the expenses from its ratepayers. The first set of decisions is an accounting issue, the second is a regulatory issue.

When extraordinary expenditures are shown as **current year expenses** they can be recovered from the ratepayers only if the utility is able to restore the level of its net income originally approved by the regulator through a rate increase. Due to the regulatory lag, such increase may not always be possible in the year in which the extraordinary expenditure occurred. The recovery of the expense in then subject to the ability of the utility to average its return over consecutive years under its regulatory regime.

In the case of **capitalizing** extraordinary expenditures by adding them to the utility's assets under "Plant in Service", recovery from the ratepayers is assured, as depreciation will be considered in future years as a recoverable expense and Plant in Service, being

part of the utility's total capital or rate base, will earn a rate of return that is consistent with that base.

In the third case, when expenses are simply **deferred**, several options exist. The regulator may or may not allow the reserve containing the unamortized portion of the expenses to be considered part of the rate base and, therefore, the carrying charges of the reserves (returns) could be borne by the ratepayer or by the shareholder.

Since Newfoundland and Labrador Hydro is not regulated on the basis of return on rate base, it is not affected by this issue.

Treatment of extraordinary expenditures

Logical options for the accounting treatment of extraordinary expenditures and the write-off of damaged (destroyed) and removed assets are described below. Three options are described regarding the treatment of extraordinary expenditures.

Option 1: Full capitalization

In Option 1 the repair or replacement is treated in the same way as a new investment. The expenditures are fully capitalized and depreciated. If the replacement is an entire retirement unit, it is depreciated at the rate appropriate for the particular class of asset. If the replacement (or repair) is applied to a part of an asset, depreciation over the remaining life of the asset is adjusted so as to fully depreciate the replacement/repair costs over the remaining life of the asset to which the costs were applied.

This option implies that premature failures, no matter what has caused them, are parts of a probability distribution of failures reflected by the engineering estimates of average service life. Even though the failures may be caused by events that might appear extraordinary at the time of occurrence, the anticipation of such occurrences has in fact been implied in the original service life estimates. Consequently, the repair or replacement would not fall into the "extraordinary" category and its treatment should therefore not differ from the standard practices applied to planned new investments.

Under this option, the losses (writeoffs) caused by premature failures are assumed to be offset by the gains associated with those assets that are able to remain operational well beyond the end of their predicted service lives.

Option 2: Treatment as current expense

This is the other extreme in the spectrum of options, in which all of the replacement/repair expenses are expensed in the year in which they occur and treated as increased maintenance expenses.

This option implies an assumed tradeoff between maintenance expenses and premature repairs/replacements. It implies that a possible reason for the premature replacement/repair might have been a low level of maintenance, causing a "catch-up" in the form of a premature need for replacement/repair. For example, if a structure is not re-painted with sufficient frequency, it may prematurely corrode. In the case of vehicles and work equipment, the less is spent on regular preventative maintenance, the more will be spent on the repair of premature failures.

Option 3: Treatment as deferred expense

Option 3 is a compromise between Options 1 and 2. The replacement/repair expense is only partly expensed in the year in which it occurs with the rest being amortized over the ensuing years. This treatment lessens the "shock" on the ratepayer or the owner's income (depending on whether the expense can be recovered from the ratepayer) but recognizes the fact that the replacement or repair did not enhance the value of the assets and, therefore, there should be no lasting adjustment to the balance sheet on account of the extraordinary expenditure.

The amortization periods usually vary from 3 to 10 years. Whereas amortization periods of two years or, say, 20 years, may also occur, those would make Option 3 to come very close to Options 1 or 2 and would, therefore, not represent a true compromise.

In Option 3, the reserves set up for amortization are shown on the Asset side of the balance sheet and are often allowed by the regulator to be included in the utility's rate base. In those cases the utility is allowed a rate of return on the unamortized amount, charged to the ratepayer.

Utilities that have set rules for treating unexpected replacements/repairs may apply more than one of the options. They may have policies that define the option to be used under various circumstances or may make ad-hoc decisions. The utilities that have rules may attach those rules either to dollar break-points, or to the nature (cause) of the incident that caused the expenditure, or both.

Treatment of writeoffs

There are basically three alternatives for the accounting treatment of assets that have been removed due to destruction or damage:

A) The asset is retired without taking a loss or gain.

B) The asset is written off by taking a loss on the income statement.

C) Depreciation of the asset continues until the end of its originally scheduled service life.

Under Alternative A, the total original cost of the asset is removed from Gross Plant in Service on retirement, and the same amount is removed from the depreciation reserve, with no impact on the utility's Net Assets. When the retirement is premature, i.e., the asset has not yet been fully depreciated, the amount removed from the depreciation reserve is greater than the sum total of the depreciation accumulated for the particular asset over the years. Consequently, the depreciation reserve is depleted to a greater extent than justified by the removal of the particular asset. However, many assets have service lives extending beyond their originally scheduled retirement dates. When depreciation continues for those assets, the depreciation reserve is increased, offsetting the depletion caused by those assets that have been retired prematurely. Alternative A is therefore only suitable for those utilities that conduct periodic depreciation studies to adjust their depreciation rates.

Under Alternative B, the undepreciated book value of the asset is written off on premature retirement. The writeoff creates a loss on the income statement. It also reduces the utility's Net Assets, as a larger amount is removed from the Gross Plant in Service than from the depreciation reserve. This alternative advances the recovery of costs from the ratepayers, charging them with a lump payment in one year in exchange for lower depreciation charges in subsequent years.

Under Alternative C, depreciation is continued according to plan, without a writeoff or potential "rate shock". It is similar in terms of rate impacts to Alternative A.

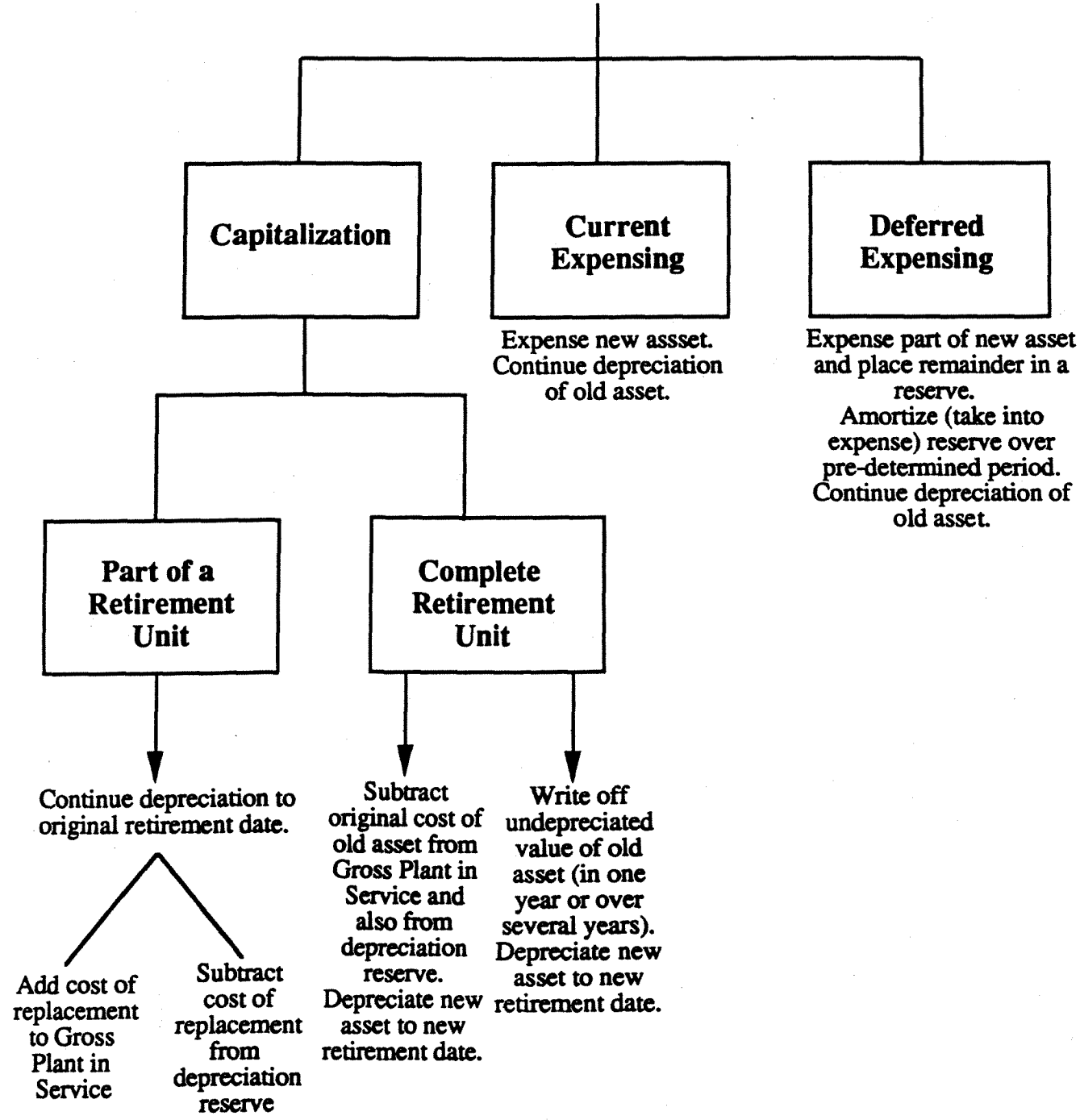
Figure 1 matches Options 1 to 3, listed in the preceding Section with the Alternatives above. The following conclusions can be reached:

