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November 3, 2017

Via Electronic Mail & Courier

Newfoundland and Labrador Board
of Commissioners of Public Utilities
120 Torbay Road
P.O. Box 21040
St. John's, NL A1A 5B2

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

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro 2017 General Rate Application
Requests for Information – IC-NLH-145 to IC-NLH-169

Please find enclosed one original and thirteen (13) copies of the Requests for Information of the Island Industrial Customers Group in relation to the above noted Application.

In its response to IC-NLH-103, Hydro noted that “to ensure the accuracy of the Specifically Assigned Charges for 2018 and 2019, Hydro is currently undertaking a full review of these asset listings and will provide an update on its findings in advance of the 2017 GRA hearing.” While the Industrial Customer Group is pleased to see Hydro completing a review of the assets that are specifically assigned, there must be a process whereby any interested Intervenors can question Hydro on the updated information. As seen in Hydro’s 2018 Capital Budget Application with the revision to RFI IC-NLH-11, questioning whether assets listed as specifically assigned should be so assigned can lead to a determination by Hydro that the assets should not have been specifically assigned. As the updated listing is unlikely to be provided before the deadline for the second round of RFIs, the Industrial Customer Group requests that the parties be given a reasonable period of time following Hydro providing the updated list to ask RFIs on the updated list.

We trust you find the foregoing satisfactory.

Yours very truly,

POOLE ALTHOUSE

Dean A. Porter

DAP/lp

Enclosures

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cc: Tracey Pennell, Senior Legal Counsel - Newfoundland and Labrador Hydro
Dennis M. Browne Q.C. - Consumer Advocate
Gerard Hayes - Newfoundland Power
Paul Coxworthy - Stewart McKelvey
Denis J. Fleming - Cox & Palmer
Van Alexopoulos - Iron Ore Company of Canada
Benoit Pepin - Rio Tinto
Senwung Luk - Labrador Interconnected Group

IN THE MATTER OF the *Electrical Power Control Act*, 1994, SNL 1994, Chapter E-5.1 and the *Public Utilities Act*, RSN 1990, Chapter P-47 (the Act);

AND IN THE MATTER OF a General Rate Application (the Application) by Newfoundland and Labrador Hydro to establish customer electricity rates for 2018 and 2019.

**ISLAND INDUSTRIAL CUSTOMERS GROUP
REQUESTS FOR INFORMATION
IC-NLH-145 to IC-NLH-169**

Issued: November 3, 2017

IN THE MATTER OF the *Electrical Power Control Act*, 1994, SNL 1994, Chapter E-5.1 and the *Public Utilities Act*, RSN 1990, Chapter P-47 (the Act);

AND IN THE MATTER OF a General Rate Application (the Application) by Newfoundland and Labrador Hydro to establish customer electricity rates for 2018 and 2019.

REQUESTS FOR INFORMATION OF
THE ISLAND INDUSTRIAL CUSTOMERS GROUP
IC-NLH-145 to IC-NLH-169

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4 **IC-NLH-145**

With reference to Hydro’s response to NP-NLH-096 in this GRA, Attachment 1, “Allocation of Classified Costs by Customer”, Hydro has provided summary figures for “2019TY as Filed”, “2019TY without Indexing”, and “Differences”, as they apply to the (Island) Industrial Customer class as a whole. Please provide the same information, broken down for each Island Industrial Customer.

10 **IC-NLH-146**

In Hydro’s response to IC-NLH-008 in the 2016 Hydro Capital Budget Application, Hydro referred to its response to IC-NLH-015 in the 2015 Capital Budget Application for specifically assigned expenditures for two year costs, where the 2nd year of costs were to be incurred in 2016. With reference to Hydro’s response to IC-NLH-103 in this GRA, please fully reconcile each of the 2016 additions shown in Table 2 with the projects identified in Hydro’s response to IC-NLH-015 in the 2015 Capital Budget Application, including identifying any additions in Table 2 not included in IC-NLH-015 and the reasons for any such omission, and any differences in the Budget-Application approved costs (amounts and year incurred) for each of the projects referred to in IC-NLH-015 as approved in the 2015 Capital Budget as compared to the 2016 costs shown in Table 2.

24 **IC-NLH-147**

In the response to IC-NLH-103 in this GRA, Hydro noted that “to ensure the accuracy of the Specifically Assigned Charges for 2018 and 2019, Hydro is currently undertaking a full review of these asset listings and will provide an update on its findings in advance of the 2017 GRA hearing.” When does Hydro anticipate completing this review and providing the update?

30 **IC-NLH-148**

With reference to Hydro’s response to IC-NLH-014 in this GRA, please confirm that the attached is a true and complete copy of Hydro’s response to CA-NLH-32 in the 2012 Hydro Depreciation Application.

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- 1 **IC-NLH-149** With reference to Hydro's response to IC-NLH-014 in this GRA,
2 please confirm that Hydro has no update to make to its response
3 to CA-NLH-32 in the 2012 Hydro Depreciation Application.
- 4 **IC-NLH-150** With reference to Hydro's response to IC-NLH-014 in this GRA,
5 please provide a complete copy of the 1998 KPMG Depreciation
6 Policy Study referred to in Hydro's response to CA-NLH-32 in the
7 2012 Hydro Depreciation Application.
- 8 **IC-NLH-151** With reference to Hydro's response to IC-NLH-055 in this GRA,
9 page 2, lines 1-3, can Hydro advise how many poles were
10 inspected, to provide some context for the number of poles graded
11 condition "B" and "C"? Why doesn't Hydro track poles graded as
12 condition "A"? Please provide the number of total poles
13 (approximate or exact) included in this asset account.
- 14 **IC-NLH-152** With reference to IC-NLH-093 in this GRA, Hydro was asked
15 whether such proceeds address only facility repair versus
16 business interruption and lost generation. Hydro's response was
17 simply that no insurance proceeds were received "for this event"
18 as the costs were less than the deductibles under the applicable
19 policies. Please provide full details of all quantified costs (losses)
20 for each unanticipated plant outage (including for repair, business
21 interruption and lost generation as applicable), what categories of
22 costs (losses) would have been covered by the applicable policies
23 if the deductible had been exceeded, what was the deductible for
24 each applicable policy, and what was the annual premium paid by
25 Hydro for each applicable policy.
- 26 **IC-NLH-153** With reference to the previous question, have there been any
27 changes in Hydro's applicable insurance policies in relation to
28 unanticipated plant outages, and generation facility repair,
29 business interruption or lost generation in relation thereto, since
30 2012, including any changes to what is covered, the applicable
31 deductibles and/or the premium paid? Does Hydro have reason to
32 believe that premiums and/or deductibles have increased, or have
33 had to be increased to obtain adequate coverage, as a result of
34 any of the outage events which were the subject of the Board's
35 Phase 1 Outage Review?
- 36 **IC-NLH-154** Regarding IC-NLH-037:
- 37 For the Account B02 – Boiler System on page 17 of 628, Exhibit
38 11, Volume II the depreciation study states that "The retirement
39 rate analysis prepared in this study reviewed the plant installed
40 over the period of 1968 through 2015 and the retirement
41 experience covering the period of 1968 through 2015. Over this
42 period this account has experienced \$11,281,692 of retirements
43 over a widely sparse range of ages as summarized on the
44 observed life table provided on pages V-12 and V-13 of this
45 report."