- When the costs of replacement or repairs are expensed, either in the year in which they occur or partially deferred, there is no question that depreciation should continue as originally applied to the asset before replacement or repair. This treatment will properly reflect the value of the asset to future ratepayers who will, in this way, be unaffected by the replacement or repair. Thus, Alternative C is applied.

- When a **part** of a retirement unit is replaced or repaired and the cost of the replacement or repair is capitalized, it would be impractical to retire and/or write off a part of the entire asset, as it would often be difficult to determine how much of the booked value should be retired or written off. Consequently, if it was decided that the replacement or repair should be capitalized, either the Gross Plant in Service would be increased by the replacement or repair expenditure or the depreciation reserve would be reduced. In either case, the Net Assets of the utility would increase as the result of the replacement or repair. That increase would be depreciated together with the total asset to which the replacement or repair has been applied, and the replacement would reach the end ot its service life together with that of the total asset. Logically, it would appear that the most appropriate approach under this option would be to increase Gross Plant in Service when the value of the asset has been

Figure 1

Options for Accounting Treatment Of Extraordinary Expenditures



enhanced, and to use up the depreciation reserve for "financing" the replacement or repair when the value of the asset is not being enhanced.

- The only option under which Alternatives A or B would be applied is the option in which a complete retirement unit is replaced. The choice between the two approaches is discussed in Chapter IV.

Chapter IV summarizes the results of the survey of a sample of North American electric power utilities conducted on the subject of this study.

IV

Survey Results

In order to review the practices of North American power utilities with respect to the accounting treatment of extraordinary expenditures 20 utilities were contacted by telephone. Of the 20 utilities, 17 cooperated by explaining their practices regarding the subject matter. The respondents included eight Canadian and nine U.S. utilities. The following is the list of the respondents:

- **Canadian Power Utilities:**
  - Nova Scotia Power
  - New Brunswick Power Corporation
  - Hydro Quebec
  - Ontario Hydro
  - Manitoba Hydro
  - Saskatchewan Power Corporation
  - TransAlta Utilities
  - B.C. Hydro
- **U.S. Power Utilities:**
  - Niagara Mohawk
  - New York Power Authority
  - Duquesne Light and Power Co.
  - Detroit Edison
  - Commonwealth Edison
  - Northern States Power Co.

- Tennessee Valley Authority
- Alabama Power Corporation
- Pacific Gas and Electric

Notes on each of the utilities are attached in Appendix A. This is a summary of the survey findings.

Criteria for capitalizing replacements of complete retirement units

In order the qualify for capitalization, asset replacements or repairs must meet several criteria. Whereas there is much commonality among the utilities with respect to the criteria in general, there is a substantial variance among the utilities with respect to details and exceptions. Each criterion encountered in the survey is briefly described below.

Magnitude of expenditure

Seven utilities reported limits below which all expenditures are treated as expenses. Five of the utilities have fixed numbers, ranging from $5,000 (for B.C. Hydro and the New Brunswick Power Corporation) to $2 million (for Ontario Hydro). Two utilities have ranges depending on types of assets and/or service lives: one utility reported a range of $200 to $25,000, the other a range of $2,000 to $100,000. There did not appear to be any relation between the amount of the limits and the size of the utilities.

Betterment

Four utilities reported that only those extraordinary expenditures are capitalized that produce a new asset that has a higher value than the value of the asset it replaced. Higher value may consist of the extension of service life, of higher quality, or of lower costs of operation. This criterion must be met in addition to the size of the expenditure being in excess of the limit (if any).

Controller's discretion

Three utilities reported that the controller can decide on capitalization, depending on the size of the expenditure. The three utilities reporting controller discretion were different from those that used betterment as a criterion.

Complete retirement units

In the United States, FERC (Federal Energy Regulatory Commission) requires that only complete retirement units can be capitalized when replaced. This means that if

only a part of a retirement unit has to be replaced or repaired, the costs should be expensed. There are a few exceptions, however, from this rule, such as:

- partial replacements or improvements required by changes in safety, health or environmental regulations,

- replacements of parts of assets that are extraordinarily large; such replacements may occur in utilities which chose to have very large retirement units such as TVA (nuclear structures or hydroelectric dams).

In summary, it appears that utilities tend to prefer the capitalization of extraordinary expenditures on unforeseen replacements unless such capitalization violates one of the following restrictions:

- ► The expenditure is less than the threshold value defined for the particular type of asset (for those utilities that specify minimum values).

- ► No betterment results from the expenditure (for those utilities that use that criterion).

- ► The controller decides against capitalization.

It appears that the regulators of the utilities generally prefer capitalization in those instances in which the treatment of extraordinary expenditures as expenses would result in a significant rate shock. At least two utilities reported that from the regulator's perspective, the criterion of avoiding rate shocks would override the requirement that the book value of an asset should only be increased if its physical value was also increased.

Replacing or repairing parts of retirement units

The survey indicated that, in general, utilities tend to treat their extraordinary expenditures on unforeseen replacements or repairs of partial assets as expenses, in the year in which they occur, or amortized over several years. In the United States, that treatment is consistent with FERC (Federal Energy Regulatory Commission) guidelines which state that a replacement must be a complete retirement unit in order to be capitalized.

In Canada, there is no universal requirement for a replacement representing an entire retirement unit in order to be eligible for capitalization. Nonetheless, most utilities appear to follow the U.S. example, with the exception of Manitoba Hydro and the Saskatchewan Power Corporation, which may capitalize replacements or repairs of equipment or structures that are parts of a total retirement unit.When replacement or repair costs for a particular part of an asset are so high that expensing them in a single year would cause a significant rate shock, the expenses might be spread over several years by creating a special reserve. If the rates of the year in which the large expense

occurred cannot be changed, the loss would accrue to the utility's shareholders. The utility would want to recover such losses through rates in subsequent years, and the need for establishing a reserve would still exist.

Three utilities reported treatment of large expenditures in the form of creating a special reserve. One of them reported an amortization period of 10 years and one reported amortization periods ranging from 10 to 20 years, depending on the size of the expenditure.

Those periods are quite long and the cash flows that result from them may not be much different from the cash flows that would result from capitalization. Yet, it appears that for the partial replacement or repair of retirement units the utilities or their regulators appear to prefer this type of treatment over capitalization.

Writeoff of undepreciated book value

When a complete retirement unit is removed due to destruction or damage, and replaced with a new unit that is capitalized, the question arises as to the balance sheet treatment of the gross and net values associated with the removed asset. The survey indicated that utilities use the same method for extraordinary retirements as they use for retirements that occur close to the end of an asset's scheduled service life (i.e. a retirement that might be considered "normal" rather than extraordinary). Accordingly, some utilities follow the practice of writing off the undepreciated net book value of the asset on retirement, others remove the original cost of the retired item from both the Gross Plant in Service and the depreciation reserve, regardless whether the item has been fully depreciated or not.

In the survey, those utilities that responded to this question were almost evenly divided between the two approaches.

As explained in the next chapter, because of Newfoundland and Labrador Hydro's sinking found depreciation method, only the writeoff approach is feasible, which is consistent with Newfoundland and Labrador Hydro's current accounting practices.

According to two responses, the impact of large writeoffs can and should be dampened by spreading the writeoffs over several years. Duquesne Light & Power does this routinely for all writeoffs, using five years for the writeoff instead of a single year. Detroit Edison is applying the same approach for a nuclear plant, which is being written off over a period of 20 years.

Premium wages

Premium wages paid to workers for the emergency replacement or repairs of assets are generally treated as expenses, even if the remainder of the installation costs is capitalized

as part of the total cost of replacement. Only one respondent appeared to deviate from that rule.

The reason given for this approach was the contention that premium wages are only paid because of urgency. The purpose of that urgency is a faster restoration of service, which benefits only current customers.

PCB-related expenditures

Nine utilities reported experience with the problem of capitalizing or expensing the disposal costs of PCB-contaminated oil. These were the responses:

- Two utilities said the expenses are capitalized
- Two utilities reported that the expenses are capitalized when the disposal of the contaminated oil occurs at the same time as the replacement of the transformer.
- The remaining five utilities reported that the removal costs are expensed.

One of the utilities in the last group was Hydro Quebec which actually has not yet expensed any disposal costs, as it is storing its contaminated oil for future disposal. However, Hydro Quebec stated that if they disposed of their contaminated oil now, they would expense the costs and amortize them over a period of time.

The conclusions that might be drawn by Newfoundland and Labrador Hydro from these findings and from the preceding chapters are summarized in Chapter V.

V

Conclusions And Recommendations

Conclusions

From the survey results and the discussion of issues presented in the preceding chapters the following conclusions emerged:

- The industry appears to favour the capitalization of replacements, regardless of costs, when the replacement represents a complete retirement unit. Thus, replacements resulting from extraordinary events would receive the same treatment as replacements occurring in the normal course of operations. However, several utilities found it practical to define a lower limit for the magnitude of an expenditure below which expensing the costs of an extraordinary replacement would present a simpler and more attractive approach. The utilities which reported policies regarding such lower limits did not present a consistent approach to determining those limits, which varied, among utilities, from $5,000 to $2,000,000. Consequently, industry consensus cannot be used by Newfoundland and Labrador Hydro to set a policy regarding a minimum amount below which repairs or replacements should always be expensed. Recommendations on this subject are made in the second part of this chapter.

- The contention that a replacement should only be capitalized if the physical (as opposed to financial) value of an asset is enhanced by the replacement is not consistent with an inflationary economy. It represents a shortcoming of traditional accounting principles, which are based on historical costs. Assets performing identical functions and producing identical values within the same system may have much higher costs when replaced; consequently, if such costs were not reflected on the balance sheet, the Gross Assets would not indicate true historical costs.

- When a part of a complete retirement unit is replaced or repaired, utilities appear to prefer an approach in which the replacement or repair is expensed rather than capitalized. However, when the expense is large, a treatment similar to capitalization can be applied in the form of establishing a reserve for amortizing the expenses over a period of time. That approach is apparently considered to be simpler than interfering with the mechanistic depreciation process of a given property unit. This is particularly true for a utility which,

like Newfoundland and Labrador Hydro, uses the sinking fund method of depreciation for many of its assets.

- The number of years over which a high-cost replacement or repair might be amortized would normally be determined with the objective of avoiding rate shocks. Accordingly, the amortization period should be sufficiently long for avoiding a situation in which annual rate increases would show excessive fluctuations.

- When a new asset that replaces an old asset is capitalized by Newfoundland and Labrador Hydro, the undepreciated net book value of the old asset is normally written off in accordance with its accounting practices. While that approach appears to be the most appropriate in a system in which sinking fund depreciation is extensively used, there is a need for avoiding significant rate or profit shocks when an extraordinary event triggers the writeoff of a large asset. In those cases the writeoff may occur over several years. The appropriate number of years can be determined in the same way as explained above, i.e. with the objective of avoiding significant shocks and ensuring a smooth progression of annual rate increases.

- The premium wages paid for emergency replacements and repairs are expensed by most utilities, which appears to be the appropriate approach.

- Views are divided on the capitalization or expensing of disposal costs for PCB-contaminated oils. However, as mentioned earlier, the survey indicated that capitalization is the usual approach to the treatment of expenditures caused by any regulatory changes aimed at improving safety, health and the environment. This would be the case even if an expenditure were of a nature that would otherwise call for its treatment as an expense. It can be argued that a PCB-free transformer has a higher value than a transformer containing PCB-contaminated oil, as the discounting of the future disposal costs of that oil should reduce the value of the contaminated transformer during its service. That consideration leads to the conclusion that there is justification for capitalizing the disposal costs of PCB-contaminated oils, even when the disposal is not associated with the replacement of the transformer itself.

Recommendations

Based on the conclusions above, the following are our recommendations:

- Newfoundland and Labrador Hydro should generally capitalize the costs of extraordinary (unexpected or unplanned) asset replacements when the replaced asset represents a complete retirement unit.

However, when the magnitude of the replacement costs is below a certain threshold (to be determined by Newfoundland and Labrador Hydro) the replacement may be expensed.

- It is recommended that no such threshold be determined in the form of accounting policy until a significant replacement expenditure is actually encountered. In this context, a "significant" expenditure, should be defined as one that would, in the judgement of Newfoundland and Labrador Hydro, require guidance from the Public Utility Commission with respect to its accounting treatment. In consideration of the relative magnitude of rate impacts associated with asset replacements, it is our view that there would certainly be no need for such guidance when the amount in question is less than one tenth of one percent of Newfoundland and Labrador Hydro's revenues.

- When extraordinary replacements or repairs are applied to parts of a complete retirement unit, it is preferable to expense the replacement or repair expenditures in the year in which they occur, or over an extended period of time. A deferral of the recovery of expenses over a specified amortization period should only occur if the recognition of the expenditures in a single year would cause a rate shock, or a shock in Newfoundland and Labrador Hydro's earnings, that is considered unreasonably high by Management. In such cases guidance should be sought from the Public Utility Commission with respect to the appropriate length of the amortization period.

- When the extraordinary replacement of an asset is associated with a significant writeoff of the undepreciated value of the replaced asset, Newfoundland and Labrador Hydro's options for the treatment of such writeoffs should follow the same procedure as described in the preceding recommendation.

- Wage premiums paid for emergency replacements and repairs should be expensed.

- Extraordinary expenditures associated with the replacement of transformers containing PCB-contaminated oil, caused by the special treatment and disposal of such oil, should be considered capital costs, as they contribute to the enhancement of the transformers' value after the replacement of the transformers themselves or of the oil inside them.

Appendix 1

Survey Summaries

1. Differences between financial and regulatory accounting practices

Financial and regulatory accounting treatments are the same in all situations.

2. Treatment of extraordinary and unusual repair & maintenance expenses

Capitalization decisions are based on the principle that capital expenditures should have one or more of the following attributes:

- An increase in an asset's projected service life.
- An increase in the estimated capacity of an asset.
- A substantial improvement in the production quality of an asset.
- A reduction in the estimated operating costs of an asset.

i) Dollar threshold for accounting and/or regulatory treatment

Threshold dollar amounts exist only for making capitalization decisions. All items that could potentially be capitalized are reviewed on an item by item basis to determine the proper treatment.

These guidelines for materiality limits are stated below.

Function	Amount
Thermal Generation	$25,000
Hydro Generation	5,000
Transmission	5,000
Distribution	700
Buildings	2,000
Tools	2,000
Transportation Equipment	2,000
Office Equipment	200
Communication Equipment	200

ii) Financial and regulatory accounting treatment

With respect to storms, earthquakes, floods and other natural causes, if the assets require replacement, the old unit is retired, the new unit is capitalized and any loss on disposal is realized (charged to depreciation reserve). If the repair is such that the unit is not replaced, the costs are expensed.

With respect to vandalism and other non-natural causes, the costs associated with such items are always expensed. This is done predominantly because there is no benefit to future consumers.