1 The response to IC-NLH-037 indicates that about \$8.7 million or
2 over 77% of these retirements are due to write-off abandonment
3 and decommissioning of the woodchip fired thermal plant in
4 Roddickton.

5 Please explain how the Roddickton woodchip plant can be viewed
6 as representative of the lifespan for other boiler system assets.
7 Ensure the response specifically addresses the circumstances
8 associated with the Roddickton retirement at a young age, and
9 how these facts compare to the other boiler assets that Hydro
10 maintains.

11 **IC-NLH-155** Please provide a revised Original Life Table and a revised
12 Survivor Curve for account B02 which excludes the Roddickton
13 assets and retirements, on the assumption that they are not
14 representative of the full expected future life of boilers.

15 Please recalculate the appropriate life and dispersion with the
16 Roddickton assets and retirements excluded from asset account
17 B02.

18 **IC-NLH-156** The response to IC-NLH-036 shows the actual depreciation
19 expense recorded for the year 2015. However, the request was for
20 depreciation expense, by account, under the existing approved
21 rates based on plant in service as at December 31, 2015. Please
22 indicate if the response as provided accurately yields the
23 depreciation expenses for the plant in service as at December 31,
24 2015. If not, please provide the answer as requested.

25 **IC-NLH-157** With reference to the responses to IC-NLH-113 through IC-NLH-
26 115, please explain how Hydro is proposing to reflect the fuel
27 [including fuel inventory] and other forecast differences if the 2018
28 interim rates are based on 2018 revenue requirement, while 2018
29 RSP is proposed to be operated using 2015 Test Year inputs
30 [page 6.6 of Volume I, Chapter 6].

31 Please provide detailed tables showing how the revenues and
32 expenses are calculated in the response to NP-NLH-097
33 Attachment 1.

34 **IC-NLH-158** Hydro cross-referenced the response to IC-NLH-012 to the
35 response to NP-NLH-145. NP-NLH-145 does not appear to be
36 fully responsive to this question.

37 Particularly:

38 IC-NLH-012 requested a specific reference, by asset account, as
39 to which other utilities were relied upon, and which asset account
40 for those other utilities. The response to NP-NLH-145 does not
41 include any data showing the NLH accounts, nor any form of table
42 of concordance or other cross reference showing which NLH
43 accounts are considered to relate to which accounts for the other
44 utilities. The accounts for the other utilities are often named and/or

1 classified differently, and/or do not appear to contain comparable
2 assets. It is important to understand what data Hydro was relying
3 upon to arrive at its proposed depreciation rates.

4 Please provide a full response to IC-NLH-012, providing whatever
5 data was relied upon by Hydro or its consultant to arrive at its
6 proposed depreciation rates.

7 **IC-NLH-159** Hydro cross-referenced the response to IC-NLH-034 to the
8 response to NP-NLH-145. NP-NLH-145 does not appear to be
9 fully responsive to this question.

10 Particularly:

11 IC-NLH-034 requested salvage data that is available in the form of
12 a Net Salvage Analysis showing retirements by year, gross
13 salvage by year and cost of removal by year for each account.
14 The response to NP-NLH-145 does not include any data showing
15 retirements by year, gross salvage by year and cost of removal by
16 year for each account. The response suggests this data is
17 available only for costs of removal at a corporate level, but did not
18 provide the data relied upon. Further, the response suggests a
19 "global reduction was selected" but no data is provided in respect
20 of the global reduction.

21 Please provide a full response to IC-NLH-034, providing whatever
22 data was relied upon by Hydro or its consultant in preparing the
23 net salvage in its GRA proposals.

24 **IC-NLH-160** Hydro cross-referenced the response to IC-NLH-044 to the
25 response to NP-NLH-145. NP-NLH-145 does not appear to be
26 fully responsive to this question.

27 Particularly:

28 IC-NLH-044 requested clarification as to why any net salvage is
29 recommended if the test is to only establish net salvage amounts
30 for assets that will not be replaced at the same site, and it is likely
31 that D01 assets (dams) will be replaced at the same site. The
32 response to NP-NLH-145 appears to indicate that there are no
33 plans to decommission existing dams, and if so a replacement will
34 be located in the same location, specifically by the statement, per
35 Attachment 1, page 2 of 5: "Not hearing that there is an end of life.
36 Will be a structure there." If this is Hydro's evidence, please
37 provide a full answer and explanation as to why this account
38 would have any net salvage associated with the account.

39 **IC-NLH-161** Similar to the previous request, please provide complete
40 responses for each of IC-NLH-052 (P03 Penstocks), IC-NLH-057
41 (P10 Powerhouse), IC-NLH-058 (R13 Roads), IC-NLH-062 (T04
42 Towers), IC-NLH-065 (T05 Transformers), IC-NLH-067 (T09
43 Turbines) as to any plans to decommission without a replacement
44 in the same site.