Unexpected failures of materials are examined on an item by item basis. Capitalization would only normally occur if the failure was to a major item, although no definition of a major item exists. All others would be expensed.

iii) Recovery of repair & maintenance expenditures

Amounts are recoverable if a replacement is capitalized.

iv) Explicit policies of company

No specific accounting policies for extraordinary or unusual repair & maintenance expenditures exist with respect to specific types of incidents. However, a general capitalization policy does exist. These are examples from the policy:

Description	Operating	Capital
Install New Pole		x
Replace Broken Pole		x
Tree on Lines	x	
Broken Wire	x	
Add New Customer		x
Replace Transformer		x
Highway Relocation		x
Storm Damage Inspection	x	
Repair Storm Damage	x	x
Insulator Replacement Program		x
Preliminary Design Capital Project		x
Preliminary Design Charged to Operations	x	
Addition to an Existing Asset		x
Install Digger on Truck		x

v) Explicit policies of regulator

No regulatory policies exist.

1. Differences between financial and regulatory accounting practices

No differences between financial and regulatory accounting policies exist.

2. Treatment of extraordinary and unusual repair & maintenance expenses

i) Dollar threshold for accounting and/or regulatory treatment

It would appear that a threshold of $5,000 is utilized in determining whether an expenditure is capitalized or not.

ii) Financial and regulatory accounting treatment

With respect to storm damage and other natural causes, New Brunswick Power's policy is to capitalize the new asset and retire the old asset. New Brunswick Power has had no significant experience with non-natural damages.

With respect to unexpected failure of materials New Brunswick Power has had experience in this area and the general policy is to capitalize costs and amortize them over a period of between ten and twenty years. The ultimate deferral period is approved by the Board of Directors, based on a recommendation of management, and applied for with New Brunswick's regulator.

New Brunswick Power has had two significant experiences with respect to repairs and replacements due to changes in government regulation. These relate to the following:

- PCB's—The costs related to PCB-related replacements were expensed, as no future benefit was determined to exist from the replacements. This treatment was also acceptable to New Brunswick Power as the replacements occurred over several years.

- Scrubber installation—A scrubber was installed at a fossil fuel plant and costs were capitalized as it was seen to be a betterment of an existing plant.

iii) Recovery of repair & maintenance expenditures

The principal amount of expenditures are generally recoverable through the rate base.

iv) Explicit policies of company

No formal written policies exist other than a general capitalization policy.

v) Explicit policies of regulator

No formal regulatory policies exist.

Hydro Quebec

1. Differences between financial and regulatory accounting practices

There are no differences between financial and regulatory accounting practices.

2. Treatment of extraordinary and unusual repair & maintenance expenses

Hydro Quebec follows the practice of capitalizing the replacement of units of property and expensing other repairs. Hydro Quebec confirmed that the definition of a unit of property is essentially at their discretion based on Hydro Quebec's capitalization policy by asset class. This is essentially the same practice as mandated in the U.S. by the FERC.

i) Dollar threshold for accounting and/or regulatory treatment

There is no threshold dollar amount which determines the accounting and/or regulatory treatment.

ii) Financial and regulatory accounting treatment

As discussed above Hydro Quebec follows a practice of capitalizing the replacement of units of property and expensing other repairs. If a damaged unit of property is abandoned then the overhead and interest expenditures related to the dismantling cost of an asset is amortized over a ten year period. If the unit is replaced then these costs are considered to be part of the cost of the new unit.

With respect to PCB-contaminated oils, Hydro Quebec indicated that it would probably capitalize the disposal costs and amortize them over a period of two to ten years depending on their magnitude. However, PCB's are currently stored by Hydro Quebec and therefore there are no disposal costs at present.

There is no distinction made between the different causes of a replacement.

iii) Recovery of repair & maintenance expenditures

The principal amount of any expenditure is recovered through depreciation and return on the rate base.

iv) Explicit policies of company

The utility has a general policy on the capitalization of expenditures.

v) Explicit policies of regulator

There are no regulatory policies in this regard.

Ontario Hydro

1. Differences between financial and regulatory accounting practices

There are no differences between practices for financial accounting and for regulatory accounting. Ontario Hydro is not regulated; rather it is controlled through its Board of Directors responsible to the provincial government.

2. Treatment of extraordinary and unusual repair & maintenance expenses

i) Dollar threshold for accounting and/or regulatory treatment

A threshold exists at $2,000,000. At this level management decides whether or not costs should be expensed or capitalized. Below the $2,000,000 threshold costs are expensed.

ii) Financial and regulatory accounting treatment

With respect to earthquakes, storms, floods, other natural and non-natural causes of failures, Ontario Hydro expenses repairs due to these types of events. The reason is the contention that the repair is only benefitting the current ratepayers (i.e., restoring service to current users). The costs should therefore be expensed as no basis can be established for capitalization. Exceptions to this practice are costs related to the betterment of a former asset (i.e., when a better asset replaces a former asset); only costs related to the betterment portion would be capitalized.

The treatment of unexpected costs of asset failure depends on whether or not the failure is localized or whether it permeates the entire system. For example, a rotor blade failure would be localized while a generating station failure would permeate the entire system. If the failure is only localized, the costs related to this failure are expensed. If the entire system is affected, the costs are reviewed to determine their specific impact (i.e., each segment of cost is examined to assess whether it should be capitalized or expensed based on generally accepted accounting principles).

Ontario Hydro has had limited experience with repairs and replacement caused by a change in the regulatory environment. One experience of this kind has been the result of the nuclear moratorium imposed by the Province of Ontario. As a result of

the moratorium, Ontario Hydro must re-activate plants which had been previously mothballed. All costs associated with the reactivation are expensed unless they extend the useful life of the plant. Also, as a result of recent changes to the environmental laws, Ontario Hydro must install scrubbers at its fossil fuel generating stations. The costs associated with these additions will be capitalized, as they are deemed to benefit future ratepayers as well as current ratepayers.

Ontario Hydro has also chosen to accrue yearly costs related to the maintenance and eventual de-commissioning of nuclear generating stations within its service area. Although all costs cannot be accurately estimated at the time of putting the stations into service, an annual accrual is made and set up in a reserve against a long-term anticipated liability.

iii) Recovery of repair & maintenance expenditures

Most items are expensed, but it would appear that major assets (such as scrubbers) would be capitalized and their costs recovered over time through depreciation and return on investment.

iv) Explicit policies of company

Written policies exist, however, most relate predominantly to general capitalization principals.

v) Explicit policies of regulator

There are no written regulatory policies in this regard.

Manitoba Hydro

1. Differences between financial and regulatory accounting practices

At Manitoba Hydro there are no accounting policies which are different for regulatory and accounting purposes.

2. Treatment of extraordinary and unusual repair & maintenance expenses

i) Dollar threshold for accounting and/or regulatory treatment

Manitoba Hydro does not set a threshold level which determines the accounting treatment but rather they examine each event separately, and then determine the appropriate treatment.

ii) Financial and regulatory accounting treatment

Manitoba Hydro's accounting treatment for unusual or extraordinary repairs and maintenance expenses is generally to capitalize and amortize over the life of the asset. However, depending on the event causing the need for repairs, the rationale differs.

For events which are determined to be "acts of God" (e.g., ice storms), Manitoba Hydro will capitalize the cost of the repair. Manitoba Hydro depreciates its assets based on the average expected life of assets in the group. This average takes into account "acts of God" type occurrences, therefore the estimated life of the assets will be exceeded by many assets in the group, and will not be met by others. Because the depreciation expense allows for the potential shortened life of the asset when an "act of God" occurs, if the replacement were expensed, the depreciation expense for the asset group would be overstated (i.e., the depreciation expense has already allowed for this occurrence). Therefore, Manitoba Hydro believes it must capitalize the costs to properly charge its ratepayers.

For repairs or replacements which are caused by design flaws and any other unexpected material failures, Manitoba Hydro has taken the position to capitalize these expenses, even though the possibility of design flaws is not considered when

the depreciation estimate is made. By expensing the cost, Manitoba Hydro would not be properly charging future ratepayers for the asset.

iii) Recovery of repair & maintenance expenditures

The majority of costs incurred to get the asset functioning again are capitalized and depreciated. The cost is depreciated over the expected service life of the new asset.

iv) Explicit policies of company

Manitoba Hydro does not have a specific accounting policy to apply to these types of costs but rather a policy which requires that each occurrence be examined individually.

v) Explicit policies of regulator

The regulator does not have a written accounting policy for these types of incidents.

Saskatchewan Power Corporation

1. Differences between financial and regulatory accounting practices

There are no differences between financial accounting and accounting for rate making purposes. There has been no regulatory body in Saskatchewan since the Public Utilities Review Commission was disbanded in 1987. Changes to electrical rates require the approval of the Cabinet of Government.

2. Treatment of extraordinary and unusual repair & maintenance expenses

The main issue of the accounting treatment for Saskatchewan Power is not the nature or the cause of the failure or the destruction of the asset but rather which generation of consumers benefit (intergenerational equity). This benefit can occur as a result of increased asset life, increased capacity, environmental hazard control or some other measurable improvement. Only expenditures that are able to provide a future benefit are considered for capitalization. However, major infrequent repairs that cost more than $300,000 may be considered for capitalization, subject to the decision of the controller (see below).

i) Dollar threshold for accounting and/or regulatory treatment

There is a lower limit of $300,000 for the determination of capitalization potential.

ii) Financial and regulatory accounting treatment

Infrequent repair costs will be expensed as incurred, except if they exceed the limit above, in which case, subject to the decision of the controller, they may be capitalized. Renewals and betterments will be capitalized and amortized over the remaining life of the associated asset(s). Expenditures for environmental control will be capitalized and amortized over the remaining life of the associated asset. No gain or loss will be recognized on partial plant retirements regardless of the manner of the failure or destruction (booked original cost of retired plant subtracted from gross assets as well as from depreciation reserve).

Premium labour costs are always expensed.

iii) Recovery of repair & maintenance expenditures

If not capitalized, the principal amount will be recovered from rates in the year it was incurred.

iv) Explicit policies of company

Saskatchewan Power does not have a specific capitalization policy relating to extraordinary and unusual repair & maintenance expenditures. Rather it has a general capitalization policy which contains the provisions described above.

vi) Explicit policies of regulator

Saskatchewan Power is not regulated and therefore no regulatory policies as such exist.

TransAlta Utilities

1. Differences between financial and regulatory accounting practices

No differences exist.

2. Treatment of extraordinary and unusual repair & maintenance expenses

i) Dollar threshold for accounting and/or regulatory treatment

No specific dollar threshold exists which determines the accounting and/or regulatory treatment.

ii) Financial and regulatory accounting treatment

The utility reviews the damages caused by each storm or other natural cause on an item by item basis. It has had experience with storm damage recently and has capitalized costs related to the damage in the past.

TransAlta has had no significant experience with damage from non-natural causes.

With respect to unexpected material failures TransAlta's policy is to retire the item which failed and to capitalize the new item. This only applies if the failure meets the definition of a capital asset. If the failure does not qualify as a capital asset, it is expensed. Any significant costs would relate to capital assets and would by definition be capitalized.

TransAlta has had limited experience with extraordinary and unusual repair & maintenance expenses related to changes in government regulations. Its sole experience in this area has been the disposal of PCB-contaminated oils. TransAlta was prepared to expense all costs relating to the conversion of PCB's, however, the expense was actually more than offset by income the utility received from its sale of the contaminated oil to a refinery. The costs related to PCB disposal will continue to be expensed.

iii) Recovery of repair & maintenance expenditures

Capitalized costs would normally be recovered through depreciation and return on the rate base.

iv) Explicit policies of company

No formal policy exists.

v) Explicit policies of regulator

TransAlta's regulator has several accounting policies which it sets. As at this time, none of the regulatory accounting policies relate to this particular area. However, the regulator has ruled on a number of related issues.

BC Hydro

1. Differences between financial and regulatory accounting practices

At BC Hydro no differences exist between financial and regulatory accounting practices.

2. Treatment of extraordinary and unusual repair & maintenance expenses

i) Dollar threshold for accounting and/or regulatory treatment

A $5,000 threshold is required to be surpassed before expenditures can be capitalized.

ii) Financial and regulatory accounting treatment

With respect to natural and non-natural damage the following policy exists:

- If a capital asset is destroyed and replaced, the old asset will be retired and a loss on retirement charged to depreciation expense, while the new asset is capitalized with the exception of premium costs (e.g., overtime) which are expensed.

- If the damage renders the asset repairable the repairs are expensed.

BC Hydro has not had any significant experience with unexpected failures of materials to date. However, the accounting treatment would be similar to that described above; if the failing item were to be replaced, any loss on disposal would be expensed and any new asset capitalized. BC Hydro has a formal accounting policy which states that costs incurred to upgrade existing capital assets to comply with mandatory health or safety requirements should be capitalized.

iii) Recovery of repair & maintenance expenditures

The principal amount of the expenditure if capitalized, would normally be recoverable.

iv) Explicit policies of company

The utility has formal policies with respect to the differentiation between expenditures that would be capitalized and expenditures that would be considered maintenance.

v) Explicit policies of regulator

No formal regulatory policies exist.

Niagara Mohawk

1. Differences between financial and regulatory accounting practices

At Niagara Mohawk there are no differences between financial accounting and regulatory accounting procedures.

2. Treatment of extraordinary and unusual repair & maintenance expenses

Niagara Mohawk policy for treating unusual and extraordinary expenses is dependent on the classification of the asset involved. Niagara Mohawk appears to utilize different nomenclature than most other U.S. utilities, although the principle regarding property units is present under the name "plant asset" (see below).

i) Dollar threshold for accounting and/or regulatory treatment

There is no specific threshold dollar amount that determines the accounting and/or regulatory treatment of asset replacements.

ii) Financial and regulatory accounting treatment

Niagara Mohawk employs different treatments of capital assets and plant assets. A capital asset is defined as any item which will provide future benefit, subject to normal materiality requirements. A plant asset is made up of a group of capital assets. An example of a plant asset is a generating station.

If the item destroyed (or replaced for another reason) is a capital asset, Niagara Mohawk retires the old asset and capitalizes the new. No gain or loss is recognized on this transaction as the depreciation reserve is relieved for the same amount as the asset. If the item destroyed is a plant asset then Niagara Mohawk will retire the old asset and recognize a loss on disposal.

If the item destroyed is neither a plant nor a capital asset, the costs associated with a replacement are expensed. If the item is only damaged and a repair is all that is required (regardless of the severity of the damage or the type of asset), the costs associated with this damage are expensed.

Niagara Mohawk has not had any experience of significant damages to a plant or capital asset. However, the ability to override the policy described above and treat costs differently rests with the corporate controller.

Old assets containing PCB's were retired and a loss on disposal was realized. (Note: this differs from the above-noted treatment as these items would normally be classified as capital assets). The new assets were capitalized. When old assets were retired and additional costs were incurred related to the disposal of the PCB-contaminated oil, these costs were charged to a depreciation reserve.

iii) Recovery of repair & maintenance expenditures

The principal amount of the expenditure is recoverable, either through the rate base or as a maintenance expense, depending on whether the repair costs were capitalized.

iv) Explicit policies of company

No specific written policy exists beyond a general capitalization policy.

v) Explicit policies of regulator

No specific policies exist at the regulator of Niagara Mohawk.

New York Power Authority

1. Differences between financial and regulatory accounting practices

At New York Power Authority (NYPA) there are no accounting policies which are different for financial versus regulatory uses.

2. Treatment of extraordinary and unusual repair & maintenance expenses

The primary motivation behind the NYPA's treatment of unusual and extraordinary repair or maintenance expenses is whether or not the expense will provide future benefits. If there are no future benefits (i.e., in excess of the current asset), the expense is charged to operations in the year in which it is incurred.

i) Dollar threshold for accounting and/or regulatory treatment

No specific dollar threshold exists, rather each event is considered separately.

ii) Financial and regulatory accounting treatment

The NYPA's experience with unusual and extraordinary repair & maintenance expenditures is limited. However, NYPA has had two specific incidents which would be of interest:

- Exciter explosion at fossil fuel plant—The New York Power Authority expensed these costs as the new exciter would not extend the life of the generating station and therefore it could not be considered a betterment.