- 1 **IC-NLH-162** With respect to the response to PUB-NLH-070, please provide
2 calculations, by asset account, to derive the ELG values shown.
3 Specifically include, for each asset account, the ELG rate, the ASL
4 rate, and any other assumed inputs needed to derive the
5 \$1,490,000 for the 2015 Depreciation study, the \$1,515,000 for
6 the 2018 Test Year, and the \$35,000 for the 2019 Test Year.
7 Please ensure that the only difference is the group procedure
8 applied (ELG or ASL) and otherwise the rates are based on the
9 same life, dispersion and truncation/terminal dates.
- 10 **IC-NLH-163** With respect to the response to NP-NLH-145, please confirm that
11 the response includes “all studies and any other relevant materials
12 that were used by Concentric Advisors to arrive at the estimates of
13 Net Salvage Percentage in the 2015 Depreciation Study” as
14 requested by NP. If not, please provide a comprehensive
15 response to the question.
- 16 **IC-NLH-164** With respect to the response to NP-NLH-145 (and to IC-NLH-018
17 which referred to this response), IC-NLH-018 requested: “With
18 reference to the referenced “review of company practice and
19 outlook as they relate to plant operation and retirement”, please
20 provide copies of all documentation by which Concentric Advisors
21 was informed of NLH company practice and outlook as they relate
22 to plant operation and retirement.” Hydro’s response provides no
23 documentation regarding NLH company practice and outlook as
24 they relate to plant operation and retirement. Please confirm that
25 Hydro did not provide Concentric Advisors with any
26 documentation regarding NLH company practice and outlook as
27 they relate to plant operation and retirement (or did not in any way
28 otherwise communicate that information), and if that is not
29 confirmed, then please provide copies of all such documentation
30 and the full substance of any such communications.
- 31 **IC-NLH-165** With respect to the response to PUB-NLH-070, please provide, by
32 asset account, the total gross plant that is projected for each asset
33 account for each test year. Please also provide the breakdown
34 between what part of the gross plant (by asset account) is part of
35 the pre-2015 assets (average life) and what part is included in the
36 post-2015 assets (ELG procedure). Please provide columns
37 showing the ASL life amortization rate applicable to the asset
38 account, separately the ASL variance rate applicable to the asset
39 account (if the ASL rates are not presently broken out by life and
40 variance, please provide the break out), the ELG rate proposed for
41 the asset account, and the derivation of the calculated Life
42 depreciation expense in the GRA test years based on the values
43 noted.
- 44 **IC-NLH-166** Re: PUB/NLH-094: Please provide a comparable list showing all
45 utilities Concentric Advisors is aware of that use the ASL (or
46 equivalent) procedure.

1 **IC-NLH-167**

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Please confirm the noted approach by Manitoba Hydro (the removal of cost of removal from depreciation expense) was in fact a part of Manitoba Hydro's proposed implementation of IFRS, and Manitoba Hydro did not in fact propose "to continue the practice of including net salvage estimates into the depreciation rate calculations" as suggested by the response.

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If needed, please refer to the following reference: <http://www.pub.gov.mb.ca/pdf/13hydro/43-13.pdf> which is the Board Order from Manitoba Hydro's 2012 GRA, section 6.1.3, which appears to note:

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"Manitoba Hydro's current depreciation rates include a provision for net salvage, representing the cost of decommissioning and disposal of an asset when taken out of service. The rationale for including net salvage in depreciation rates is to ensure that ratepayers benefitting from the use of the asset over time are shouldering the burden of paying for the eventual decommissioning costs.

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Mr. Kennedy advised that International Financial Reporting Standards would no longer permit the inclusion of net salvage in depreciation rates. Manitoba Hydro plans to remove net salvage from depreciation rates at the same time as it switches to the Equal Life Group methodology in 2015/16. Manitoba Hydro indicated the impact of removing net salvage would lower depreciation expense by approximately \$56 million in 2013/14, \$63 million in 2014/15, and \$66 million in 2015/16."

26 **IC-NLH-168**

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NLH notes that NP has used the ELG procedure for many years, while NLH has used approaches other than the ELG procedure (e.g., sinking fund, the ASL procedure). Please indicate what, if any, issues have arisen due to the different approaches being used by two different utilities in the same jurisdiction.

31 **IC-NLH-169**

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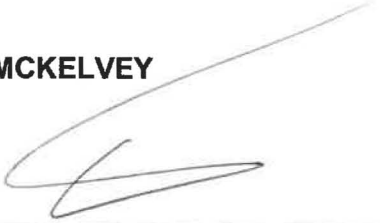
Please refer to NLH's response to RFI IC-NLH-008. In hydraulic production, is the complete generator considered the retirement unit and capitalized when placed into service and retired when removed from service? Are the components of rotors, stators, and stator windings considered separate retirement units and capitalized when placed into service and retired when removed from service or are they considered minor items of property?

DATED at St. John's, Newfoundland and Labrador, this 3 day of November, 2017.

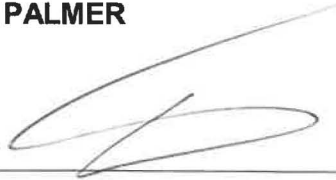
POOLE ALTHOUSE

Per: 
Dean A. Porter

STEWART MCKELVEY

Per: 
Paul L. Coxworthy

COX & PALMER

Per: 
Denis J. Fleming

- TO: The Board of Commissioners of Public Utilities
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Attention: Tracey L. Pennell, Legal Counsel
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Attention: Benoit Pepin
- TO: Iron Ore Company of Canada
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Attention: Van Alexopoulos

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1 Q. Re: Net Salvage: Please provide copies of any internal memos, policies, studies,
2 etc., identifying the appropriate allocation or treatment of costs between cost of
3 removal and the installation of new investment when a retirement occurs and a
4 replacement investment is installed at the same location.

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7 A. Net Salvage was not included as part of the depreciation studies provided by
8 Gannett however it was included as part of the 1998 KPMG Depreciation Policy
9 Study approved by Board Order No. 7(2002/2003). Refer to CA-NLH-32 Attachment
10 1 - Chapter III Accounting for Net Salvage Value.