- Problem with fuel rods at a nuclear plant—As a result of problems with fuel rods at a nuclear plant (i.e., rods expired prior to the expected date), the nuclear plant had to be shut down for several days while the rods were replaced. The costs associated with the shut-down were expensed. The fuel rod replacement was treated as a retirement and addition of a new capital asset.

iii) Recovery of repair & maintenance expenditures

The expenditures are recoverable either as a maintenance expense or through depreciation and a return on a capitalized asset.

iv) Explicit policies of company

No formal accounting policies exist at NYPA for these types of items.

v) Explicit policies of regulator

The regulator does not have specific accounting policies related to these subjects.

Duquesne Light And Power Company

1. Differences between financial and regulatory accounting practices

There is no distinction drawn between financial and regulatory accounting procedures.

2. Treatment of extraordinary and unusual repair & maintenance expenses

Duquesne Light capitalizes expenditures in all circumstances when an entire unit of property or a "retirement unit" is replaced. A definition of a retirement unit for Duquesne Light is any item that the company wishes to identify as a distinct and identifiable piece of equipment. Repair and maintenance expenditures on portions of retirement units are treated as expenses while replacement of existing retirement units is capitalized.

i) Dollar threshold for accounting and/or regulatory treatment

Even entire retirement units are capitalized only if their cost exceeds the lower limits defined below.

ii) Financial and regulatory accounting treatment

Duquesne Light has established the following policies with respect to asset capitalization:

- For assets with a predicted life of one to five years, all items over $2,000 are identified and capitalized separately as individual retirement units.
- For assets with a predicted life of five to twenty years, the retirement unit threshold is $10,000.
- For assets with a predicted life of twenty to forty years, the retirement unit threshold is $50,000.
- For assets with a predicted life of forty or more years, the retirement unit threshold is $100,000.

Duquesne Light has an interesting method of dealing with the remaining net book value of an asset which is replaced prior to the end of its expected useful life. In essence, any remaining net book value is either refunded to or recovered from the ratepayer over a five year period. For example, if the salvage value of an asset is less than the net book value at the time of disposal, the ratepayer would be charged with that difference over a five year period. If on the other hand, the disposal value is greater than the net book value then the ratepayer would receive a credit over a five year period. According to Duquesne, given the frequency of asset replacements of this type, the overall effect in any given year of the charges or credits tends to be close to zero.

In prior years the costs involved with the disposal of PCB-contaminated oils were expensed. However, Duquesne is currently considering a policy of capitalization for the removal of both asbestos and PCB-contaminated oils. This is based on the retirement unit principle which was established by other utilities and now Duquesne. If the removal of the contaminated oil occurs in conjunction with, and at the same time as the replacement of the transformer or other retirement unit, then the oil removal costs would be capitalized as part of a retirement unit replacement.

Acts of god are not anticipated in determining the predicted useful life of assets.

Duquesne has had one of its decisions overturned by the U.S. Federal Energy Regulatory Commission (FERC). Approximately five years ago, Duquesne discovered that there had been freezing at one of its cooling towers. The repair of the damage caused by the freezing was approximately $2,000,000. Duquesne capitalized the full amount of the repair cost. In a subsequent audit, the FERC found that the assets replaced were not "retirement units" and therefore Duquesne was required to expense the full amount of the repair cost. However, the regulator of Duquesne Light did allow the expenditure cost to flow through Duquesne's rates over a "short period" of time (exact time was not stated). Being amortized for rate purposes over a relatively short period of time, the expenditure was similarly amortized on the financial statements of the utility.

iii) Recovery of repair & maintenance expenditures

Capital costs are recoverable.

iv) Explicit policies of company

No specific written policy exists for these types of incidents.

v) Explicit policies of regulator

No specific accounting policy exists in the regulatory body, however, judgements have been received as discussed above.

Detroit Edison

1. Differences between financial and regulatory accounting practices

There are no significant differences between regulatory and financial accounting policies.

2. Treatment of extraordinary and unusual repair & maintenance expenses

Detroit Edison has utilized a wide variety of treatments for different expenditures. It would appear that the primary regulatory concern relates to the avoidance of rate shock.

i) Dollar threshold for accounting and/or regulatory treatment

There is no specific dollar limit which determines the accounting and/or regulatory treatment. However, Detroit Edison would approach the regulator if expenditures were significant. The utility normally receives regulatory approval before deciding on the type of treatment that is required.

ii) Financial and regulatory accounting treatment

Detroit Edison has had limited experience with unusual or extraordinary repair & maintenance expenses. It has had experience with expenditures related to storm damage where, depending on the size of the expenditures, the regulator may require (1) capitalization with normal depreciation, (2) capitalization with a ten year amortization, or (3) expensing. If the storm damage is not significant, Detroit Edison would normally expense these items.

Detroit Edison does not have any formal policy with respect to expenditures related to damage caused by non-natural causes or unexpected failure of materials.

Detroit Edison who has had experience related to changes in regulation in two principal areas:

- PCB's—The cost related to the disposal of PCB's were expensed, as the changeover to the use of non-PCB-contaminated oils was done over several years. The expense each year was not significant.

- Premature retirement of a nuclear plant—The costs related to this retirement were deferred and amortized over twenty years. This was the decision made by the regulator to avoid rate shock.

iii) Recovery of repair & maintenance expenditures

To the extent that capitalization occurs then costs are recovered through depreciation and a return on the rate base.

iv) Explicit policies of company

No formal written policies exist.

v) Explicit policies of regulator

No formal written policies exist.

1. Differences between financial and regulatory accounting practices

There are two differences between financial accounting and regulatory accounting procedures. These differences relate to different treatments for chemical cleanings and de-commissioning costs for nuclear plants. The differences are discussed more fully below.

2. Treatment of extraordinary and unusual repair & maintenance expenses

A significant effort is made to determine which generation of repairs would benefit from an expenditure.

i) Dollar threshold for accounting and/or regulatory treatment

No explicit dollar threshold amounts exist for capitalization decisions. However, an item would have to be "material" before it would be capitalized.

ii) Financial and regulatory accounting treatment

Financial and regulatory accounting treatment are generally in line with FERC policies.

Two interesting issues involving nuclear plants have been faced by Commonwealth Edison. The first involves the chemical cleaning of nuclear stations. These costs are not estimable at any time in advance as the cleanings are solely the results of federal inspections (i.e., not self-induced). Financial accounting treatment requires the expensing of these costs, as no future benefit is derived from the cleaning. Regulatory accounting practices require that the cleaning costs be capitalized. Capitalization in this event is seen as a rate smoothing technique (i.e., future rate increases will allow for the recovery of these costs). The capitalized cost is depreciated over the same time period as the nuclear station's remaining life.

A second difference between regulatory and accounting treatments relates to the costs associated with de-commissioning a nuclear power station. Due to the complexities involved in nuclear power stations, it is not possible to estimate the

costs at the time the plant is built (theoretically the costs should be estimated at the time when the plant is put in service and should be accrued over the life of the plant). For financial accounting purposes, these costs are capitalized and depreciated with the other assets in the nuclear generation classification. For regulatory accounting purposes these costs are to be expensed. The argument for expensing is that these costs would not benefit future ratepayers and thus, should be expensed.

Costs associated with changes in government regulations (e.g., the Federal Clean Air Act) are capitalized. These costs are depreciated over the expected useful life of the addition.

iii) Recovery of repair & maintenance expenditures

Capitalized costs are recovered through depreciation and a return on the rate base.

iv) Explicit policies of company

Formal written policies exist however, they were not provided to us as part of the survey.

v) Explicit policies of regulator

No regulatory accounting policies exist although as discussed in the above sections the regulator has ruled on a number of different treatments.

Northern States Power Company

1. Differences between financial and regulatory accounting practices

No significant differences exist between regulatory and financial accounting practices.

2. Treatment of extraordinary and unusual repair & maintenance expenses

Procedures are generally in line with FERC decisions on expenditure capitalization.

i) Dollar threshold for accounting and/or regulatory treatment

Under most circumstances the dollar amount does not determine the accounting practice used. The determining factor is the presence of retirement units of property.

ii) Financial and regulatory accounting treatment

If retirement units of property are involved, the normal accounting procedures for capital, maintenance and operating expenditures would be followed. If no retirement units of property are involved, the normal accounting procedure would be maintenance (i.e., expense). If the property involved is insured, there could possibly be an insurance reimbursement to be dealt with. If there are no retirement units of property involved, the insurance reimbursement would be cleared to the appropriate maintenance account. If retirement units are involved, the units would be replaced as new capital items and the insurance reimbursement would be first used to cover any maintenance expense involved and then applied against the appropriate reserve account. When the reimbursement is smaller than the maintenance expense then the entire amount would be cleared to the appropriate maintenance account.

The disposal of PCB-contaminated oils essentially followed the practice described above until recently. Because current expenditures are not material the amounts are expensed.

iii) Recovery of repair & maintenance expenditures

If retirement units of property are involved, they will be capitalized and thus, the expenditures will be recovered through the rate base. If no retirement units of property are involved, they will be replaced as maintenance, thus the expenditure will be expensed in the year of replacement.

iv) Explicit policies of company

There is no general written policy regarding the types of incidents under review, however, there are specific policies that determine how repair and replacement work orders are set up and how repairs are conducted.

v) Explicit policies of regulator

There do not appear to be any written accounting policies at the regulatory level.

Tennessee Valley Authority

1. Differences between financial and regulatory accounting practices

For the Tennessee Valley Power Authority (TVA) no differences exist between regulatory accounting and financial accounting practices.

2. Treatment of extraordinary and unusual repair & maintenance expenses

TVA appears to treat extraordinary and unusual repair & maintenance expenditures largely in line with FERC policies.

i) Dollar threshold for accounting and/or regulatory treatment

For all types of items the TVA expenses all amounts under $10,000.

ii) Financial and regulatory accounting treatment

With respect to storms and other natural causes the costs are capitalized if they are associated with renewing or replacing existing assets. TVA capitalizes all premium costs with respect to performing such work (e.g., overtime). The TVA rationale for capitalizing costs appears to be related to a desire to provide smooth operating results and to eliminate rate shocks to the consumer.

The TVA has experience with two principal types of failures with respect to generating stations which appear to be exceptions to the rules. The accounting treatments for these types of costs depend on the types of expenditure:

- Nuclear plant cleaning—Costs related to getting a nuclear plant's peripheral radiation to acceptable levels are treated in a manner that relates to the type of expense. If the expense is related to replacing or repairing a component, the costs are capitalized to the asset involved. If the expense is related to human error or some other occurrence the costs are capitalized and amortized over ten years.

- Unexpected failure of a part in a hydro plant—Costs related to the replacing of defective parts are capitalized.

All costs of repairs and replacements necessitated by changes in regulation are capitalized. Examples of this new expenditure are as follows:

- Dams improved as the result of the safety study.
- Scrubbers installed at a fossil fuel plant.
- Costs related to removing and replacing PCB's from transformers (these also include costs related to the disposal of the PCB contaminated oils).

iii) Recovery of repair & maintenance expenditures

The principal amount of the expenditures are recoverable through the rate base when costs are capitalized.

iv) Explicit policies of company

No formal accounting policies exist in this regard.

v) Explicit policies of regulator

TVA does not have an external regulator.

Alabama Power Corporation

1. Differences between financial and regulatory accounting practices

There are no differences between the practices followed for financial accounting purposes and regulatory accounting/ratemaking purposes.

2. Treatment of extraordinary and unusual repair & maintenance expenses

The issue of capitalization is dealt with under FERC policies which require utilities to capitalize the replacement of retirement units of property.

I) Dollar threshold for accounting and/or regulatory treatment

There is no threshold dollar amount used in determining treatment.

II) Financial and regulatory accounting treatment

Expenditures are capitalized in all circumstances where a retirement unit of property is replaced. The definition of a retirement unit is up to the utility. Alabama Power has had some interesting dealings with changes in government regulation. The FERC requires utilities to expense the cost of cleanups associated with changes in government regulations in the fields of environment, health and safety unless the cleanup includes the removal of capital assets as an integral part of the cleanup. Alabama Power has had three such examples:

- The utility was required to remove asbestos from several generating plants. This was treated as a maintenance expense because it did not require the removal of a retirement unit of property as an integral part of the removal of the asbestos.

- The utility was required by the Alabama Government to remove several gasoline tanks from one of its sites which had been leaking. In the process of removing the tanks and isolating the gasoline which had leaked into the ground, Alabama Power created a "strip mine" in order to remove the gasoline. The cost of this process was substantial and would normally have been expensed under the FERC policies and the Alabama

Public Service Commission regulations. However, since new tanks were installed the full costs of the new tanks and the removal of the contaminated soil were capitalized.

- The utility was required by the Alabama Public Service Commission to remove all of the pumps from its nuclear plants after the premature failure of two such pumps. In this case, Alabama Power performed the retirement and replacement of all pumps (presumably identified as retirement units of property), and therefore the full cost was capitalized.

iii) Recovery of repair & maintenance expenditures

The principal amount is capitalized and recovered through depreciation and a return on the rate base if a retirement unit of property is replaced. It is expensed otherwise.

iv) Explicit policies of company

The method for determining the nature of the expenditure involves an analysis of the work done by "activity code". In general, most of the expenses relating to extraordinary and unusual repair & maintenance expenses occur as the result of storms such as tornados and hurricanes which frequently hit the Alabama Power service area. It is for this reason that the maintenance/plant asset replacement segregation is made by activity code. That is, if expenses due to a storm involve the repair of an existing asset without the replacement of that asset then the activity code would indicate that maintenance work was performed and thus it would be expensed. On the other hand, if the repair work involves the full replacement of the asset, this would be treated as plant work or plant asset replacement and would thus be capitalized.

v) Explicit policies of regulator

No specific written policies exist at the regulatory level except for the standard FERC policies.

Pacific Gas And Electric

1. Differences between financial and regulatory accounting practices

According to PG&E, FASB 71 permits utilities to digress from generally accepted accounting principles where a utility's regulator has opined on an issue. Therefore, there are no differences between financial and regulatory accounting practices.

2. Treatment of extraordinary and unusual repair & maintenance expenses

Pacific Gas and Electric follows the basic procedures outlined by the FERC with respect to the capitalization of the replacement of "retirement units" and expensing other repairs.

i) Dollar threshold for accounting and/or regulatory treatment

No specific threshold dollar amount was disclosed.

ii) Financial and regulatory accounting treatment

As discussed above, PG&E follows the FERC rule of capitalizing the replacement of "retirement units" and expensing other repairs. It appears that if PCB-contaminated oils form part of a retirement unit property then their disposal cost would normally be capitalized as part of the replacement of the retirement unit. However, there were occasions when the disposal costs of the PCB-contaminated oils was actually expensed.

iii) Recovery of repair & maintenance expenditures

The principal amount of the replacement of a retirement unit of property is recoverable from the repairs by incorporation into the rate base, if it is a retirement unit of property.

iv) Explicit policies of company

No formal written policy dealing with specific issues exists. However, a general capitalization policy is being used.

v) Explicit policies of regulator

It does not appear that the regulator of PG&E has any specific policies in this regard.

Calls PCB's

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March 26, 1991

VIA FAX—709-737-1782

Mr. Andrew Grant
Vice-President - Finance
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Dear Mr. Grant:

Accounting for Major Plant Replacements or Repairs

I am writing to update you on our progress with the survey portion of our work. Thus far, we have obtained responses from 12 companies and are following up with 7 more. Our interviewers have been generally well-received with most of those companies contacted providing excellent responses. Only Consolidated Edison of New York and Puget Sound Power and Light have refused outright to participate in the study.

In the remainder of this letter, we discuss:

- Some of the reasons for extraordinary expenditures
- The two basic types of expenses incurred.
- The principal accounting options available.
- The utilities contacted.
- Our first impressions of the survey responses.

Reasons for extraordinary expenditures

These are some of the reasons for the types of extraordinary expenditures that are the subject of our inquiry:

- Storms, earthquakes, floods, etc. Examples are transmission towers toppled by sleet, structures toppled by winds, structures damaged by floods.

- Damage caused by external causes, other than natural disasters. Arson, terrorism, vandalism, accidents are in that category.