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12 Under IFRS, removal costs are generally not allowed to be included in the carrying
13 amount of the new investment. See the excerpt from iGAAP 2012 A Guide to IFRS
14 Reporting, Volume A, Part 1, page 390 shown below:

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16 *"The costs that may be included in the carrying amount of an asset are*
17 *limited to those that arise directly from the construction or acquisition of*
18 *the asset. When, for example, costs are incurred to demolish existing*
19 *structures in order to build on a site, the cost of demolition may be*
20 *incremental to the construction cost or it may be associated with*
21 *derecognition of a previously held asset. It depends on whether the*
22 *existing structures were previously used in the entity's business, or were*
23 *acquired as part of the site with the specific intention of demolishing*
24 *them. In the latter case, the demolition costs are clearly incremental and*
25 *should be included in the cost of the new asset. In the former case, the*
26 *cost of the old asset should be written off to profit or loss through*
27 *accelerated depreciation once the decision to demolish is made; the*
28 *demolition costs incurred relate to the derecognition of the old asset and*
29 *should be expensed when incurred."*

III

Accounting for Net Salvage Value

In this chapter we discuss alternative approaches to accounting for the net salvage value of utility assets. We also review the survey responses received on this issue.

A. Definition of net salvage value

In examining the salvage value of utility assets on retirement, the following terms are relevant:

- **Gross salvage** is the revenue received from the sale of an asset or from the sale of the associated materials (i.e., scrap value).
- **Retirement costs** are costs associated with removing an asset, in preparation for either resale or disposal. They also include the costs of restoring a site to its original condition or to the condition mandated by applicable environmental laws and regulations. Retirement costs can also be referred to as “disposal”, “site restoration”, or “decommissioning” costs.
- **Net salvage** equals **Gross salvage** less any **Retirement costs**. In other words, net salvage represents the net proceeds received by a utility on the retirement of an asset, taking into account all decommissioning costs or other removal costs.

Net salvage can be either positive or negative, depending on the particular circumstances. Increasingly, utilities are finding that, for many assets, net salvage values are negative.

Negative net salvage occurs when the costs associated with removing an asset are greater than the revenues received from recovered materials. (These revenues may be derived from the material’s scrap value, resale to other users, or re-use in other parts of the company.)

B. Alternative accounting approaches

Alternative approaches to accounting for the net salvage values related to a retired asset are as follows:

1. Ignore salvage values in the calculation of the asset's depreciation rate. Recognize gross salvage revenue as income and retirement costs as an expense at the time the asset is retired.
2. Ignore salvage values in the calculation of the asset's depreciation rate and include the net salvage incurred on the retirement of the asset in the depreciable cost base of the asset that replaces the retired asset.
3. Ignore salvage values in the calculation of the asset's depreciation rate and amortize the net salvage incurred on the retirement of the asset over a period following the retirement.
4. Alternatively, incorporate the asset's predicted net salvage value in the calculation of its depreciation rate.
5. Establish a separate reserve (or allowance) for net salvage for each account that is expected to have negative net salvage. Calculate and display this reserve separately from accumulated depreciation.

The advantages and disadvantages of these accounting approaches are discussed in the sections below.

1. Ignore salvage values in the calculation of depreciation

The first approach is to ignore salvage values in the calculation of the depreciation rate. The net salvage value is then treated simply as an addition to utility revenues or expenses (depending on the sign) in the year incurred.

When net salvage values are positive, this approach can be justified on the basis of its conservatism: depreciation expense during the life of an asset will be overstated, since it does not take into account the positive net salvage value that will be received on retirement. In the year of retirement, utility customers will see a one-time benefit in the form of a boost to utility net income.

A decision to ignore salvage values in calculating depreciation can sometimes also be justified on the basis of expediency. When net salvage values (whether positive or negative) are small, either in dollar amounts or as a percentage of the assets' original cost, the mis-statement of depreciation that may result from this accounting treatment is of limited significance relative to the benefit of reduced accounting

complexity and uncertainty. Unadjusted depreciation expenses can be based on the known and fixed initial capital cost, without having to make uncertain estimates of future salvage values.

A special case in which salvage values can be ignored without much loss of accuracy is that of assets with relatively short lives, which are purchased and retired in large quantities in a regular fashion each year. The best examples are vehicles, as discussed below.

If an allowance were to be made for salvage in the calculation of the depreciation rates of a vehicle, the cash received for "trading in" the vehicle would largely offset the remaining undepreciated book value on disposal (assuming that the original salvage revenue estimates were reasonably accurate), i.e., the write-up on disposal would largely equal the corresponding write-off.

An alternative approach is to ignore any adjustments to the depreciation rates on account of salvage, i.e., record higher depreciation amounts for a particular vehicle each year, but also record, as income, the trade-in amount received for the vehicle on disposal. Because of the regularity of purchases and retirements, the two alternatives produce, with a very good approximation, the same bottom lines in each year, as the higher depreciation expenses aggregated across the fleet, are offset by the trade-in revenues received for the vehicles retired in the particular year.

For that reason, there is no practical advantage to choosing the more complex accounting option over the option of simply ignoring salvage values in the calculation of depreciation for vehicles, and recognizing the actual cash received for the traded-in vehicles as income.

Similar considerations apply to several other types of assets, such as computers or furniture.

The notion of expediency is less compelling when retirements become less regular and net salvage values become large, especially if they are also negative. When net salvage values are negative, ignoring them in the calculation of depreciation expenses cannot be justified on the basis of conservatism and if they are, in addition, significant in both absolute and percentage terms, other alternatives are more appropriate.

Such alternatives would re-establish the principle of intergenerational equity, as the beneficiaries of a utility's investment in plant and equipment would shoulder all of the costs associated with that plant throughout its use.

Alternatives that fulfill that objective are described in the next sections.

2. Add negative net salvage costs to the depreciable cost base of the replacement asset

Under this approach, net salvage costs are added to the depreciable cost base of the asset that replaces the one that is retired.

When a major asset is replaced by a new asset of the same nature at the same site (rather than abandoned), site restoration or rehabilitation is not required. The existing site will still be occupied by the new asset (most likely in an upgraded or improved form). Salvage will include the removal costs of the asset that is replaced, which will normally take place as part of the construction activities related to the new asset. In most cases it would actually be quite hard to separate the costs of the two activities.

In the case of negative net salvage the rationale for this treatment is the assumption that any such salvage is most likely to be offset by construction cost savings attributable to the fact that the site has been previously occupied by a similar asset. A positive net salvage value would indicate that the retired asset, or part of it, was still in usable condition at the time of retirement and could have been used by NLH's future power users if it hadn't been replaced. It is, therefore, equitable to (1) charge future power users with the costs that enabled them to apply savings to the acquisition and construction costs of the new asset and/or (2) compensate them for having lost the use of the previous asset.

3. Amortize negative net salvage costs over a future period

Under this approach, negative net salvage values are amortized against utility net income over a future period of, say 5 to 10 years.

At first sight, this alternative may appear to violate the goal of intergenerational equity, as rate payers in subsequent periods would bear the costs associated with a facility that benefited rate payers in earlier periods. However, in the cases in which this alternative may be used, there would not be any inequity, as explained below.

The setting up of an after-the-fact amortization account might be applied, as the only feasible alternative, when:

- there are significant net decommissioning costs that are too large for being ignored by the application of Alternative 1, and
- the asset will be completely removed and not replaced at the same site, which makes the use of Alternative 2 impossible, and

- the retired asset, which is going to be decommissioned, has passed most of its service life, making it impractical to apply adjustments to its depreciation rates (see Alternatives 4 and 5 further below).

When an asset is not replaced at the same site, the most likely reason for abandoning, rather than replacing it, is normally the result of a feasibility study that has clearly shown that other options are more economical. In other words, the reason for not replacing the asset is the conclusion that the functions it performed can be better performed by new plant and equipment, added to the system elsewhere. It is reasonable to assume that the feasibility study that has produced that conclusion would have included the consideration of the decommissioning costs of the old site in its calculations.

If that was indeed the case, it would be the new generation of power users who would benefit from the utility's choice, and from the fact that the old asset was not replaced at the same site. As the consideration of the site restoration costs was part of the most economical choice, those costs can be deemed to contribute to the best deal for the future power users, and can be legitimately charged to them without generating any intergenerational inequity.

4. Incorporate salvage values in the depreciation rate.

An often used option is to incorporate net salvage values in the calculation of depreciation rates. Under that method the depreciation expense reflects both the initial cost of the asset and the final salvage value (be it negative or positive).

This approach serves the objective of providing intergenerational equity in a continual manner. It can be applied to new assets when depreciation bases and rates are established for them. It is also possible to apply this approach to an existing asset in service, if warranted by changed circumstances, as long as the asset has not yet passed a large portion of its service life.

The allowance for salvage can be incorporated in the depreciation rate in the form of a mark-up or mark-down. Accordingly, if applied to sinking fund depreciation and negative salvage, the reserved "prepaid" amounts will be quite low in early years and increase over time. This is quite in order, as the growing accumulated depreciation reserve, attributable to the salvage component of the depreciation rate, will reduce debt and corresponding interest expenses. The growing interest savings will increasingly benefit the rate payers. Consequently, intergenerational equity will be preserved when the amount of depreciation mark-up increases over time, offsetting the increasing interest saving.

In the case of straight line depreciation simple mark-ups or mark-downs will cause the same intergenerational inequity as the basic (constant) depreciation amounts themselves, as explained in Chapter II.

In the United States, where the subject of generating plant decommissioning has gained substantial importance in recent regulatory proceedings, some regulators (Florida Public Service Commission, Public Utility Commission) recognized this principle and require the salvage-related amounts that are added to the basic annual depreciation expenses to be calculated on a sinking fund basis. Most other regulators accept the straight line method for calculating salvage allowances. However, they generally do not allow the incorporation of inflation into the estimation of the expected site restoration costs. Instead, those costs must be calculated at the price levels of the year of acquisition, as a percentage of acquisition costs. There is little, if any, logic in this approach, but it appears to be common practice in the U.S.

Considering that the large majority of generating stations, substations or transmission lines will probably not be decommissioned in the foreseeable future, it is unclear what will happen to the amounts of money collected from the rate payers in anticipation of site restoration costs when the plant reaches the end of its service life and remains in operation, or is replaced at the same site without the predicted negative salvage costs being incurred.

The major problem with the approach described above is the presumably rare incidence of power stations or other major facilities being decommissioned in a complete manner, with their sites being sold or released by the utility to other users. Consequently, while the method of considering salvage in the form described in this subsection may suit the circumstances in a minority of retirement cases, it is expected to create problems in the majority of cases in the form of over-recovery of depreciation.

It can be concluded that as the inclusion of estimated net salvage values in depreciation rates may potentially imply significant problems, this approach should be limited to assets which:

- are large in absolute terms,
- have a significant net negative salvage value in percentage terms,
- do not fit any of the previous alternatives.

5. Establish a separate reserve for net salvage values

The incorporation of salvage in the depreciation rates combines two types of costs that have different characteristics:

- They reflect the historical fixed costs of the assets, which are known with certainty (even though the life span of the assets may not be).
- They reflect estimates of future salvage values, which are as yet unknown and, therefore, much less certain. The uncertainty of future salvage values is caused partly by the uncertainty of future market conditions and is further amplified by changing environmental regulations that cannot be easily predicted 30 or 40 years in advance.

Because of the different nature of the associated costs (historical capital costs vs. future salvage costs), it is theoretically preferable to account for these costs separately, i.e., to accrue net salvage costs separately from historical capital costs.

Such an approach is conceptually attractive. It provides for more “visibility” than the procedure discussed under Alternative 4, i.e., the incorporation of salvage values into the calculation of the depreciation rate. It also provides more information to the users of the utility’s financial statements.

The “bottom line” impacts of this treatment of accumulating the appropriate salvage reserve are identical to those of Alternative 4, both on the shareholders and on the rate payers. The only difference may be in the presentation of the financial statements: while in Alternative 4 the reserve would be embedded in the Accumulated Depreciation reserve on the Asset side of the Balance Sheet, in Alternative 5 it may be shown as a “rehabilitation reserve” (or a similar item) on the Liability side.

Because of its explicit nature, this alternative is particularly attractive when the establishment of a decommissioning reserve satisfies public sensitivities, such as associated with the licensing of nuclear generating plants.

C. Current practices among surveyed utilities

The surveyed Canadian electric power utilities follow a wide range of procedures for incorporating salvage value into their financial statements. Each of the procedures outlined in the preceding part of this chapter are used by at least one of the respondent utilities in some circumstances.

All the surveyed utilities, except NLH and Hydro Quebec, consider net salvage values, either as an input to their calculation of depreciation rates, or as the basis for the

calculation of a separate decommissioning reserve for at least some of their assets. NLH and Hydro Quebec are the only Canadian electric power utilities that currently do not consider salvage values in their depreciation procedures for any of their assets

Exhibit III-1 summarizes the utilities' practices in a tabular form.

Several utilities establish a separate reserve, independent from accumulated depreciation, to account for negative net salvage costs. This approach is generally adopted for assets with large decommissioning costs, such as nuclear and some coal-fired generating stations. The following utilities use this approach for such assets:

- New Brunswick Power Corporation.
- Manitoba Hydro.
- Saskatchewan Power.

Most other Canadian utilities (and, for smaller assets, the ones listed above) build salvage values into the depreciation rates of certain assets, as indicated in Exhibit III-1. As noted, Hydro Quebec and NLH are the exceptions.

Hydro Quebec is the only utility that follows Alternatives 2 and 3. When an asset is replaced, Hydro Quebec adds negative net salvage costs to the depreciable balance of the replacement asset. In the event that an asset is not replaced, the net costs of retirement are classified as special components of accumulated depreciation and are depreciated over the next ten years, using the sinking fund method.

Practices of U.S. electric power utilities regarding salvage were reviewed in the relevant literature. The findings are reported in Appendix A.

D. Estimates of net salvage value

In this section, we compare the assumptions used by the surveyed utilities regarding the net salvage value of plant and equipment. Expected net salvage values (in future inflated terms) are expressed as percentages of the original (uninflated) acquisition cost of each type of asset and are defined as "net salvage factors". Only four utilities provided us with detailed assumptions:

- Nova Scotia Power.
- Manitoba Hydro.
- Alberta Power.

**Exhibit III - 1
 Salvage policies**

	Method for Estimating Salvage Value	Treatment of Estimated Future Positive/Negative SV's	Examples of Asset Classes that have Reported Negative SV	Recent Changes:
NS Power	<ul style="list-style-type: none"> - Decommissioning studies for generation facilities. - Based on own past experience for other assets. 	<ul style="list-style-type: none"> - Incorporate in depreciation rate. 	<ul style="list-style-type: none"> - Generation assets. - Transmission assets other than conductors. - Distribution assets other than transformers. - General property other than vehicles, office furniture & computing equipment. 	None
NB Power Corp.	<ul style="list-style-type: none"> - Estimated only for nuclear & thermal generating stations, and vehicles. 	<ul style="list-style-type: none"> - Generating stations: establish a decommissioning reserve with separate accrual expense. - Distribution assets: amortize. - All other assets: expense when retired. 	<ul style="list-style-type: none"> - In all asset classes, except vehicles. 	<ul style="list-style-type: none"> - Amortization of distribution assets applies to all distribution assets.
Hydro-Quebec	<ul style="list-style-type: none"> - Zero salvage assumed for depreciation accounting. 	<ul style="list-style-type: none"> - <i>Non-replacement of asset:</i> net costs of retirement are capitalized in a special "control account" and amortized over 10 years using the SF method. - <i>Replacement of asset:</i> undepreciated costs are capitalized in a special "control account" and amortized over 10 years using the SF method. Dismantling costs and net salvage costs are added to the replacement cost of new assets. 	<ul style="list-style-type: none"> - No data. 	None
Ontario Hydro	<ul style="list-style-type: none"> - Engineering estimates. 	<ul style="list-style-type: none"> - Rarely factored into depreciation rates. - When significant and certain: estimated provisions are treated as an annuity and accumulated in a special account on the balance sheet. The annuity is charged to depreciation expense and interest is charged to interest expense. Primarily used for the decommissioning costs of nuclear stations. Otherwise salvage charged to depreciation expense when incurred. 		None

**Exhibit III - 1, continued
 Salvage policies**

	Method for Estimating Salvage Value	Treatment of Estimated Future Positive/Negative SV's	Examples of Asset Classes that have Reported Negative SV	Recent Changes:
Manitoba Hydro	- Engineering estimates and own past experience.	- Incorporate net salvage values in calculation of depreciation rate, except for negative SV of thermal generation which is treated as a separate reserve.		None
Sask. Power	- Own estimates for all asset classes, except for vehicles & buildings. Vehicles & buildings: salvage value equals market value at retirement.	- Establish a decommissioning reserve for all types of assets where relevant, except vehicles & buildings. - - Vehicles and buildings: salvage values included in depreciation rates.	- All asset classes, except buildings & vehicles.	Salvage values were removed from depreciation rates in 1996 - replaced by decommissioning reserve.
Alberta Power Corp.	- Decommissioning studies and own experience.	- Incorporate in depreciation rate.	- Generation, transmission, distribution equipment.	None
Transalta Utilities	- Engineering estimates and own past experience.	- Incorporate in depreciation rate.	- Generation, control, transmission and distribution equipment. - Transformers. - Mines.	None
BC Hydro	- In-house depreciation studies and own past experience. - Engineering estimates. - Comparisons with other utilities.	- Depreciation rates are set in consideration of asset life, anticipated maintenance costs and net salvage value. The selected depreciation rate results in the asset's net book value being reduced to its salvage on retirement. - In general, actual gains or losses (including differential net salvage) from the retirement of individual assets are added to depreciation expense for the year. They are recognized as part of the group depreciation procedures for quantitative and mass assets.	- Primarily transmission and distribution equipment.	None

- TransAlta.

Negative net salvage values are becoming increasingly common. One utility (New Brunswick Power) reports that all asset classes, except vehicles, experience negative net salvage.

Nova Scotia Power reports negative net salvage for most properties, with the following exceptions:

- Conductors.
- Transformers.
- Vehicles.
- Office furniture.
- Computing equipment.

1. Hydraulic assets

The net salvage factors assumed for hydraulic assets show great variations.

Manitoba Hydro assumes a net salvage factor of -10% for all of its hydraulic assets.

Nova Scotia Power, in contrast to some of the other utilities, assumes very small negative net salvage factors (from 0% of -1.1%) for its hydraulic assets.

2. Thermal generation

Manitoba Hydro currently assumes a net salvage factor of 0% for its thermal generating stations (in other words, its retirement costs are estimated to equal gross salvage values).

The other utilities that responded to the survey show negative net salvage factors for thermal assets ranging from -1.4% to -17.3%.

3. Transmission

The surveyed utilities show negative net salvage factors for most transmission equipment.

For certain types of transmission equipment, reported salvage factors varied widely across the surveyed utilities. For wood poles, for example, these ranges were reported:

- Manitoba Hydro: -10%.
- Nova Scotia Hydro: -15%.
- Alberta Power: -25% to -35%.

The utilities listed above show similar net salvage assumptions for steel towers.

Compared to the other utilities, Alberta Power is very conservative (or pessimistic) in its assumptions of the net salvage value of overhead conductors. A factor of -55% is assumed, vs. -2.5% for TransAlta and -5% for both Nova Scotia Power and Manitoba Hydro. It is interesting to note that the two privately owned Canadian utilities are the ones that use very high negative salvage factors. It is also significant that these high factors were actually approved by the regulator in Alberta.

3. Distribution

As with transmission equipment, a wide range of net salvage factors is assumed for distribution equipment. Net salvage percentages for poles and fixtures range from -20% for Nova Scotia Power to -50% for Alberta Power.

Transformers represent one category of the few distribution assets for which positive net salvage is assumed by some utilities. Nova Scotia Power assumes a 15% net salvage factor, while Alberta Power assumes 14%.

Alberta Power assumes significant positive net salvage factors for some assets, such as street and highway lights (+40%).

4. General assets

Each of the utilities that responded show significant positive net salvage factors for vehicles. As noted earlier in this report, these other utilities also assume significantly longer service lives for vehicles than Newfoundland and Labrador Hydro. Salvage factors for vehicles range from 10% to 30%.

As an example for all of the above, TransAlta's approved salvage factors (or salvage "percentages" or "rates") are shown in Exhibit III-2. They all relate to the procedure of building salvage factors into the depreciation rates.

Exhibit III-2

TransAlta
 Recommended 1996 Net Salvage Rates

Line	Class of Plant	(1)	(2)
		Recommended Net Salvage Percentage	Currently Approved Net Salvage Percentage
1	Hydro Production		
2	Ghost	0.1%	-0.5%
3	Horseshoe	-51.7%	-30.5%
4	Kananaskis	-15.7%	-10.7%
5	Cascade	-23.8%	-21.8%
6	Bearspaw	-4.9%	-1.7%
7	Barrier	-23.3%	-6.2%
8	Spray	-8.6%	-11.1%
9	Three Sisters	-51.0%	-70.5%
10	Rundle	-31.8%	-24.0%
11	Interlakes	-39.8%	-27.6%
12	Pocaterra	-27.5%	-16.0%
13	Seebe General	174.4%	66.3%
14	Brazeau	-15.1%	-14.3%
15	Righorn	-23.9%	-15.8%
16	Steam Production		
17	Wabamun	-11.4%	-18.2%
18	Sundance	-5.1%	-6.4%
19	Keephills	-2.9%	-3.0%
20	Sheerness	-2.4%	-3.4%
21	Environmental Control		
22	Wabamun	-8.2%	-15.0%
23	Sundance	-10.4%	-10.5%
24	Keephills	-14.2%	-14.1%
25	Sheerness	-5.1%	-4.1%
26	Coal Mines		
27	Wabamun	-4.6%	-4.5%
28	Sundance	-5.3%	-6.3%
29	Keephills	-3.9%	-3.2%
30	Sheerness	-2.5%	-1.2%
31	Mining Equip	-6.0%	-5.0%
1	Transmission		
2	Transmission Lines	-24.9%	-31.5%
3	Substations	-11.1%	-9.3%
4	Telecontrol System (w/o SCC)	3.8%	5.9%
5	System Control Center	3.0%	2.0%
6	Distribution Systems	-50.4%	-45.6%
7	General		
8	Computer Systems	10.0%	20.0%
9	General Equipment and Vehicles	14.0%	9.4%
10	Meters & Transformers	-40.6%	-35.0%
11	Buildings	0.0%	0.0%

F. Conclusions

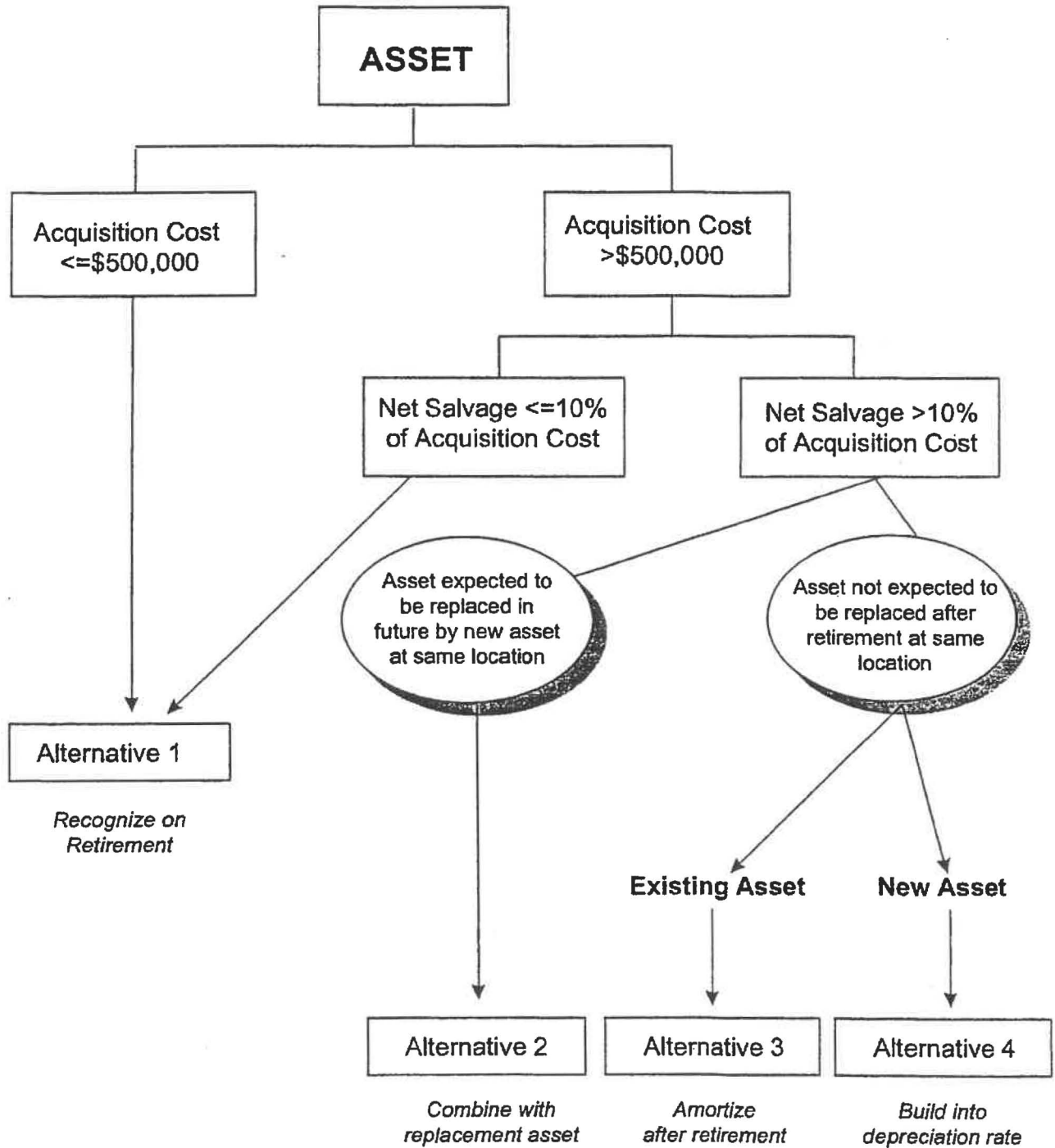
This subsection summarizes our recommendations regarding the application of the alternatives defined above. The summary is also presented in graphical form in Exhibit III-3.

It is recommended that for assets with an original acquisition cost of less than \$500,000 and for all assets that have an estimated future salvage value (in inflated terms) of less than 10 percent of their acquisition cost (in original terms) salvage should be recognized in NLH's Income Statement at the time it is incurred. This treatment is defined as Alternative 1.

For assets that have acquisition costs in excess of \$500,000 and an estimated net salvage values in excess of 10 percent (referred below as "major" assets), the following alternatives exist:

- When the asset is expected to be replaced after retirement by an asset of the same nature at the same site (most likely in an upgraded or improved form) the net salvage value related to the retired asset should be combined with the acquisition and construction costs of the new asset. As explained earlier, this approach is equitable because (1) future users are expected to enjoy capital cost savings attributable to the pre-existence of a plant at the site and (2) future users are deprived from the use of still useable assets that were sold on disposal. The users of the replacement asset will therefore be (1) legitimately charged with the net retirement costs of the old asset and (2) legitimately credited with the proceeds gained from the disposal of the old asset or any part thereof. The treatment described in this paragraph is defined as Alternative 2.
- When a significant "major" asset is retired without replacement at the same site, and net salvage costs are incurred as a consequence of the asset's removal and/or the rehabilitation of its site, they can be treated in two ways:
 - If the decision to abandon a site was the result of a feasibility study that indicated that, after having included all removal and rehabilitation costs incurred at the old site into the study, the transfer of operations to a new site was still beneficial to NLH and its customers, it is equitable to charge future customers with the net salvage costs. That can be achieved by amortizing the costs over a period of five years for amortizable amounts of, say, less than \$500,000, and ten years for larger amounts. This treatment is defined as Alternative 3.
 - When the removal of an asset and the rehabilitation of its site is performed as an undertaking or commitment related to external reasons, such as complying with urban or regional development plans, or satisfying public objectives, or responding to the terms of environmental and other approval

Exhibit III-3
Consideration of Net Salvage



processes, the net salvage costs should be built into the depreciation rates of the asset throughout its service life. This should be done in the form of a percentage mark-up on the depreciation rate calculated on the basis of the asset's original acquisition cost. The mark-ups or "salvage factors" can be calculated on the basis of engineering estimates. If properly calculated, they will produce a surplus in accumulated depreciation by the end of the asset's service life that is equal to the estimated net salvage costs in inflated terms. This treatment is defined as Alternative 4.

It is not practical to apply Alternative 4 to existing assets after they have passed a significant portion of their service lives. It is quite unlikely, however, that any of NLH's existing assets would fall into that category. If so, the application of Alternative 3 would be a logical option.

In theory, Alternatives 3 and 4 can also be used for the treatment of positive net salvage, the occurrence of which is expected to be rather exceptional for "major" assets.

The final alternative that was described in this chapter was Alternative 5. That alternative is identical in "bottom-line" terms with Alternative 4 but differs in presentation in NLH's financial statements. Alternative 5 consists of the establishment of an explicit reserve account for the accumulation of that portion of the depreciation reserve that is intended to cover future net salvage costs. It is used by utilities primarily when the establishment of a site rehabilitation reserve responds to public concerns. It is not likely that this alternative would be used by NLH.