- Failure of materials, such as premature cracks, breakages, corrosion or other deterioration that occurs at a time well before the end of an asset's predicted useful life.

- Repairs or replacements caused by changes in the regulatory regime, concerning environmental, health or safety objectives, or a combination thereof.

Types of expenses

There are two basic types of expenses that might be incurred:

- Actual expenditures on materials and labour required to fully or partially replace certain assets or applying major repairs to them, i.e., to maintain service life.

- Writeoff of the net book value less net salvage value of any asset that is no longer useable.

Generally, the first type of expenditure occurs when replacement or repairs are applied to a major asset carried on the books as a unit. In that case the service life of the major asset is not extended by the replacement or repair.

The second type of expense occurs when an entire piece of equipment, carried on the books as a separate unit, has to be written off and replaced by an equivalent new asset.

Accounting options

Four options are listed below. In a logical order, the numbers 1 to 4 are attached to the options. For the sake of easier understanding, however, the options are not explained in their numerical order.

Option 1

In Option 1 the replacement/repair is treated in the same way as a new investment. The expenditures are fully capitalized and depreciated at a rate to finish their service life at the same time as the main asset to which they were applied.

This option implies that premature failures, no matter what has caused them, are part of a probability distribution of failures reflected by the engineering estimates of average service life. Even though the failures may be caused by events that might appear extraordinary at the time, of occurrence, the anticipation of such occurrences has in fact been implied in the original service life estimates. The extraordinary losses caused by premature failures are assumed to be offset by the gains associated with those assets that are able to remain operational well beyond the end of their predicted service lives.

Option 4

This is the other extreme in the spectrum of options, in which all of the replacement/repair expenses are expensed in the year in which they occur and treated as increased maintenance expenses. Whereas in Option 1 all of the financial burden associated with the repair/replacement is carried by the ratepayer, in Option 4, the entire expense is carried by the owner of the utility.

This option implies an assumed tradeoff between maintenance expenses and premature repairs/replacements. It implies that a possible reason for the premature replace/repair might have been a low level of maintenance, causing a "catch-up" in the form of a premature need for replacement/repair. For example, if a structure is not re-painted with sufficient frequency, it may prematurely corrode. In the case of vehicles and work equipment, the less is spent on regular preventative maintenance, the more will be spent on the repair of premature failures.

Option 2

Option 2 is a compromise between Options 1 and 4. The replacement/repair expense is only partly expensed in the year in which it occurs with the rest being amortized over the ensuing years. That accounting treatment lessens the burden on the rate payer and, because of the regulatory lag which does not permit any immediate rate increase on account of the unexpected expenses, divides the burden between the owner (in the year of occurrence and, perhaps in the following year) and the ratepayer (in the years to follow).

The amortization periods usually vary from three to five years. Whereas amortization periods of two years or, say, ten years, may also occur, those would make Option 2 to come very close to Options 1 or 4 and would, therefore, not represent a true compromise.

In Option 2, the reserves set up for amortization are shown on the Asset side of the balance sheet and are allowed by the regulator to be included in the utility's rate base. Consequently, the utility is allowed a rate of return on the unamortized amount, charged to the ratepayer.

Option 3

Similar to Option 2, but the amortized reserve is not allowed to be part of the rate-base. Consequently, the carrying charges (interest) on the amount is carried by the owner.

Utilities that have set rules for treating unexpected replacements/repairs may apply more than one of the options. They may have policies that define the option to be used under various circumstances or may make ad-hoc decisions. The utilities that have rules may attach those rules either to dollar break-points, or to the nature (cause) of the incident that caused the expenditure, or both.

Utilities Contacted

We have completed interviews with the following utilities:

Canada

- B.C. Hydro
- TransAlta Utilities
- Manitoba Hydro
- Ontario Hydro
- New Brunswick Power
- Nova Scotia Power

United States

- Bonneville Power Administration
- New York Power Authority
- Tennessee Valley Authority
- Commonwealth Edison (Chicago)
- Detroit Edison
- Alabama Power

We continue to follow up with the following utilities:

Canada

- Quebec Hydro
- Saskatchewan Hydro

United States

- Pacific Gas and Electric
- Pacific Sound Power and Light
- Northern States Power
- Niagara Mohawk Power
- Duquesne Light and Power

First Impressions of Survey Responses

The following are a series of observations regarding the responses thus far. As with most issues of this type, some utilities have had a great deal of experience in this regard while others have almost none. Consequently, the sophistication of the responses varies widely.

- There appear to be very few differences between regulatory and accounting treatments.

- Changes in regulatory environments have related to: asbestos removal, chemical cleanings of nuclear plants, emissions allowances at thermal plants, etc. (The PCB issue appears to have been faced by only a few of the respondents.)

- Certain utilities explicitly take into account which "generation" of ratepayers will benefit from a repair or replacement.

- A larger number of utilities employ thresholds for their capitalization decision than those that rely solely on principle.

- The extension of service life tends to be a key factor in the capitalization decisions of a number of respondents.

- The choice treatment is affected by concerns over "rate shock" in certain cases.

- For many of the respondents, there do not appear to be significant differences between the treatment of expenses and various causes of repairs and replacements.

- We have encountered treatments similar to all accounting options discussed above.

Yours very truly,

Peat Marwick Stevenson & Kellogg

Stephen C. Beatty
Principal

HYDRO

DECISION RULES FOR THE APPLICATION OF MATERIALITY LIMITS TO EXPENDITURES ON EXISTING FIXED ASSETS

Research

General

The purpose of the decision rules identified herein, is to define a procedure for classifying expenditures as relating either to capital or to maintenance. This procedure is to be applied by the personnel responsible for budget preparation during the early stages of the budget process. The outcome of the application of this procedure is to determine whether a capital or maintenance work order will be issued to control the associated costs.

Procedure

Capital Budget Proposal or Capital

Prior to issuing a work order, the committing authority will determine, with the aid of the Plant Ledger Manual and engineering guidance, whether the work to be executed will result in the replacement of:

- one or more Units of Property,
- a portion of a Unit of Property, or
- whether the work to be executed is an addition or betterment.

Having determined the nature of the work to be executed, the decision rules, identified below, will be applied in order that the appropriate work order is issued.

Decision Rules - Capital vs. Maintenance

The Materiality Limit

The concept of the materiality limit takes into account the amount being spent. When expenditures on existing fixed assets within a fixed asset group are small relative to the capital value of that asset group, the expensing of such expenditures does not materially distort the value of total fixed assets published in the financial statements. In addition, such expenditures have no major impact on the total annual cost of power since they are relatively small by comparison.

The materiality limits for each fixed asset group are detailed below.

Materiality Limit	Fixed Asset Group
$ 10,000	Transmission Lines
5,000	Distribution
10,000	Diesel Generation
10,000	Substations
30,000	Hydraulic Generation
30,000	Thermal Generation
30,000	Gas Turbines
10,000	Telecontrol
1,000	Land Improvements & Buildings
1,000	General Properties

Proposed

Decision Rules - Capital vs. Maintenance (Cont'd.)

The Materiality Limit (Cont'd.)

The materiality limits for each fixed asset group are detailed below.

Materiality Limit	Fixed Asset Group
$ 20,000	Transmission Lines
10,000	Distribution
15,000	Diesel Generation
15,000	Substations
50,000	Hydraulic Generation
50,000	Thermal Generation
50,000	Gas Turbines
20,000	Telecontrol
10,000	Land Improvements & Buildings
1,000	General Properties

Decision Rules

1. If the expenditure is related to the replacement or addition of one or more Units of Property, the expenditure will be capitalized, regardless of the materiality limit designated to that particular fixed asset group. Direct reference to the Plant Ledger Manual will determine which items constitute Units of Property.

2. If the expenditure is related to the replacement of a portion of a Unit of Property (ie. a component part of a Unit), the decision as to whether to capitalize or expense the expenditure is based on the dollar amount, in conjunction with the nature of the work - ie. addition or betterment - to be undertaken. The decision rules for expenditures of this nature are:

   (a) If the expenditure is below the materiality limit designated to the particular fixed asset group, it will be expensed.

   (b) If the expenditure exceeds the materiality limit designated to the particular fixed asset group, it will be: